CLIMATE REFUGEES

"CLIMATE CHANGE IS CONTROLLING EVERYTHING, LET THEM COMPENSATE US"

STORIES OF LOSS & DAMAGE IN KENYA

BY AMALI TOWER AND RYAN PLANO

CLIMATE REFUGEES

Climate Refugees is a human rights organization that calls for the protection and rights of those displaced by climate change.

Through advocacy, storytelling, reports, case studies and global monitoring, we shed light on the complexities of climate-induced displacement, its human rights implications and the climate injustice at its roots.

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CONTENT

EXECUTIVE SUMMARY

"Local communities say, climate change is creating 'cascading effects of climate change from which we cannot recover'"

Kenya's Great Rift Valley stretches from the border with Ethiopia and South Sudan in the north to Tanzania in the south. It is home to over 12 million people, making it the most populous region of Kenya. The natural environment is the area's primary source of livelihoods and economic activity, but climate change is profoundly affecting the region, notably the onset of severe drought and devastating lake-rise flooding.

The Horn of Africa at large is experiencing an unprecedented drought, the worst to strike the region in 40 years. Five rainy seasons have failed since 2020 in parts of Ethiopia, Kenya, and Somalia, a phenomenon researchers contend would not have happened without human-induced climate change. Elsewhere the opposite problem is occurring: significantly increased rainfall since 2010, as a result of climate change, is primarily responsible for the rise and expansion of the Rift Valley lakes. As the climate crisis continues, it is expected that the region will continue to experience these catastrophic extremes, which have produced their own impacts while also exacerbating and intersecting with existing inequalities and vulnerabilities.

Local communities tell us that increasingly unpredictable climate shocks and extreme weather events are creating "cascading effects of climate change from which we cannot recover" and resulting in stations of forced displacement, loss of quality of life and cultural heritage for millions of people.

Though Kenya has contributed very little to the climate crisis, increasing and extreme climate change effects are ravaging many of the country's most vulnerable and marginalized communities, leaving a majority of its people behind. Outside a humanitarian emergency or well-known disaster event, poor, Indigenous communities living in highly underdeveloped regions of Kenya are fending for themselves, largely unseen and forgotten with almost no resources or abilities to adapt to the rapidly changing climate.

In the absence of effective climate adaptation, these are communities who are now sustaining losses and damages that are not only eroding development goals, but also denying some of their basic and fundamental human rights.

The 2015 Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC) and the 2021 Glasgow Climate Pact expressly connect the risks that climate change poses to international human rights - including to migrants, Indigenous Peoples, persons with disabilities, local communities, vulnerable and marginalized people - as well as the right to development, gender equality and the empowerment of women.

Overall, the situation for those displaced by climate change demands urgent attention by all relevant stakeholders, from organizations on the ground all the way up to multilateral bodies. If we do not

know enough about displaced people, and - critically - the human rights losses they are already facing, then we will continually fail to meet their needs and address their losses.

Mobility is a key issue that intersects with climate change. As is often the case, one's mobility is often shaped by socio-economic, political and even cultural factors, even where climate drivers are most pressing. And with all the populations we visited, issues of exclusion, marginalization, poverty and underdevelopment are acute. In these conditions, displacement and distress migration reproduce and multiply these pre-existing conditions of vulnerability. This was observed amongst all the populations that we consulted.

Internal migration in Kenya and across borders has increasingly become a coping mechanism for those who can manage the travel, and are not rendered immobile by poverty, but this has led to new and renewed problems as well. The current Horn of Africa drought, recurring floods, private land ownership, a lack of grazing land and resources are fuelling historic tensions and renewing violence as pastoralists who are forced to travel longer distances in search of land and water, come into contact with other herding groups, land owners and private conservancies. Protection mechanisms are needed for those already displaced and to help facilitate future movement in a way that promotes fulfillment of rights.

Significant levels of support, including finance, is required to address the various losses and damages experienced by communities in Kenya and elsewhere. The international community currently has an opportunity to design a Loss and Damage Fund that addresses injustices and builds true resilience in the face of future climate change impacts. But such a fund will only be realized if key actors are willing to break from the climate finance status-quo. Unlike much of existing climate finance, funding for loss and damage must be newly sourced and disbursed in a way that is grounded in justice and recognition of the scale of the crisis faced by climate vulnerable countries and communities.

KEY MESSAGES

- In the face of extreme climate impacts and intertwined challenges, the people and communities we visited have employed various adaptive and maladaptive coping strategies. While these measures vary in efficacy, taken together they provide a clear message that climate-impacted communities are struggling to survive, let alone thrive. In the absence of adequate climate adaptation funding, many communities are grossly overlooked outside of a declared humanitarian emergency or disaster context, and are consequently left to fend for themselves. There is a concerning lack of agency demonstrated by many of these coping measures - where individuals and households are essentially left with no other choice in what can be called enforced resilience - which only further marginalizes these oft-forgotten communities.

- Many of the sustained climate-driven losses and damages communities are suffering can be understood as human rights losses and setbacks to achieving the UN 2030 Agenda for Sustainable Development. UN member state commitments made in the 2015 Paris Agreement and the 2021 Glasgow Climate Pact to ensure the protection and promotion of human rights and the role of sustainable development in reducing the risk of loss and damage, are already being eroded, and urgent and immediate action must be taken to better protect Kenya's climate vulnerable communities.

- As is the case in all situations of loss and damage from climate change, support and solutions will need to be realized at multiple levels and be sustainable for years to come, especially given the many problematic coping measures.

- Due to this increasingly untenable situation, some households have migrated elsewhere, with no guarantee that resources will be easier to find upon arrival. But some Kenyans lack the financial means to migrate or relocate, even if they want to. Even where heavy rainfall is causing lake expansion and flooding, and also concurrent drought, communities are rendered immobile by poverty. This is a significant finding that challenges present understanding, and it shows how discussing climate displacement as only a form of migration leaves out entire households and communities who simply cannot move. Instead, consideration of a spectrum of displacement due to climate change is appropriate.

- Drought is pushing Kenyan pastoral communities to migrate internally and across regional borders, leading to violent resource conflicts. The climate-conflict-migration nexus is a complex issue, but there are possible ways forward. In recognition that pastoralists are having to travel further for adequate pasture and water due to prolonged drought and resultant water scarcity, the Kenyan government could focus on facilitating migration agreements between pastoralists, herders, and landowners, rather than taking a reactive approach to conflicts when they arise.

- As options dwindle, and climate-vulnerable countries like Kenya struggle to maintain development gains in the wake of climate impacts, the COVID-19 pandemic, and global inflation, there is an urgent and substantial need for developed countries to operationalize the Loss and Damage Fund to which they agreed at COP27 in Sharm-el-Sheik. Critically, this fund must be new and additional to existing commitments, administered via the UNFCCC, and in line with the principle of 'common but differentiated responsibilities and respective capabilities' (CBDR-RC). There must also be mechanisms that can be accessed at the local level, especially as communities in Kenya continue to suffer losses and damages as a result of climate change.
- While some solutions are difficult - the operationalization of adequate climate finance chief among them - we should not overlook the fact that some solutions are quite simple. Small climate finance grants can quickly provide short-term remedies and resources for communities who have identified solutions for immediate and basic needs but lack the financial means for redress.

- In addition to the loss of homes, land, and livelihoods, some communities are facing devastating and permanent losses to their culture and heritage.

- Climate impacts have placed entire communities in fragile situations with limited access to support. Climate displaced communities have been made further vulnerable by a lack of humanitarian services and protection programming, both from the government and outside groups. Given the projected trends of climate impacts in Kenya and the region, unless urgent climate action is taken now, it is likely their situations of marginalization and displacement will become protracted.

- Within communities that are experiencing these climate impacts - beyond the overarching situations of marginalization, poverty, and underdevelopment - certain groups of people are disproportionately affected. These inequities in turn fuel a vicious cycle of vulnerability during subsequent instances of climate impacts
- Women and girls are often bearing the brunt of drought and flood impacts, events which exacerbate discrimination they already face. As drought and flooding continue to impact these communities, it is clear that an entire generation of children, but especially girls, are suffering development setbacks and human rights losses due to climate change.
- It is no secret that Indigenous Peoples and other minority groups are often some of the most marginalized in societies across the world, given their lack of access to political power and exclusion from service provision. That unfortunately holds true throughout much of Kenya's Great Rift Valley, with climate impacts like drought and flooding making matters worse. All of the climate displaced communities we spoke to are Indigenous, marginalized populations.

- Investment in early-warning systems is crucial to provide useful and potentially life-saving information to communities who are cut off from sources of knowledge and climate-adaptive assistance. This mirrors the request of many developing countries during multilateral climate talks, providing an area of synergy between local actors and national authorities, as long as financing is made available.

- Our visits to these climate-impacted communities provide a few key lessons when it comes

to addressing climate-induced non-economic loss and damage and related effects. Perhaps the most important is the need to speak with impacted communities. This not only allows us to better understand their reality, it also provides more useful information to the discussion on solutions than what often comes from actors at higher levels. Negotiators in the UNFCCC space will never address the loss and damage of climate-impacted communities if they do not meaningfully engage and include impacted communities.

- It is vital that the international community design solutions to address the needs of the most vulnerable within impacted communities, notably women and children, Indigenous Peoples, displaced persons and other marginalized groups. One-size-fits-all approaches will only serve to maintain existing inequities, at best.

- It is important to recognize that solutions for loss and damage as a result of climate change must be innovative and targeted if we are to truly prevent widespread development setbacks and contribute towards climate justice. Communities should not have to rely solely upon humanitarian aid, which is channeled irregularly and often at levels too high to be effective in vulnerable, climate-impacted localities.

For further on these key messages, please see **Concluding Recommendations in Chapter 20.**

1. PURPOSE

At Climate Refugees we believe frontline communities should be at the center of informing decision-making processes. Extreme weather and climate change-related events are disproportionately impacting the world's poorest and marginalized people. We are not alone in our beliefs, with just about every policy paper stressing the importance of community inclusion and participation. However in practice, community engagement is still lacking in informing policy. With the decision at COP27 in Sharm el Sheikh to establish a UNFCCC Loss and Damage Fund to deploy resources to affected communities, closing this gap is more vital than ever.

Through the community interviews Climate Refugees conducted in Kenya, this report provides an opportunity to identify the specific losses and damages communities are suffering from both sudden and slow onset climate change events, in their own words. We have been intentional about sharing this community storytelling, detailing the essence and heart of the losses they described. And in doing so, we have been conscious not to summarize or dilute the messages conveyed to us, instead seizing a valuable opportunity to share information from affected communities who are not seen and heard as potential, powerful changemakers nearly enough.

We avoided predetermined categories of loss and damage, thereby allowing affected communities to detail their lived values, their cultures and their realities that they feel are most important and at-risk to climate change-driven events, all the while allowing us a space of learning.

In addition to fostering learning and openness, these community disclosures have given us an opportunity to frame loss and damage as human rights losses and development setbacks already enshrined in human rights instruments and the UN Sustainable Development Goals. Wherever possible, we have called upon these legal and policy instruments to better define the losses vulnerable and affected communities are suffering, and to illustrate solutions. Relatedly, on displacement as a result of climate change - an issue many of these communities are facing in some way - we highlight existing and potential additional avenues which may prove helpful in providing protection and solutions, which are currently far from adequate.

The work to operationalize the Loss and Damage Fund, and indeed any efforts to implement meaningful and appropriate solutions for those affected by climate change, must be informed by impacted people to identify needs, gaps and the most impactful ways to deploy resources that facilitate inclusion, representation and compensation of all affected communities. As such, this report draws together case study evidence from 10 distinct locations in Kenya in which communities are suffering extreme climate impacts, and who lack the support to withstand those growing climate impacts that put them at risk to human rights losses, development setbacks, displacement and migration. In other words: Loss and Damage.

2. METHODOLOGY

This report is based on desk research and interviews conducted by Climate Refugees in Kenya in October through November 2022. Interviews were conducted in the locations and climate situations where communities reside. This meant extensive travel over great distances to remote and impoverished villages over unpaved roads, boats and sometimes extreme hardship because we felt it was essential that we reach these very communities. In urban centers like Kibera informal settlement, interviews and visits throughout Kibera were conducted in extremely challenging environments, where Climate Refugees, partners and interviewees traversed through uneven hills and terrain, toxic garbage pits, open sewers and other situations frequently encountered in slum dwellings.

Ten distinct communities visited are presented here, with conversations and findings varying in scope and depth, reflecting climate impacts, access to communities, resources and the respective work of local organizations interviewed. All interviews were conducted in local Indigenous languages with simultaneous translation.

The report is informed by Key Informant Interviews (KII) with experts and local stakeholders, Direct Observations (DO), Focus group discussions (FGD) and individual follow-up interviews with affected populations, which were conducted in 10 distinct locations with 99 individuals: 59 men and 40 women. These interviews were conducted in order to gain a localized understanding of the impacts of climate change on mobility and human rights losses in the context of drought, rainfall variability, rising temperatures and rising lake waters. This locally-driven and participatory approach has been recognized as useful in centering the voices of affected communities to better understand how to fill gaps,[1] as well as being critically important to building more robust and useful data sets on climate displacement.[2]

The following methods were used to gather data:

- Interviews with community, local and government leaders of affected sites
- Extensive discussions with affected communities, marginalized and vulnerable people, local elders and leaders such as Chiefs, civil society, community based and grassroots organizations and government officials
- Literature review of recent reports and data from government institutions and other stakeholders, articles, media, video and interviews

Focus group discussions were conducted outdoors with impacted people, displaced and migrant communities in groups of 10 persons at a time, to ensure social distance and Covid protocols.

An age and gender balanced mix of individuals from rural areas whose livelihoods are primarily

1 "Practical Action for Addressing Loss and Damage", Scottish Government, March 2023, 29, https://www.gov.scot/publications/practical-action-addressing-loss-damage/.

2 Lisa Thalheimer and Woi Sok Oh, "An inventory tool to assess displacement data in the context of weather and climate-related events," Climate Risk Management 40 (2023): 4 and 7, https://doi.org/10.1016/j.crm.2023.100509.

pastoral and agro-pastoral such as farmers, herders and traders were targeted for interview due to the hypothesis that this population would be most impacted by climate change, and also because the affected regions are populated with people in these professions.

Focus group discussions were helpful to engage group discussion and were determined to be the most efficient and effective way to collect a range of views in a short timeframe. It also provided the opportunity to engage robust discussion, gauge opinions and insights into the issues, impacts and changes related to climate conditions, conflict, adaptation and mobility in places of origin.

Discussion findings underscore the information gleaned in 17 Key Informant Interviews with local expert stakeholders and extensive literature review conducted in the course of research.

One could spend months, if not years, visiting locations and communities in Kenya to highlight how climate change is impacting people. Sites for this report were chosen to provide useful information on a variety of both rural and urban communities.

Climate Refugees' Founder and Executive Director Amali Tower undertook visits and interviews with impacted communities in the following rural locations and urban locations:

- Kiwanja Ndege IDP Camp, Marigat, Baringo County
- Kokwa Island, Lake Baringo, Baringo County
- Rugus, Lake Baringo, Baringo County
- Lake Bogoria, Baringo County
- Loya Village, Turkana County
- Atalokamusio Village, Lokiriama, Turkana County
- Kaekoroe-Akwaan Village, Loima sub-County, Turkana County
- Lorengippi, Loima sub-County, Turkana County
- Kakuma Refugee Camp, Turkana County
- Kibera, Nairobi

COMMUNITY INTERVIEWS

All the quotes from the interviews with impacted populations have been attributed to pseudonyms marked by an asterisk [*] or anonymized in order to protect the identity of the interviewees. Exceptions apply to expert stakeholders who provided consent for the use of their names. We privileged the use of direct quotes of those interviewed over summarization and paraphrasing in an attempt to maintain accuracy of representation, a key concern when trying to amplify the voices of impacted populations in different geographic and cultural contexts.[3] All photos published here were taken and used with consent. Efforts were made to take the least revealing photos.

Desk research included a variety of sources, such as UN reports, scientific and other academic studies, national climate change policies, NGO reports and media articles. These are cited in the text.

This report is not a comprehensive assessment of the climate change and environmental threats to visited local communities in Kenya. Such an assessment would require more in-depth qualitative and quantitative study, including modeling of climate change scenarios. This report is a localized and first-hand account of climate impacts on marginalized communities in Kenya.

3 Douwe van Schie et al., "Centring local values in assessing and addressing climate-related losses and damages," International Institute for Environmental and Development (IIED), June 2023, 15 (s. 3.1.2), https://iied.org/21516iied.

KEY INFORMANT INTERVIEWS

1. Mali Ole Kaunga, Executive Director, IMPACT Kenya, New York, NY *21 September 2022*
2. Sebastian Lepariyo, Programs Officer, Baringo Women and Youth Organization (BWYO), Baringo, Kenya, *9 October 2022*
3. Eunice Lepariyo, Founder and CEO, BWYO, Baringo, Kenya, *10 October 2022*
4. Mana Omar, Founder and CEO, Spring of the Arid and Semi-Arid Lands (SASAL), Nairobi, Kenya, *12 October 2022*
5. Sammy Ekal, Executive Director, Turkana Pastoralists Development Organization (TUPADO), Lodwar, Kenya, *13 October 2022*
6. Raphael Otem, Field Director Turkana Region, Danish Refugee Council (DRC) Kenya, Turkana Office, Lodwar, Kenya, *13 October 2022*
7. John Ekutan, Peacebuilding Officer, Resilience Peace and Stability Program, DRC Kenya, Turkana, Lodwar, Kenya, *13 October 2022*
8. Dennis Mosioma, Assistant Director for Drought Information, National Disaster Management Authority, Lodwar, Kenya, *14 October 2022*
9. James Lomutom, Humanitarian Manager, Lotus Kenya Action for Development Organization (LOKADO), Lodwar, Kenya, *14 October 2022*
10. Ambrozius James Lokolel, MEAL Officer, LOKADO, 14 October 2022
11. Muthama Wambua, Turkana County Government Commissioner, Lodwar, Kenya, *15 October 2022*
12. Achilo Christopher, Humanitarian and Emergency Response Officer, TUPADO, Turkana County, Kenya, *16 October 2022*
13. Paulo Kai and Hassan, Danish Refugee Council Kenya, Kakuma Office, Kakuma Refugee Camp, *17 October 2022*
14. Prisca Okila, Community Associate, KDI Kenya, DARAJA Project in Kibera, Nairobi, Kenya, *21 October 2022*
15. Julie Watson, Journalist, Associated Press, via telephone/email, *5 March 2023*
16. Markus Topp, Senior Protection Officer, IDPs, Mixed Movement, Climate-Induced Displacement, UNHCR, Regional Bureau for East, Horn of Africa and Great Lakes, Nairobi, Kenya, *14 March 2022, 11 October 2022, 4 April 2023*
17. Deng Dak Malual, Global Shapers, Kakuma Hub; Team Leader, StepUp.One, Kakuma Refugee Camp, remote, *11 July 2023*

LITERATURE REVIEW

The overarching aim of this report is to understand how climate change impacts - notably drought and flooding - are contributing to disaster risk and health and safety issues, displacement, migration, food insecurity, poverty, and livelihood loss for both urban and rural populations, especially herder, pastoral, and Indigenous communities.

While the primary research presented in this report is indispensable to achieving this aim, it is also important to ground such data in a comprehensive review of existing literature on the various concepts and phenomena raised in the report. Thus sections begin by providing information on the overall geographic context before highlighting key developments and figures from the literature on the specific locations visited as part of the data collection for this report.

3. INTRODUCTION

Located in East Africa with a population of over 47 million, Kenya, a lower-middle income country,[4] is bordered to the north by South Sudan and Ethiopia, to the east by Somalia, to the west by Uganda, and to the south by Tanzania. Large swaths of the country - especially in the north and east - are either arid or semi-arid, but there are also various micro-climates. Kenya's capital, Nairobi, has one of the highest growth rates in Africa, with the vast majority of its urban population growth ending up in informal settlements.[5]

Encyclopedia Britannica courtesy of Google images

4 "Inclusive Economic Growth," United States Agency for International Development (USAID), 5 April 2023, https://www.usaid.gov/kenya/document/economic-growth-and-trade#:~:text=With%20a%20gross%20domestic%20product,a%20diverse%20and%20dynamic%20economy.

5 "Kenya: Nairobi Urban Profile," United Nations Human Settlements Programme (UN-HABITAT), 2005, https://unhabitat.org/kenya-nairobi-urban-profile.

Kenya routinely ranks poorly when it comes to both vulnerability to climate change, as well as ability to adapt to its negative effects, a story that is all too common in the Global South.[6] The Kenyan economy is heavily dependent on agriculture and tourism, both of which are susceptible to larger variations in rainfall as a result of climate change.[7] Cycles of droughts and floods contribute to agricultural loss, famine, and displacement.[8]

Agriculture is the backbone of Kenya's economy, comprising 33% of Kenya's Gross Domestic Product (GDP), with a further 27% of GDP derived through agriculture-linked sectors. The agriculture sector employs over 40% of Kenya's total population and 70% of its rural population who are engaged in smallholder subsistence farming. In total, this vast and complex sector produces 65% of Kenya's export earnings and is the basis for more than 80% of the Kenyan population's livelihood.[9]

Although the sector is central to Kenya's development, only about 20% of Kenyan land is suitable for farming. This means the majority of agriculture is largely subsistence, with productivity stagnating amidst a continuously growing population.[10] Kenya's population is expected to reach 81 million by 2039, and as a result, land in high-productive agricultural areas are decreasing in size and affecting food production.[11] This is an especially alarming trend, where populations dependent on rain-fed farming, are also experiencing a rapidly changing climate. Recurring droughts, especially in Kenya's vast arid and semi-arid areas (ASALs) are exacerbating the vulnerabilities of Kenya's poorer populations. According to the UN Food and Agricultural Organization (FAO), poverty is deeply intertwined in the country's agricultural sector where 46% of the population live on less than 1 USD per day and 35% of children are malnourished.[12]

Despite contributing very little to global greenhouse gas emissions, Kenya has been described as a "leader in addressing climate change",[13] with innovative and bold initiatives as part of a national climate change action plan.[14] It is within this complex environment of vulnerability but also innovation that this report seeks to better understand the impacts of climate change on communities on the frontlines in Kenya.

6 "Country Rankings," University of Notre Dame Global Adaptation Initiative (ND-GAwIN), 2021, https://gain-new.crc.nd.edu/ranking/readiness.

7 "Climate Risk Profile Kenya," USAID, July 2018, https://www.climatelinks.org/sites/default/files/asset/document/2018_USAID-ATLAS-Project_Climate-Risk-Profile-Kenya.pdf.

8 Ibid.

9 "Kenya at a glance," Food and Agriculture Organization of the United Nations (FAO), n.d., https://www.fao.org/kenya/fao-in-kenya/kenya-at-a-glance/en/.

10 "Agriculture and Food Security," USAID, 2022, https://www.usaid.gov/kenya/document/agriculture-and-food-security.

11 "Kenya at a glance," FAO.

12 Ibid.

13 "Kenya Climate Change Fact Sheet," USAID, 2022, https://www.usaid.gov/sites/default/files/2022-05/Kenya_Climate_Change_Country_Fact_Sheet.pdf.

14 "National Climate Change Action Plan 2018-2022 (NCCAP)," London School of Economics and Political Science (LSE) Grantham Research Institute on Climate Change and the Environment, n.d., https://climate-laws.org/document/national-climate-change-action-plan-2018-2022-nccap_a381.

CURRENT CLIMATE IMPACTS IN KENYA

Although Kenya contributes less than 0.1% of global greenhouse gas (GHG) emissions,[15] as do the combined Horn of Africa countries,[16] climate change is having major impacts on Kenya and the wider region. Climate and weather hazards - namely drought and flooding in Kenya - interact with social, political, and other factors to cause a wide array of impacts, such as food insecurity, livelihood loss, displacement and major losses in human rights and development gains,[17] notably the UN Sustainable Development Goals (SDGs). Throughout this report, relevant human rights instruments and specific UN SDGs at stake are discussed in order to flesh out climate-driven losses experienced by various communities.

Through our community conversations and observations, it is evident that rapid and slow onset climate change effects in Kenya are leaving many communities alone to fend for themselves, or with limited help from local and community-led organizations.

DROUGHT

The Horn of Africa is experiencing an unprecedented drought, the worst to strike the region in 40 years,[18] pushing the region to the brink of famine. Despite the contribution of the Covid-19 pandemic and resulting economic slowdown, protracted conflicts, a global food shortage with markets hard-hit by the war in Ukraine, and a major shortfall in humanitarian funding, five rainy seasons have failed since 2020 in parts of Ethiopia, Kenya and Somalia, and researchers now contend it would not have happened without human-induced climate change. "Climate change has made events like the current drought much stronger and more likely; a conservative estimate is that such droughts have become about 100 times more likely."[19] Researchers found the combination of low rainfall and high evapotranspiration driving the exceptional drought to be the result of global warming. The region's two rainy seasons - the "long rains" from March to May, and the "short rains" from October to December have largely failed. Since October 2020, an unprecedented long dry spell has persisted, occasionally interrupted with short intense rainfall that has often led to flash floods. The first rainy season of 2023 brought above average heavy rains and flash floods across the same region. Overall, the conditions in the region are an extreme example of a phenomenon seen across the globe, where drought has complex and cascading impacts, which are only likely to increase in severity and frequency.[20] The situation is made worse in combination with high temperatures: the number of "very hot days", where the daily maximum is above 35°C, is expected to increase, especially in the ASALs of Kenya.[21]

"Drought is a slow-onset hazard and its progression is based on how it interacts with other existing development conditions and new climate effects," says Dennis Mosioma, Assistant Director of Drought Information in Kenya's National Drought Management Authority (NDMA). The NDMA has assessed that today, 4.5 million Kenyans across 23 arid and semi-arid counties are in need of food

15 "Kenya Climate Change Country Profile," USAID, 14 November 2022, https://www.usaid.gov/climate/country-profiles/kenya.

16 Aimée-Noël Mbiyozo, "East Africa and the Horn light the way for climate migrants," Institute for Security Studies (ISS), 27 September 2022, https://issafrica.org/iss-today/east-africa-and-the-horn-light-the-way-for-climate-migrants.

17 Andrea Thompson, "Deadly African Drought Wouldn't Have Happened without Climate Change," Scientific American, 27 April 2023, https://www.scientificamerican.com/article/deadly-african-drought-wouldnt-have-happened-without-climate-change/.

18 "Human-induced climate change increased drought severity in Horn of Africa," World Weather Attribution, 27 April 2023. https://www.worldweatherattribution.org/human-induced-climate-change-increased-drought-severity-in-southern-horn-of-africa/.

19 "Human-induced climate change increased drought severity in Horn of Africa," World Weather Attribution, 27 April 2023. https://www.worldweatherattribution.org/human-induced-climate-change-increased-drought-severity-in-southern-horn-of-africa/.

20 José Mariá Tárraga Habas, Eva Sevillano Marco and Maria Teresa Miranda, "The state-of-the-art on Drought displacement modelling," Internal Displacement Monitoring Centre (IDMC), September 2022, 12 and 37, https://www.internal-displacement.org/sites/default/files/publications/documents/220906_IDMC_DroughtDisplacementModelling.pdf; Valérie Masson-Delmotte et al., eds., Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge and New York: IPCC via Cambridge University Press, 2022), https://dx.doi.org/10.1017/9781009157896.

21 Julia Tomalka et al., "Climate Risk Profile," Potsdam Institute for Climate Impact Research, 2021, 4, https://agrica.de/wp-content/uploads/2021/01/GIZ_Climate-risk-profile-Kenya_EN_final.pdf.; Emma Whitaker et al., "Climate Security Study: Kenya," Adelphi, April 2023, 26, https://weatheringrisk.org/en/publication/climate-security-study-kenya.

assistance. Kenya needs close to $500 million in order to effectively respond to the current drought, however only about 20% of the necessary amount has been funded.[22] Importantly, experts warned in 2019 of the potential for drought and humanitarian crisis, but early response funding was elusive until the situation reached peak crisis in 2022.[23]

FLOODING

Since 2010, Kenya's Rift Valley lakes have been rising and expanding. Among others, these include Lake Baringo, Lake Bogoria and Lake Turkana discussed in this report. Scientists have concluded that to a great extent, increased rainfall since 2010 explains lake levels' rise.[24] A Kenyan government report released last year found that while tectonic activity in the Rift Valley is partly to blame, excessive rainfall, driven by the climate crisis, is the main cause of lakes' rise. As well, environmental degradation like deforestation has been a contributing factor leading to landslides and increased water runoff.[25] Freshwater Lake Baringo is moving closer to saltwater Lake Bogoria, threatening an ecological disaster. Through Climate Refugees' visit to affected regions, we learned from residents that the lakes are now six miles apart. Guardian reporting indicates the lakes were even closer once with only four miles distance between them.[26]

Water fluctuations in the Rift Valley are not new, but the risks posed by rising lake levels to higher populations is new and immediate. Scientists don't know whether the lakes will keep rising, pointing to fluctuations ten thousand years ago of lakes with significantly higher levels that abruptly disappeared, and that little can now be done to curb increases in rainfall and climate change. However, they point to the necessity to prepare society and populations at-risk through effective disaster risk measures like holding back water in the catchment and upstream areas, afforestation, soil water conservation and even costly damming, if necessary.[27]

22 KII with Dennis Mosioma, Assistant Director for Drought Information, Kenya National Drought Management Authority (NDMA) (Lodwar, Turkana County: 14 October 2022). See also: "The Horn of Africa Crisis: 'The Challenge of a Generation'," CARE, n.d., https://www.care.org/news-and-stories/press-releases/the-horn-of-africa-crisis-the-challenge-of-a-generation/.

23 Jake Bittle, "As drought grips the Horn of Africa, humanitarian aid is no match for climate change," Grist, 22 May 2023, https://grist.org/drought/famine-somalia-kenya-ethiopia-humanitarian-aid/.

24 Mathew Herrnegger et al., "Hydroclimatic analysis of rising water levels in the Great rift Valley Lakes of Kenya," Journal of Hydrology: Regional Studies 36 (August 2021): 1, 23-24, https://doi.org/10.1016/j.ejrh.2021.100857.

25 Carey Baraka, "A drowning world, Kenya's quiet slide underwater," The Guardian, 17 March 2022, https://www.theguardian.com/world/2022/mar/17/kenya-quiet-slide-underwater-great-rift-valley-lakes-east-africa-flooding.

26 Ibid.

27 Mathew Herrnegger, "Kenya's Rift Valley lakes are rising, putting thousands at risk - we now know why," 16 January 2023, https://theconversation.com/kenyas-rift-valley-lakes-are-rising-putting-thousands-at-risk-we-now-know-why-194541. See also: Herrnegger et al., "Hydroclimatic analysis".

4.CLIMATE CHANGE, DISPLACEMENT AND MIGRATION

The Intergovernmental Panel on Climate Change (IPCC) notes sub-Saharan Africa as a region that will be particularly impacted by environmentally-induced migration, pointing to case studies in Somalia, for example, that emphasize the interaction of climate change, disaster, conflict, displacement and migration.[28] The World Bank, too, has noted the region could have as many as 85.7 million internal climate migrants by 2050.[29] Despite this, experts contend "the international community has been slow to address the links between climate change and migration."[30]

With the effects of climate change increasing in frequency and intensity in Kenya, there are many forms of mobility, sometimes even immobility, occurring concurrently in response, but overall, movement here is forced. Climate-induced movements here include: displacement, where people are forced out of their homes and displaced internally and across borders; migration, where movement to some degree is voluntary, and in other cases forced, and is occurring within Kenya and across borders to neighboring countries.

In our discussions with communities experiencing climate change and some degree of human mobility, many people shared their reluctance, unwillingness or inability to migrate. For some, a degree of immobility resonated as a reluctance to leave their home, while others described immobility based on lacking the water, food and ability to make the journey across borders. Still others described migration as a "young man's game," expressing reluctance to leave their homes and start life anew or lacking the physical ability to travel.

As is often the case, one's mobility is often shaped by socio-economic, political and even cultural factors, even where climate drivers are most pressing. And with all the populations we visited, issues of exclusion, marginalization, poverty and underdevelopment are acute. In these conditions, displacement and distress migration reproduce and multiply these pre-existing conditions of vulnerability. This was observed amongst all the populations that we consulted.

Over two years from 2020 to 2022, flooding and drought, in almost equal measure, internally displaced nearly 700,000 Kenyans from their homes.[31] These official numbers could actually be much higher, as they may not reflect Kenyans who are forced to move across borders to neighboring countries.

The current drought has forcibly displaced 2.28 million people across the region, with impacts in Somalia alone displacing 1.4 million people.[32] UNHCR estimates 180,000 people have crossed

28 Isabelle Niang et al., "Africa," in Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, edited by Vicente R. Barros et al. (Cambridge and New York: IPCC via Cambridge University Press, 2014), 1239, https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-Chap22_FINAL.pdf.

29 Viviane Clement et al., "Groundswell Part 2: Acting on Internal Climate Migration," World Bank Group, 2021, xxii,

30 Mbiyozo, "East Africa and the Horn".

31 "Kenya," IDMC, n.d., https://www.internal-displacement.org/countries/kenya.

32 Horn of Africa Drought Situation Report #8," Danish Refugee Council (DRC), 8 May 2023, https://pro.drc.ngo/media/oarpocor/drc-horn-of-africa-drought-situation-report-8.pdf.

borders from Somalia and South Sudan into drought-stricken refugee camps in Kenya and Ethiopia.[33] Reflecting the food insecurity and near-famine, from 2021 to 2022, of the 354,000 Kenyans internally displaced, 318,000 were as a result of drought.[34] Noting climate change as an increased driver of migration, IOM has noted a 64% uptick in migration of women and children traveling alone this year from the Horn of Africa to Gulf countries. The solo travel of women marks a significant shift of a group that traditionally opted out of the treacherous journey through Yemen.[35] In 2022, 5.3 million IDPs lived in drought-affected regions across the Horn of Africa, 2.3 million were displaced by drought alone, and a further 534,000 people were forced to move between affected areas.[36] Further, it is likely that these numbers are conservative estimates, given the lack of availability of quality data on the slow and extended effects of droughts on displacement,[37] especially that which includes local input.[38]

Reflecting a "catastrophic hunger crisis", last September, the International Federation of the Red Cross said nearly a million people had been forced to leave their homes in Somalia and Kenya, where nomadic pastoralist communities were particularly hit hard by food shortages.[39]

BARINGO COUNTY

Situated in Kenya's Rift Valley region, Baringo County is bordered by eight other counties: West Pokot to the north west, Turkana to the north, Samburu to the north east, Laikipia to the East,Nakuru to the south, Elgeyo-Marakwet to the west and Kericho and Uasin-Gishu counties to the south west. Baringo County is divided into six sub-counties: Baringo South, Mogotio, Eldama Ravine, Baringo Central, Baringo North and Tiaty. The Tugen, Pokot and Ilchamus comprise the main ethnic groups of Baringo County, living side-by-side with minority ethnic groups such as the Endorois, Nubians, Ogiek and Turkana. [40]

As arid and semi-arid lands (ASALs), Baringo County is highly vulnerable to rainfall variability and catastrophic and severe droughts, with average annual rainfall projected to decline over time.[41] Kenya has experienced multiple drought periods over the past 45 years, and despite efforts to strengthen adaptive capacity, the ASALs remain a highly vulnerable region to drought driven by climate change and variability.[42] This has various impacts on Baringo's communities, such as water scarcity during dry spells making pastoral activities more challenging - especially relative to

33 "UNHCR Horn of Africa Drought Situation Appeal (January-December 2023)," United Nations High Commissioner for Refugees (UNHCR), 2023, https://reliefweb.int/report/ethiopia/horn-africa-drought-situation-appeal-january-december-2023#:~:text=The%20Horn%20of%20Africa%20region,raise%20livestock%20and%20buy%20food.

34 "Kenya," IDMC.

35 "UN raises alarm over surge in migration from Horn of Africa," Africanews with AP, 16 February 2023, https://www.africanews.com/2023/02/16/un-raises-alarm-over-surge-in-migration-from-horn-of-africa//.

36 "Horn of Africa Drought 2022: Human Mobility Snapshot (January-December 2022)," International Organization for Migration (IOM), 23 February 2023, https://reliefweb.int/report/ethiopia/horn-africa-drought-2022-human-mobility-snapshot-january-december-2022.

37 Habas, Marco and Miranda, "Drought displacement modelling," 33.

38 Ibid, 39.

39 "WMO: 'Water stress, withering drought and devastating floods' hit Africa's people and ecosystems," International Federation of the Red Cross (IFRC) Climate Centre, 8 September 2022, https://www.climatecentre.org/9173/wmo-water-stress-withering-drought-and-devastating-floods-hit-africas-people-and-ecosystems/.

40 "County Overview," Baringo County Government, n.d.,

41 Richard Ochieng et al., "Rainfall Variability and Droughts in the Drylands of Baringo County, Kenya," Open Access Library Journal 4, no. e3827 (July 2017): 11, http://41.89.164.27:8080/xmlui/bitstream/handle/123456789/495/Rainfall%20Variability%20and%20Droughts%20in%20the%20Drylands%20of%20Baringo%20County_Kenya_Open%20Access%20Library%20Journal.pdf?sequence=1.

42 Ibid, 3.

communities in irrigated areas[43] – and causing households to travel increasing distances for water collection.[44] Even when dry spells end, low rainfall in previous months can have lingering impacts.[45]

LAKE BARINGO

Lake Baringo in Baringo County is a freshwater lake in Kenya's Rift Valley, about a five-hour drive from Nairobi. Long considered an oasis in the semi-arid region, Lake Baringo has always seen seasonal shifts in settlement and economic activity based on rainfall and 'normal' swelling of the lake, but nothing like what has been happening in recent years, notably in the past decade.[46] In fact, in that time, climate change-driven heavy rains have raised Baringo's water levels 12 meters.[47]

Source: ResearchGate

The impacts of flooding and lake level rise are numerous and often intersecting. For the past few seasons, residents and researchers alike have been concerned that Baringo might even merge with nearby saltwater Lake Bogoria, which would have devastating ecological consequences.[48] In just a decade, the distance between Baringo and Bogoria has halved, and the two lakes are now just six miles apart.[49] The threat of saltwater incursion has the potential to impact over 100,000 people who depend on Baringo for income from agriculture and fishing, with the possibility of intergenerational loss.[50] The tourism industry has also seen major impacts. Entire hotels and restaurants, which would generally employ large numbers of people, have been submerged or otherwise rendered unusable. [51]

43 "Baringo County: Drought Early Warning Bulletin for February 2023," NDMA, 15 March 2023, s. 5.4, https://reliefweb.int/report/kenya/baringo-county-drought-early-warning-bulletin-february-2023.

44 Ibid, s. 2.2.

45 Monitoring of conditions in Baringo County in June 2023 showed that, while there was no official drought status reported, "poor performance of the rains during the previous month" were still contributing to an increase in average household trekking distance to water sources as compared to the previous month. See: "Baringo County: Drought Early Warning Bulletin for June 2023," NDMA, 2023, s. 2.3.2, https://www.ndma.go.ke/index.php/component/jdownloads/send/10-baringo/7000-baringo-june-2023.

46 Brian Inganga and Julie Watson, "Climate migration: Kenyan woman loses nearly all to lake," Associated Press, 8 September 2022, https://apnews.com/article/africa-lakes-kenya-crocodiles-climate-and-environment-8ac5b87e2c23de2250e436238aba96b0.

47 Aryn Baker, "Environmental Crises Are Forcing Millions Into Cities. Can Countries Turn Climate Migrants Into An Asset?," Time, 22 April 2021, https://time.com/5953402/climate-migrants-kenya-floods/.

48 Inganga and Watson, "Climate migration"; Anne Macharia, "Rising waters in Kenya's Rift Valley spell danger to local wildlife, livelihoods," Radio France Internationale, 17 January 2021, https://www.rfi.fr/en/africa/20210117-rising-waters-in-kenya-s-rift-valley-spell-danger-to-local-wildlife-livelihoods-africa-lake-baringo-bogoria-fishing-flamingoes.

49 Baker, "Environmental Crises".

50 Ibid.

51 Ibid.

Lake Baringo is Baringo County's most popular tourist attraction due to its many hot springs and active geysers, with the County noting the high revenue that tourism generates.[52] With the biodiversity, habitats and nature reserves surrounding both Lakes Baringo and Bogoria, tourism has traditionally been a huge source of revenue for Baringo, a county with a poverty rate of 52.2%. With the impacts of floods and the Covid-19 pandemic, Baringo County has lost an estimated 95 million shillings (nearly 700,000 USD) in tourism and infrastructure in 2021.[53]

Source: ResearchGate

Homes have been flooded, leading to displacement. The government of Kenya estimates that the number of households severely impacted by Baringo flooding is over 3,000.[54] Many have had to move or have decided that their only viable option is to move away from the area, despite having strong cultural or ancestral ties to the land, which can result in worse employment prospects and higher risk of poverty as people lose their livelihood and have to start over.[55] And neighboring communities are largely unprepared to receive new arrivals from Baringo, often struggling to adapt to the pressure placed on housing, water resources, and the healthcare system, according to activist Paul Chepsoi.[56] This is a clear example of how displacement can "extend loss and damage beyond the boundaries of the areas initially affected" by climate change.[57] As Chepsoi explains, some displacement is now inevitable; the flooding is so severe that only a severe drought - with its own negative impacts - would stop the rising waters of Baringo.[58] Reports indicate heavy rains during the 2020 Covid-19 lockdown led to the complete submersion of 11 schools in Marigat, a major town in Baringo county. [59]

A joint 2021 Kenya government and UNDP report found that rising lake waters in the Rift Valley have "displaced" 75,987 households with 379,935 people "requiring urgent humanitarian assistance."[60] These figures generally align with media reports[61] and our own discussions with Associated Press

52 "Environment, Natural Resources, Tourism and Wildlife Management," Baringo County Government, n.d., https://baringo.go.ke/index.php?option=com_content&view=article&id=25&Itemid=177.

53 Caroline Cherono, "Baringo Lost Sh95 Million Revenue Due to Floods," Kenya News Agency, 11 August 2021, https://www.kenyanews.go.ke/baringo-lost-sh95-million-revenue-due-to-floods/.

54 "Rising Water Levels in Kenya's Rift Valley Lakes, Turkwel Gorge Dam and Lake Victoria," Republic of Kenya and UNDP, 2021, 26.

55 Inganga and Watson, "Climate migration"; Baker, "Environmental Crises".

56 Baker, "Environmental Crises".

57 Human mobility and non-economic loss and damage: Submission to inform the NELs Technical Paper 2023," Secretariat of the Platform on Disaster Displacement (PDD) and Loss and Damage Collaboration (L&DC), 20 April 2023, s. 2.6, https://www.lossanddamagecollaboration.org/publication/pdd-and-l-dcsubmission-toinform-the-unfcccs-non-economic-losses-nels-technical-paper-2023-human-mobility-and-non-economic-loss-and-damage.

58 Baker, "Environmental Crises".

59 Baraka, "A drowning world".

60 "Rising Water Levels in Kenya's Rift Valley Lakes," Kenya and UNDP, xvi.

61 "Climate Refugees - Lake Bogoria IDP's forced to live with wildlife," K24TV, 4 June 2023, timestamp 11:43, https://youtu.be/vthsXDUDNOU?t=703.

Hotels submerged by Lake Baringo. Photo by Amali Tower/Climate Refugees

(AP) journalist Julie Watson, who covered the Rift Valley floods,[62] tells us that 75,000-80,000 people have been displaced by flooding. Further, multiple media accounts list various displacement numbers associated with flooding, like this local news story that reports the Stockholm Environment Institute number of 160,000,[63] pointing to shifting information over multiple incidents of flooding and poor record-keeping of both the number of people impacted and displaced. Flooding around Lake Baringo is considered to be the most severe, with more than 3,000 households destroyed.[64] This video news story from Daily Nation reveals 20 villages submerged by rising water levels in 2020.[65]

KOKWA ISLAND, LAKE BARINGO, BARINGO COUNTY

Kokwa Island is one of eight islands in Lake Baringo. Around 2,000 minority tribespeople live on the island. The Indigenous Ilchamus people, also known as Njemps people, comprise the majority population, along with a smaller number of Tugen and Turkana people.

Residents here live right at the water's edge. Many disclose, they are dealing with the dual effects of climate change-driven drought and flooding. Access to the island was possible via a 30-minute boat ride from the mainland in Baringo, where community consultations were held with Ichamus, Tugen and Turkana men and women. Upon arrival, one has an immediate, first-hand experience of the rising waters since no shore exists between the water and the land.

Most people are native-born residents, but some moved to the island for tourism jobs. The communities here are mainly fisherfolk, as pastoralism of goats, sheep and cows are increasingly disrupted by a lack of land and lack of grazing land. Agriculture is not possible here due to uneven, rocky terrain, but a handful of small family gardens were observed where communities are attempting

62 KII with Julie Watson, journalist, Associated Press (5 March 2023), who shared that the Kenyan government had repeatedly told the AP as many as 380,000 to 400,000 people have been displaced since 2010, which based on 4 people per household, calculates to about 75,000 to 80,000 households displaced or impacted.

63 "Climate Refugees - Lake Bogoria IDP's," K24TV, timestamp 12:22.

64 KII with Watson.

65 "More than 20 villages in Kokwa Island, Baringo submerge after Lake Baringo bursts its banks," Daily Nation, 5 May 2020, https://youtu.be/NZYmmWTKHJs.

subsistence farming in dry conditions.

Heavy rains have been noted in Kenya's Rift Valley starting in 2010, leading to significantly higher water levels in many of its lakes. Using remote satellite sensing data, scientists from the Institute of Hydrology and Water have studied the factors contributing to the changes of the lake surface areas, levels and water volumes. They've concluded that to a great extent, increased rainfall since 2010 explains the lake level rises.[66]

Displacement is not a new phenomenon for residents here. Starting in 2008, some arrived here following localized conflict with the Pokot tribes people who raided homes, cows and killed many. Living on the island has saved them from repeat raids but they are now more vulnerable to climate change, and even climate change-induced displacement.

Kokwa Island by Amali Tower/Climate Refugees

Some lake residents hold title deeds to the land lost around the lake. Thus, legal challenges may arise due to a loss of 1106 Km^2 of land around the lakes.[67] Some owners of submerged land had also encroached on riparian lands, and may need to be relocated to safer areas. It has been recommended that the Kenyan government determine new high-water levels on riparian lands and work with community members to communicate and enforce safe guidelines since many populations could be at further risk of flooding and land loss during short rainy seasons.

Many of the community members interviewed had experienced one or more displacements. Residents told us many families who have the financial means to do so have moved to higher ground on Kokwa Island, while others "migrated out" to surrounding islands of Lake Baringo or left the region completely. Most of the community members consulted were living in makeshift huts, having lost their homes to the lake's waters. They all asked for international assistance to rebuild their submerged homes on higher ground.

KIWANJA NDEGE IDP CAMP, MARIGAT, BARINGO COUNTY

Marigat is a small town in the lowlands of Baringo County. For some populations, climate effects

66 "More than 20 villages in Kokwa Island, Baringo submerge after Lake Baringo bursts its banks," Daily Nation, 5 May 2020, https://youtu.be/NZYmmWTKHJs.

67 "Rising Water Levels in Kenya's Rift Valley Lakes", Kenya and UNDP, xviii.

Kokwa Island by Amali Tower/Climate Refugees

have led to outright displacement. This is the case for the internally displaced people living in Kiwanja Ndege internally displaced persons (IDP) camp in Marigat, Baringo County.

The camp is composed of residents from 10 villages whose homes are now underwater, submerged by the rising waters of Lake Baringo. When we asked them what had displaced them, they replied with one simple word: "water".

One hundred fifty households comprising 1,000 ethnically-marginalized Indigenous Ilchamus people reside in the camp that has limited access to humanitarian services and protection programming. The residents identify as 100% climate displaced since their homes were submerged in 2020 when Lake Baringo waters swelled past human habitability.

Assembled in the camp under the shelter of a huge tree, our community discussion included the community Chief, camp Chair for women and children's issues, and a cross-section of residents. The community told us Lake Baringo did not swell at once. Instead, the gradual expansion and rise of the lake was first noticed by communities in 2002. The first village to be partially displaced was Ngambo village in 2012.

"During these initial floods, we received much outreach from the Red Cross", they said, "but no compensation or lasting solutions like

Kiwanja Ndege IDP Camp by Amali Tower/Climate Refugees

relocation were provided." Then in 2020, Lake Baringo rose substantially, submerging homes and leading to a massive displacement of eastern Ngambo and half of Loropil village. At that point, many residents went to live with family members, while others moved to the spontaneous IDP camp, where we met them, two years later.

Residents here live in fear of forced eviction as the camp is situated on government land allocated for a future airstrip in Marigat. According to the village chief, "if the government decides to implement the planned construction, we can all be displaced again."

Displacement did not come at once. Initial flooding in 2012 eventually led the secondary school in Ngambo to be relocated to higher ground as a temporary solution. Although the camp has existed since 2020, residents say the Kenyan Red Cross were last present two years ago. During our visit, no NGO or UN agency presence was seen. A recent Guardian report confirms Ngambo was provided a temporary school outfitted in Red Cross tents nine miles away when the secondary school submerged. Residents in nearby Loruk, a town next to Lake Baringo, also complained of limited help, where Red Cross teams had arrived to photograph the flooding.[68]

"When we asked them what had displaced them, they replied with one simple word: 'water.'"

LAKE BOGORIA

Located south of Lake Baringo, Lake Bogoria is a saline, alkaline lake that causes concern during each period of high rainfall. Due to increasing precipitation the lake's waters have come increasingly close to Lake Baringo, threatening to wreak havoc on the freshwater Baringo ecosystem.[69] With some 88 km2 of land around the lake now submerged, humans and animals have been displaced, and invasive species have gained a foothold,[70] with obvious impacts on livelihoods. If the trend continues and the two lakes do eventually merge, the result would be nothing short of an "ecological disaster", according to a Kenya Wildlife Service official.[71]

Like Baringo, Lake Bogoria has experienced notable expansion and flooding since rainfall began significantly increasing in 2010, with some formerly intermittent inflow rivers now flowing into Bogoria year-round.[72] While local human activities may partly account for such a phenomenon, the available evidence suggests that climate and weather dynamics - primarily heavier rainfall - are the main contributors to flooding.[73] Increases in mean annual rainfall of up to 30% in the region's catchments between 2010 and 2020 increased nearby Lake Solai from 3km^2 in 1984 to nearly 12km^2 in 2014 and 2020, a four-fold increase. [74]

Lake Bogoria is also home to an important and once lucrative tourism industry. The Lake Bogoria National Reserve[75] is home to some of Kenya's most iconic geothermal hot springs, geysers and a bird lover's paradise with 135 distinct species, including pink flamingos that once drew people from all over the world to witness. Communities interviewed said flamingoes that once numbered two

68 Baraka, "A drowning world".

69 Macharia, "Rising waters".

70 Melvine Otieno and Raphael Kimosop, "Climate Change Adaptation and Health by the Indigenous community from Lake Bogoria, Kenya: An Interview with Raphael Kimosop," Planetary Health Alliance in Medium, 13 June 2022, https://phalliance.medium.com/climate-change-adaptation-and-health-by-the-indegenous-community-from-lake-bogoria-kenya-an-7d5ad3c3930d.

71 Jackson Njehia, "Kenyans fear 'ecological disaster' if two swollen lakes merge," Reuters, 4 September 2020, https://www.reuters.com/article/us-kenya-environment-idUSKBN25V0S6.

72 Otieno and Kimosop, "Climate Change Adaptation".

73 ane Ngugi and Rachael Wangari, "Flooding Displaces Hundred Around Rift Valley Lakes," Kenya News Agency, 10 August 2022, https://www.kenyanews.go.ke/flooding-displaces-hundreds-around-rift-valley-lakes/; Herrnegger et al., "Hydroclimatic analysis," 1 and 23-24.

74 Herrnegger, "Kenya's Rift Valley lakes are rising".

75 UNESCO World Heritage Convention, n.d., https://whc.unesco.org/en/tentativelists/1346/.

million are now reduced to 200. Today much of that industry and biodiversity has been impacted by the climate change losses in this region, and along with it, tourism jobs and revenue that communities once depended upon.

THE ENDOROIS PEOPLE

The Endorois are an Indigenous minority group who live around Lake Bogoria, Mochongoi Ol-Arable and Marmanet Forest in Baringo County, as well as neighboring Nakuru and Laikipia Counties. The Endorois have always lived around Lake Bogoria and consider the lake and forest sacred grounds.The Endorois community was first displaced by land conservation when they were forcibly dispossessed of their lands in the 1970s to make way for Lake Bogoria National Reserve.[76] Despite a favorable judgment by the African Commission on Human and People's Rights,[77] ordering the Kenyan government to restore the Endorois to their historic land and to compensate them, locals tell us enforcement of that order, and thus justice, is yet to be fully realized. Today, the community living within the periphery of Lake Bogoria has been progressively displaced yet again by climate change-induced rising waters. The interviewed community members highlighted challenges of failed compensation for loss of homes, farms and culture, increased human-wildlife contact and social ills such as child exploitation, early marriage and prostitution driven by high poverty levels. Here, too, urgent humanitarian needs exist amongst the whole community with food insecurity and malnutrition rising.

Under a tree in the waning sun, Climate Refugees held a discussion with a group of Endorois community leaders. The conversation left us with the sense that this community has suffered immense losses that they see cumulatively as cultural erasure. Rising lake waters have led to the displacement of at least 200 households. The community has reported this data to the Kenyan government, but mentioned the compensation they seek has been elusive. "National government response has been slow," an elder said, "we are dependent upon the Kenyan government, international community and well-wishers for help." Displacement assessments in Bogoria are lacking, but one account indicates 116 households have been affected with 700 people displaced.[78]

Community leaders told us the lake is six kilometers closer to the shore today than its initial position. Many people, they said, were initially displaced to their neighbor's homes, stripping them of whatever land they once owned. Eventually, they were displaced from their homes and locations all together. Family dynamics have been disturbed, they explained. "In our culture, the men provide, but now they are languishing in poverty when displaced."

They recalled acute lake rise beginning in 2010-2011, as well as again in 2012 through 2013. The lake expansion has cut across bypass roads to schools, leading to several disruptions even before the community was displaced. One leader added, "in 1961 it rained almost all year, but the level of water rise did not reach the surprising levels we saw in 2013 that led to the displacement of so many families." In an article in Cultural Survival, Endorois community leader Carson Kiburo writes "these enormous climate change challenges have led to rural-urban migration, thus disdaining our People's way of living and eroding our language."[79]

76 Carson Kiburo, "Impacts of Climate Change Among the Endorois Peoples in Kenya," Cultural Survival, 2 March 2022, https://www.culturalsurvival.org/publications/cultural-survival-quarterly/impacts-climate-change-among-endorois-peoples-kenya.

77 "Kenya: Landmark Ruling on Indigenous Land Rights," Human Rights Watch, 4 February 2010, https://www.hrw.org/news/2010/02/04/kenya-landmark-ruling-indigenous-land-rights.

78 Otieno and Kimosop, "Climate Change Adaptation".

79 Kiburo, "Impacts of Climate Change".

TURKANA COUNTY

Turkana is one of Kenya's poorest counties with a poverty index of 79%, the highest in Kenya.[80] About 10 years ago, the poverty rate was 93%, and the National Drought Management Authority (NDMA) notes how underdevelopment is still a major factor to combatting the effects of increasing droughts and floods in this area.[81] Situated in dry, harsh climate conditions, the semi-nomadic Turkana people are pure pastoralists out of necessity. In terms of natural resources, the Turkana people are far more deprived as compared to neighboring tribes in Kenya and across borders, an opinion shared by Human Rights Watch documenting as well. [82]

According to the Danish Refugee Council's (DRC) sub-office in Turkana's main urban city of Lodwar, drought has really affected Turkana County and its pastoral communities. DRC told us that the Turkana County Office of Peace Directorate had informed them that 40,000 households in Turkana County have already moved to Uganda over the past 10 years, with more moving now due to the drought.[83]

DRC says there is internal migration happening as well, ranging from borderlands to Turkana ward-level migration, rural to urban migration and rural to rural migration. "Communities have nothing with which to mitigate climate impacts," so migration is a means of climate adaptation here.

The need then for planning and preparedness for people on the move is integral. NDMA in Turkana County says it has begun migration policy conversations to ensure Turkana urban areas don't descend into slums. However, the poor city planning and underdevelopment in Turkana's urban areas are acute as well, so coordinated government planning with international actors experiencing similar rural to urban migration will be essential.

ATALOKAMUSIO VILLAGE, LOKIRIAMA, TURKANA

The Turkana people here are pastoralists who have always lived on this land, but they are nomadic, and "we come and go," they said. Lying only 45 kilometers from the greener, lush highlands of Uganda, communities here have a history of seasonal and adaptive migration, but today, that migration is increasingly distress migration. People here are nomadic pastoralists, accustomed to migrating to the Ugandan highlands in times of dry seasons and drought. In the past, migration here was circular and seasonal, but today, for those who can migrate, migration is increasingly becoming permanent because the drought has so devastated conditions at home that returning home is not an option.

"Some people moved to Kobebe in Uganda," one woman said, "we don't know how they are doing, but Karamoja is a big place and they can beg in towns."

The Kobebe water dam in Uganda was constructed in 2010 to serve 3,000 livestock amongst Uganda's Karamojong people and nomadic Turkana pastoralists who use the water source during times of need. From all accounts, Turkana communities say the dam has provided an integral source of water during dry periods over the past ten years. But with the current extended drought, over 7,000 livestock are now using the water source, causing the dam to dry up due to the influx of Turkana pastoralists from Kenya who are now solely dependent on this as their only reliable water source.[84]

"People are trying to move to survive, but we don't know yet if that is helpful. We hope this report

80 KII with Mosioma.

81 Ibid.

82 'There is no time left': Climate Change, Environmental Threats, and Human Rights in Turkana County, Kenya," Human Rights Watch, October 2015, 3, https://www.hrw.org/sites/default/files/report_pdf/kenya1015_web.pdf.

83 KII with Raphael Otem, Field Director, Danish Refugee Council (DRC) (Lodwar, Kenya: 13 October 2022).

84 "Moroto pastoralists cry out as Kobebe dam dries up," The Kampala Report, 27 June 2023, https://www.thekampalareport.com/latest/news/2023062728367/moroto-pastoralists-cry-out-as-kobebe-dam-dries-up.html.

will be our cry for help." she concluded.

An older woman said "the younger generation are moving." The population in her village has greatly reduced over the past five years, she says. "Some come back to help at home, but some are skilled," she says, so they stay in Uganda and try to make a new life.

Many in her village have moved because of a lack of water and because the drought has destroyed all livestock, and livestock rustling raids, too, are an issue. "But the people left behind are the elderly, very young, disabled and those who cannot move for one reason or another."

While some here can move as a means of climate adaptation, others are not as fortunate, when poverty, disability and age prove to be barriers to migration, detailed in Chapter 10: Climate Change and Poverty.

Young people told us, "some years back, the security situation was much higher, so we couldn't cross the border, but now things are normalized and we can go back and forth with ease.

In the past we have moved to Uganda to survive. We've gone to Uganda to get a little support and brought that back to our community. This is how we have survived."

They say border crossings are easy, with guards asking where they are going and how long they intend to stay. When they tell them their situation, they are allowed to cross with ease.

"If you say you want to stay in Uganda, they allow it. You can even become a resident because we are Kenyans who are allowed to cross, live in Uganda and even vote there."

KAEKOROE-AKWAAN VILLAGE, LOKIRIAMA, TURKANA COUNTY

Community discussion in Atalokamusio Village - Amali Tower/Climate Refugees

The village of Kaekoroe-Akwaan is highly underdeveloped and vulnerable to insecurity and resurging conflict with neighboring Pokot tribespeople because of drought-driven resource scarcity. Most men are engaged in pastoralism, and women are now reduced to producing firewood and charcoal for sale, and hours spent collecting water. "We have many causes for migration," an elder says. "When there is insecurity, we move so we are not raided."

"The current drought situation is bleak, and we would have moved to the Ugandan highlands if we could have when it began, but the Covid-19 pandemic restrictions prevented us. Then came the locusts. This is our ancestral home. Our forefathers named this place. We go to Uganda in times of need but we always come back. We do not want to stay there. But now, things are changing because of climate change."

Internal migration in Kenya and across borders has increasingly become a coping mechanism for those who can manage the travel, but this has led to new and renewed problems as well that we discuss in Chapter 17: Regional Agreements to Facilitate Free Movement.

Bridge once connecting two islands now submerged by rising Lake Baringo - Amali Tower/Climate Refugees

5. CLIMATE CHANGE AND LIVELIHOOD LOSS

Even with adaptation measures, climate change could reduce global crop yields 30% by 2080.[85] According to an OCHA regional overview, at least 9.5 million livestock - the lifeblood of pastoralists - have died across the three countries - 4 million in Ethiopia, 3 million in Somalia and 2.5 million in Kenya - contributing to poverty, livelihood loss, income loss and high rates of malnutrition. That livestock loss translates to the loss of 120 million liters of milk that children under 5 are dependent on for daily nutrition. Over 5 million children are acutely-malnourished in drought-stricken areas.[86]

In Kenya, the loss of livestock has incurred an economic loss of more than $1.5 billion. Past experience has proven it takes at least 5 years for pastoralist families to rebuild their herd after a drought.[87] Such a delay is simply untenable for many pastoralists who see that a lack of rainfall has a direct and negative impact on their ability to earn income and provide for their families.[88] With families losing all their livestock during this current drought, and droughts increasing in frequency and intensity across the region, many will be forced to abandon pastoralism as a livelihood altogether.[89]

KOKWA ISLAND, LAKE BARINGO, BARINGO COUNTY

"Nobody comes to the hotels anymore. Nobody comes to see the wildlife," the Ilchamus island residents said. What was once a thriving area with constant tourism around Lake Baringo, is now dotted with half submerged hotels and a stalled economy. As lake waters rose, tourism died, evidenced by the numerous closed hotels that now dot the lake's waters, and where crocodiles brazenly sunbathe.

The need for new jobs creation and livelihood shifts was also a constant refrain of residents. What this demonstrates is a human rights loss of the universal right to work and to be protected against unemployment.[90] It's also a major development setback to achieving the UN Sustainable Development Goal (SDG) Goal 8 of promoting "sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all."[91]

Residents told us fishing is a livelihood of reality and necessity, even if the main economic activity in Lake Baringo has always been tourism. But "the fish can't be found anymore," they said. Even with the current drought, they implored the need to switch to farming as a means of climate adaptation, though currently hampered by the need for seeds, capacity building, generators and water pumps

85 "Climate change and poverty: Report of the Special Rapporteur on extreme poverty and human rights," UN Human Rights Council doc. A/HRC/41/39, 17 July 2019, 3, available via UN document database: https://documents.un.org/prod/ods.nsf/home.xsp.

86 "Horn of Africa Drought: Regional Humanitarian Overview & Call to Action (Revised 28 November 2022)," UN Office for the Coordination of Humanitarian Affairs (OCHA), 29 November 2022, https://reliefweb.int/report/ethiopia/horn-africa-drought-regional-humanitarian-overview-call-action-revised-28-november-2022.

87 Ibid.

88 African Borderlands Centre, "Africa Borderlands At A Glance," UN Development Programme (UNDP), 5 December 2022, 32, https://www.undp.org/africa/publications/africa-borderlands-glance.

89 "Horn of Africa Drought", OCHA.

90 "Universal Declaration of Human Rights," UN General Assembly (UNGA), 1948, art. 23, https://www.un.org/en/about-us/universal-declaration-of-human-rights.

91 Sustainable Development Goal 8 is "Decent Work and Economic Growth". See: "The 17 Goals," UN Department of Economic and Social Affairs - Sustainable Development, n.d., https://sdgs.un.org/goals.

to build smallholder farms and orchards.

The closure of hotels signaled the end of job opportunities for local residents, and an increase in poverty from livelihood loss. Those who depended on tourism jobs for income and livelihood now eke out a living in subsistence fishing. But not only do they lack tools and infrastructure to scale, the fish are also increasingly harder to find, they say. Communities here lack adequate boats, which are but one hindrance to livelihood. Communities depend on the kindness of donated nets and fishing hooks to survive.

"This demonstrates a human rights loss to the universal right to work and a development setback to achieving the UN Sustainable Development Goal of sustainable growth."

One community member who came to the island in 1981 for a hotel job opportunity said then there were only two hotels, but as tourism grew, 80 additional workers settled in Kokwa and were granted places to live.

"I've never seen the lake waters this high before," he said. The elders present agreed. Their own experiences and the oral histories passed on to them verify others' experiences. They all recalled that past practice saw the lake rise and ebb every five years in a systematic pattern of increase and decline. They added, the seasons and rainfall outcomes then were predictive. But today, "this is strange because the lake rose in 2012 and never went back down."

"Our farms are now submerged under water... national and international governments must now compensate us IDPs"

An elderly man recalled times over the years when the lake followed the rise and decline pattern, before the "terrible rise" began. He said in 1961 the lake waters rose slightly and then declined to normal levels. In 1979, the waters rose again, following this same pattern. In 1984, the water levels reduced so drastically vehicles could navigate across the lake bed. In 2012, a "terrible rise" began, he said, where the lake waters rose and have continued to rise up to today.

THE ENDOROIS PEOPLE, LAKE BOGORIA, BARINGO COUNTY

The Endorois are a traditionally pastoralist community, but loss of pasture lands from lake expansion, as well as concurrent drought and rising temperatures are decreasing grazing lands and water, leading to the loss of thousands of livestock. Community elders say climate change conditions have forced families to take up farming as a way to diversify livelihoods, but that, too, is challenging in situations of displacement and increasing climate impacts. "Our farms are now submerged under water," shared one community elder. "Individual land ownership is now abandoned due to displacement and national and international governments must now compensate us IDPs," he said.

Endorois community leader Carson Kiburo writes that livestock deaths are made worse by the Kenyan government's introduction of foreign breeds mixed with the indigenous breed of Zebu cattle which have not been able to adapt to extreme weather conditions. "Our pure heritage species could survive the harshest droughts because of their resilience and ability to adapt, but changing

livestock breeds and unclear government policy support have left farmers more vulnerable."[92]

Lake Bogoria, Baringo County, Rift Valley, Kenya by Amali Tower/Climate Refugee

The community we interviewed echo Kiburo that the introduction of subsistence maize farming as a measure to meet increasing population demands has also led to the loss of grazing lands. That, and the invasive Prosopsis juliflora plant, they say, are wreaking havoc on their abilities to farm and herd cattle. Encroaching wildlife, too, has affected farming, with hippos destroying crops, and zebras now forced onto pasture lands.

In response to the effects of drought, the Endorois have taken up climate-smart agroecology farming that incorporates drought-resistant crops and tubers to minimize water usage and ensure food security. Livestock and crop diversification, as well as supplementary livestock feeding, are long-term adaptive practices for the Endorois.[93] Communities tell us, recent lake-rise displacement though, has disturbed the sustainability of these adaptive practices.

Jobs once held in tourism are now lost, the community tells us. "Our tourism economy is devastated, reduced because geysers are submerged, although you can still see them bubbling underwater." When asked how they have adapted to the loss of these jobs and revenues, they pointed to social ills of early marriage, prostitution and the break-up of families as negative coping mechanisms forced upon them in the absence of meaningful support.

ATALOKAMUSIO VILLAGE, LOKIRIAMA, TURKANA COUNTY

Residents in this remote village, greatly distanced from the closest town or access roads, are really left to their own devices to navigate the climate crisis. "Everything has changed in the last five years," an elderly man said. "Things have really changed - there is no food and no water. You cannot survive."

92 Kiburo, "Impacts of Climate Change".

93 Walter Leal Filho et al., "Impacts of climate change to African indigenous communities and examples of adaptation responses," Nature Communications 12, no. 6224 (2021), https://doi.org/10.1038/s41467-021-26540-0; Kiburo, "Impacts of Climate Change".

"The beginning of the worst began with the locusts," he said, referring to the East Africa 2019-2020 locust infestation that devastated crops amidst the Covid-19 pandemic, sweeping across East African countries, including Kenya, and surrounding regions.

"One man likened the East Africa locust infestation to a 'missile sent from the skies'"

COMMUNITY PARTICIPANT, ATALOKAMUSIO VILLAGE, TURKANA COUNTY

Baz Ratner/Reuters

The locust swarms devoured hundreds of kilometers across East Africa, including in the Rift Valley, which had severe consequences on the almost 12 million food insecure people in the region. The outbreak was the largest seen in Kenya in 70 years. Although the locust swarm link to climate change has not been definitive, scientists see the signs of a connection, noting the heavy rainfall – in Kenya alone, rainfall was up to 400% higher than average – and unusual cyclones that predated the outbreak and caused optimal breeding grounds for the locusts.[94]

"I recall a locust event like this 50 years ago as well," he said, when a young person added almost questioningly, "but 2019 was unprecedented?"

The elder man nodded, saying, "it was like a bad omen."

"They were everywhere. It's like we were bombed."

"The locusts... it's as if they were sent to us like missiles from the sky."

Previously the locusts were like a blessing in comparison to what we recently saw, he said. "They came and went and we lived together."

94 Daisy Dunne, "Q&A: Are the 2019-20 locust swarms linked to climate change?," Carbon Brief, 10 march 2020, https://www.carbonbrief.org/qa-are-the-2019-20-locust-swarms-linked-to-climate-change/.

"This began the cascading effects of climate change from which we cannot recover," he said, referring to the locust-infested crop devastation, followed by two years of drought, further crop failures, death of livestock, food insecurity, malnutrition and abject hunger amidst unrelenting poverty.

LOYA VILLAGE, TURKANA COUNTY

This Turkana village once had a thriving marketplace where livestock and produce were sold. Where we assembled, adjacent to the market center, there was no produce to be seen, and livestock was scarce, save for a few thin animals, with customers barely present.

A retired government officer said "some years ago we used to plant maize. We are surprised by what is happening here now. We believe our land is productive if we can only utilize our land with some help from technology."

"See how the land is bare," said an elderly disabled man who has lived all his life in Loya. "We lost all our grazing land and food security when the locusts came in 2019. We then switched to herding livestock, but now the drought has made our livestock weak, and thus our livelihood and even our ability to educate our children is weak in Turkana."

KAEKOROE-AKWAAN VILLAGE, LOKIRIAMA, TURKANA COUNTY

Women in this small, desolate village blame the locust infestation for their troubles as well. "The locusts ate everything, all the plants, trees and crops. That affected our livestock, and the drought and animals dying followed."

They said prior to the locust swarms, they were happy in their village. "The animals were healthy, so we sold healthy animals. Pointing to a time of bounty and wealth, they said, "we even slaughtered some goats. We were living a healthy life."

In times like these, shifts in livelihood often occur due to climate change[95], but here, multi-generational poverty and underdevelopment do not allow for that. A community that admits they were once opposed to educating their children, told us, they are now ready to adapt.

"We have to abandon pastoralism. The goats and cattle are dead. Even chickens require feed we cannot afford. If the government can introduce us to business opportunities, we can adapt to these environmental stressors," said one man, with the whole group nodding and affirming in unison.

Speaking of the current drought, local communities we spoke to say they have seen dramatic changes in the climate in their own lifetimes, but never like this. As one man explained, "here, droughts are almost inevitable because rain is becoming so irregular, and when they do come, they are short rains that do not penetrate into the soil. But we have never seen a drought like this before. We have to do something else to survive."

> **"We have never seen a drought like this before."**
>
> COMMUNITY PARTICIPANT,
> KAEKOROE-AKWAAN VILLAGE, TURKANA COUNTY

That "something else" remains elusive though, amidst a population with little to no education or literacy, who have only known pastoralism for multiple generations.

The village Chief says in addition to government relief services of food and medical aid, villagers

95 Lennart Olsson et al., "Livelihoods and Poverty," in Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, edited by Christopher B. Field et al. (Cambridge and New York: IPCC via Cambridge University Press, 2014, 805, https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-Chap13_FINAL.pdf.

get by selling and producing charcoal and firewood to the local police and nearby doctors, but this is hard work and insufficient for survival.

Community discussion in a now-dried up river bed with residents of the Kaekoroe-Akwaan village - Amali Tower/Climate Refugees

6. CLIMATE & DISPLACEMENT IN CONFLICT VULNERABLE COMMUNITIES

TURKANA COUNTY

Historic legacies and conflict over land and natural resources are overlapping with climate stressors in Kenya's Rift Valley, including Baringo and Turkana counties where Climate Refugees visited. The conflict is long-standing, rooted in colonial land disputes, entrenched poverty due to government neglect, all now made worse by increasing climate impacts. The current Horn of Africa drought, recurring floods, private land ownership and a lack of grazing land are fuelling tensions and renewing violence as pastoralists who are forced to travel longer distances in search of land and water, come into contact with other herding groups, land owners and private conservancies. [96]

Land tenure in parts of Kenya is a contentious issue with a colonial past. It is particularly acute in Laikipia and Baringo counties. Minority Rights Group International has found historical reasons for land to be a source of ethnic conflict in Kenya. Under a process of 'land alienation' during Britain's colonial rule of Kenya, large tracts of fertile land, especially in Laikipia, were reserved for British settlers, private land ownership and conservancies, while many Kenyan pastoralists were forcibly pushed into non-arable lands deemed 'native reserves.'[97] As a result, for semi-nomadic groups like the Maasai, Pokot, Tugen, Turkana, Samburu and Ilchamus, limited access to grazing land has resulted in long-standing quarrels and theft of cattle.

During the post-independence era, the expectation was that land would be freely re-distributed to people who were forcibly displaced, but in reality, the indepence agreement brokered with Britain stipulated that the Kenyan government would buy back the land from settlers. When the Kenyan government bought back a much smaller portion of the Laikipia settler land for redistribution, not only did it preserve the colonial system of settler land holdings that exists to this day, it also benefited farming communities, while alienating pastoralist communities who belonged to other ethnicities.[98] As Minority Rights Group International puts it, "[t]his is the critical point at which land tenure became a factor of ethnicity and led to the intensification of ethnic animosity."[99]

Although various government efforts have been taken up to make land ownership more equitable, implementation has stumbled over cumbersome rules, cost and bureaucratic hurdles. The end result today is county governments continue to hold much of the arid and semi-arid lands of the Rift Valley.

Kenyan scholar Dr. Beneah Mutsotso's work in Baringo County reveals today, the threat of land

96 KII with Sammy Ekal, Executive Director, TUPADO (Lodwar, Kenya: 13 October 2022).

97 Maurice Odhiambo Makoloo, "Kenya: Minorities, Indigenous Peoples and Ethnic Diversity," Minority Rights Group International, 2005, 25, https://www.refworld.org/docid/469cbfbe0.html.

98 "Absorbing Climate Shocks and Easing Conflict in Kenya's Rift Valley," International Crisis Group (ICG), 20 April 2023, 6, https://www.crisisgroup.org/africa/east-and-southern-africa/kenya/b189-absorbing-climate-shocks-and-easing-conflict-kenyas-rift.

99 Odhiambo Makoloo, "Kenya: Minorities, Indigenous Peoples," 25.

appropriation by other ethnic groups is often a "strong motivation to mobilize one ethnic group against another", even if none of the ethnic groups in Baringo "can lay legitimate claim to the area of the larger Lake Baringo basin."[100]

This historical legacy, coupled with increasing climate change impacts, are fueling conflict in Baringo and surrounding counties. FAO also notes that Kenya's burgeoning population, alongside its expansion of agriculture into arid areas has had an effect on pastoralists who are increasingly in competition over dwindling resources, sparking conflict in some areas. FAO has also noted an uptick of people leaving nomadic pastoralist livelihoods, moving instead to settled communities heavily reliant on food aid. [101]

The latest round of violence erupted two years ago at the borders of Laikipia and Baringo, when pastoralists invaded the Laikipia Nature Conservancy, Kenya's largest private conservancy. In the ensuing two years, at least 239 people have been killed in Rift Valley violence, including the counties of Laikipia, Baringo, Turkana, Samburu, West Pokot and Elgeyo Marakwet.[102] In the run-up to Kenya's elections last August, "climate vulnerabilities, ethnic cleavages and politics came together in a deadly mix," resulting in 95 killings since September 2021.[103]

Laikipia, with its high altitude, has lush greenery and abundant water, which helps explain why so much of its land is held in private conservancies.[104] To its west, Baringo sits at a lower altitude and is dry and semi-arid. Once comparable to Laikipia, Baringo's landscape is increasingly degraded by the invasive Prosopis juliflora plant, deforestation, overgrazing, and increasingly recurrent droughts and floods.

CLIMATE CHANGE-MIGRATION-CONFLICT NEXUS

The Danish Refugee Council (DRC) says over 40,000 households in Turkana County are now living in Uganda's Karamoja region, in their second home, because of drought.[105] DRC says the unrelenting drought is continuing to drive more temporary and permanent movement across the border into Uganda, especially because Kenya's Turkana people and Uganda's Karamojong people are ethno-linguistically and culturally the same. This is aided by the fact that the Ugandan government has agreed to host Kenyan pastoralist populations fleeing drought. However, several migrants do return to Kenya because of land, water and resource conflicts with the Tepeth, Dodoth and Jie tribes that make up the Karamojong people of Karamoja who culturally differ from the Turkana.

DRC says agro-pastoralists are moving with their animals to the river lands that run along river Turkwel also, and this is leading to conflicts between pastoralists and agro-pastoralists. They also say the drought is straining everything, everywhere, resulting in new areas in Turkana that are dry and lacking water for the very first time. Even Lodwar, which has access to the river Turkwel has boreholes that are drying up.

Humanitarian NGO Turkana Pastoralist Development Organization (TUPADO) are working directly with pastoralists in Turkana, coordinating work with partners in West Pokot, Baringo and Samburu counties throughout the Rift Valley, and in the borderlands where Kenya meets Ethiopia, Uganda and South Sudan.

Sammy Ekal, Executive Director of TUPADO in Lodwar, Kenya has extensive experience in the Rift

100 Beneah M. Mutsotso, "Overlap of Mukutani Administrative Boundary and its Definition of the East Pokot–II Chamus Conflict in North Western Kenya," Journal of Sociology and Social Work 5, no. 2 (December 2017): 1, https://doi.org/10.15640/jssw.v5n2a12.

101 "Kenya at a glance," FAO.

102 "Absorbing Climate Shocks," ICG, 4.

103 "Giving Countries in Conflict Their Fair Share of Climate Finance," ICG, n.d., https://www.crisisgroup.org/content/fair-share-of-climate-finance; "Investing in Climate Adaptation and Resilience as a Bulwark Against Conflict," ICG, 10 October 2022, 2, https://www.crisisgroup.org/africa/horn-africa/investing-climate-adaptation-and-resilience-bulwark-against-conflict.

104 "Laikipia Conservancies Association," Kenya Wildlife Conservancies Association, n.d., https://kwcakenya.com/regional-associations/laikipia-conservancies-association/.

105 KII with Otem, and John Ekutan, Peacebuilding Officer, DRC (Lodwar, Kenya: 13 October 2022).

Valley and Turkana county, and provided a landscape view of the climate-conflict transboundary situation across Baringo, Bogoria, Turkana and neighboring Uganda, South Sudan and Ethiopia. Ekal says, climate, conflict and long-standing land disputes are converging in territories where nine ethnic groups reside, all competing over dwindling resources amidst the climate crisis.

Pastoralism comprises at least 80% of livelihood in the county: 60% are pure pastoralists, 20% are agro-pastoralists, 12% work in fishing and 8% work in urban sectors.[106] Fishing in Lake Turkana is increasingly becoming another livelihood as people are forced to abandon pastoralism due to climate impacts and cattle rustling. In fact more climate-impacted Kenyans are turning to fish farming as drought and erratic weather impacts increase their frequency and intensity. [107]

Turkana people live in urban centers outside Lodwar - the urban capital of Turkana and the largest town in north-west Kenya. They also live in Turkana's many underdeveloped sub-counties and in the borderlands. In a region prone to drought, and where droughts have increased in frequency and intensity since 2010, the Turkana have been on the move every year across county and country borders in search of water and more arable grazing land for their livestock. Even when rains come, if they are too intense, livestock are also negatively affected. The Government of Kenya found that nearly 3.5 million livestock were affected by flooding in a 2021 report.[108]

Internally, Turkana borders four counties in Kenya where other pastoralist groups reside: West Pokot, Baringo, Samburu and Marsabit. The Turkana people are moving throughout these four counties in search of water and pasture land for their livestock, as well as across borders.

At the borderlands, the Turkana are moving to and within the Omo basin in southern Ethiopia, where the Omo people and several sub-tribes reside. The northern tip of Turkana at Ethiopia's southern border is populated with the Daasanach tribe. The Omo and Daasanach people in the Turkana-Omo region share a common language and a common livelihood of agro-pastoralism, which is a mixed livelihood of small crops and livestock cultivation, made possible by the more arable land. The Turkana and Daasanach people speak different languages and differ in multiple other ways except for a shared livelihood in pastoralism. On Kenya's border with South Sudan, the Turkana are also on the move to the eastern equatorial region of South Sudan where the Toposa people reside. Here too, the more arable land allows for pastoralism and agro-pastoralist activities. And on Kenya's north-west border with Uganda, the Turkana are moving to and within the Karamoja region. The Karamoja region is populated with nine different ethnic groups.[109]

> **"The Turkana are watching their livestock die, while water is available on the other side of the border."**
>
> SAMMY EKAL, EXECUTIVE DIRECTOR TUPADO

Ekal says, climate change, specifically the current three-year drought, is affecting the whole region, well beyond the borders of Turkana County. The semi-nomadic Turkana are more highly mobile than ever due to their pastoralist livelihoods meeting the forces of climate change: "the Turkana are watching their livestock die, while water is available on the other side of the border."

As the Turkana move however, they are being met with resistance from other pastoral communities. That resistance is exacerbating simmering hostilities rooted in land tenure, access and rights, resources, water reserves and grassland pasture. That resistance is also increasingly resorting to

106 KII with Mosioma.

107 Caroline Wambui, "Crop of the future? More climate-hit Kenyans count on fish farming," Thomson Reuters Foundation Newsroom, 15 January 2023, https://www.context.news/climate-risks/crop-of-the-future-more-climate-hit-kenyans-count-on-fish-farming?utm_source=linkedin&utm_medium=social&utm_campaign=context-newsroom.

108 Ibid.

109 KII with Ekal.

armed violence, and the fear of attack is preventing some in the region from sleeping peacefully at night.[110]

International Crisis Group (ICG) confirms, "[a] protracted drought in the Horn of Africa is exacerbating land use conflict in the north of Kenya's Rift Valley region. Longstanding tensions between herders and landowners have led to increasingly organized and violent attacks, heightening intercommunal tensions. Cattle theft and banditry are also on the rise."[111] ICG says the increase in conflict demonstrates how climate shocks can magnify tensions and conflicts.[112]

Complicating all this further is the proliferation of weapons. Porous borders and weapons supply spillover from years of regional conflicts, including neighboring South Sudan, have resulted in all these groups, rebels and soldiers being armed with AK-47s.[113] What has followed is an uptick in armed conflict, rooted in competition over land and resources. According to a 2012 Small Arms Survey, Kenya has one of the highest rates of civilian gun ownership in East Africa, estimated to be between 530,000 to 680,000.[114]

TUPADO is responding with peacebuilding initiatives facilitated between all these groups, as well as livelihood development. TUPADO's director Sammy Ekal says the climate crisis has seen situations where rebels with no food are trading weapons for cattle. The rebels are also arming pastoralists to fight the government responses to regional insecurity, while governments are arming pastoralists to fight the rebels. According to Ekal, although the Kenyan government might classify these armed groups as bandits, the Turkana and other armed groups are actually people struggling with inadequate government support to protect them from cattle rustling, climate change and poverty, and it's creating a situation in which "everyone is arming and pushing themselves over the border if negotiations fail."

"All these groups in the region have the same lifestyle," says Ekal, "what binds them all is pastoralism." They are all affected by climate change impacts. "The situation is dire," he says, "people are struggling to survive the harsh climate conditions, some even resorting to suicide."

Turkana's County Commissioner says in some ways, rampant climate change effects have created situations ripe for community dialogue and peace that have long been lacking. Communities know that climate change is their common enemy, he says, and climate impacts are happening through no fault of their own. Through dialogues with his counterpart in Baringo county, the two county commissioners are trying to create pathways for cooperation and peaceful movement of peoples between Kenya county borders. He points to recent efforts of the Daasanach tribe in Ethiopia and the Turkana to make peace, purely because of climate change, as encouraging examples for peacebuilding in the borderlands.

Meanwhile organizations like TUPADO have noticed that so far, government action in this region has been primarily focused on military operations in response to the increased armed violence, and not much else. Turkana east has now become a no-go zone due to military operations in response to cattle rustling by bandits.

In September 2022, just one month before Climate Refugees' visit, 11 people were killed in Turkana during an ambush by cattle rustlers. Among the dead were eight police personnel who were outgunned by the bandits, and three civilians, including community leader Mary Ekai who bled to death by gunshot wounds. Clashes over livestock and water are common in the area, increasingly exacerbated by climate change.[115] Al Jazeera reported on the attack, pointing to the role of the

110 African Borderlands Centre, "Africa Borderlands," 16.

111 "Absorbing Climate Shocks," ICG, 1.

112 Ibid.

113 KII with Ekal.

114 Manasseh Wepundi et al., "Availability of Small Arms and Perceptions of Security in Kenya: An Assessment," Graduate Institute of International and Development Studies Small Arms Survey, June 2012, 20, https://www.smallarmssurvey.org/sites/default/files/resources/SAS-SR16-Kenya.pdf.

115 "Cattle rustlers kill at least 11 during ambush in Kenya," BBC, 25 September 2022, https://www.bbc.com/news/world-africa-63027210.

climate crisis in Ekai's death. Speaking about her passing, a colleague interviewed said, "she would have been saved, I hear, but she lost strength because of a lack of water, because there is very little water in that (Turkana) area."[116]

While addressing the escalating violence is no easy task, there are steps the Kenyan government can and should take. In recognition that herders are having to travel further for adequate pasture and water due to drought conditions and water scarcity, the government could focus on facilitating migration agreements between herders, pastoralists and landowners,[117] rather than taking a reactive approach to conflicts as they arise. This may very well require heightened security,[118] at least in the beginning, but it would complement the local peacebuilding work of groups like TUPADO in an attempt to break the cycle of violence that continues to claim lives throughout the region.

LOKIRIAMA, TURKANA COUNTY

Lokiriama is a highly underdeveloped border town in Turkana county, just 45 kilometers from the Ugandan border. Distanced by endless stretches of dusty sands, it is dotted with village names only known to locals. We assembled here for two community interviews: the first to speak to a small remote Turkana community of nomadic pastoralists in the village of **Atalokamusio** close to the Ugandan border, and the second, assembled under a tree in a now dried-up river bed, to speak to Turkana pastoralists and women gatherers, in a location known to locals as **Kaekoroe-Akwaan** Village, who described the triad of conflict, water and hunger they are facing.

Lokiriama is the central point of a peace accord signed 50 years ago by elders and local administrators in Kenya and Uganda that was meant to cement peace in the region and bring an end to long-standing violence and cattle raiding driven by resource scarcity.[119]

The current Horn of Africa drought is now straining that very peace agreement. Local communities tell us their practice has been to migrate freely within the region, "but always return to the home place of our birth. Nowadays though, many of us are forced to move because of many challenges from lack of pasture land to lack of water."

Communities here say that movement is bringing them into contact again with warring communities amongst the Pokot in Kenya and Karamojong in Uganda. "Some in our communities go to Uganda with their livestock, but then they're raided for their livestock by the Jie and killed."

Another problem they tell us is the return of hypervigilance against constant raids. "Raids from neighboring villages are now a constant issue, and this causes us to move to avoid the conflict. But the people left behind are the ones who cannot move and need to be taken care of: the elderly, the young and the disabled."

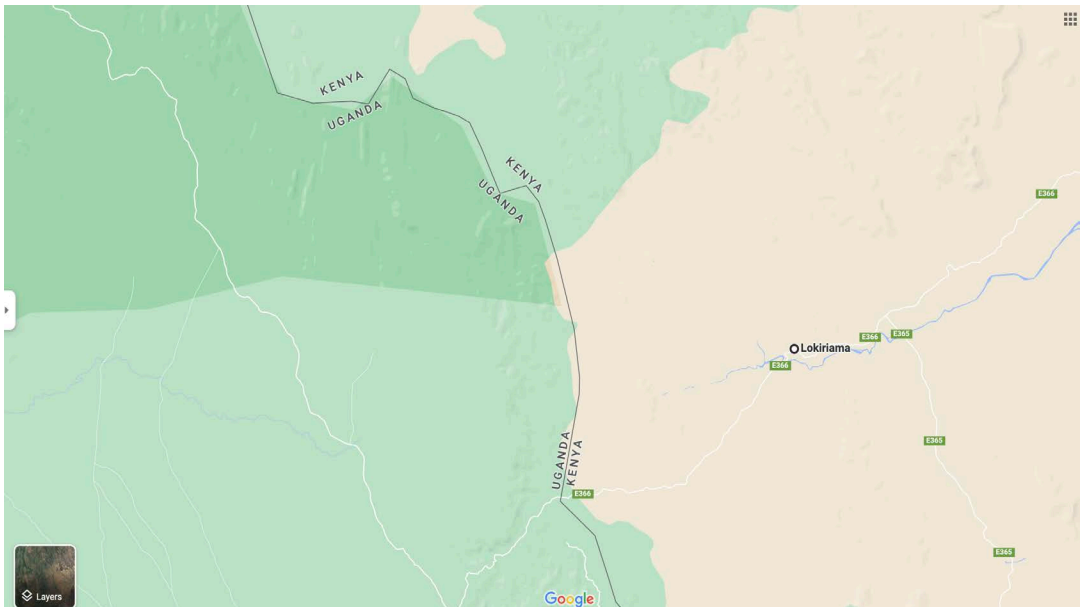
Back in 1973, the Lokiriama Peace Accord enabled the Turkana and Pokot in Kenya, the Tepes and Karamojong in Uganda and the Toposa, Merille and Nyangatom ethnic groups in South Sudan to lay down their weapons. In return for that sustained peace, the Kenyan government has reportedly invested 750 million Kenyan shillings in mega dam projects in West Pokot, Turkana and Marsabit

116 "Kenya livestock theft: Eleven dead in ambush by cattle rustlers," Al Jazeera English, 17 October 2022, https://youtu.be/ML-RNBTLkX4w.

117 ICG report, p. 3.

118 Ibid.

119 Sammy Lutta, "How a 49-year old deal has promoted peace on Kenya-Uganda border," Daily Nation, 19 September 2022, https://nation.africa/kenya/counties/turkana/how-a-49-year-old-deal-has-promoted-peace-on-kenya-uganda-border-3953334.



Google Maps

counties to address water scarcity along the country's borders with Uganda and Ethiopia, but water scarcity continues to be a challenge for remote villagers.[120]

Recurrent climate shocks have been a major contributor to instability in this region. After the devastating 2009 drought in Turkana, a three-year cross-border programme of multiple UN organizations, local community-based organizations, peace committees, local governments and the Governmental National Drought Management Authority, administered by the United Nations Trust Fund for Human Security, ran from July 2012 to June 2015. [121]

According to a 2013 project report, Turkana was the primary point of focus as it is a conflict hotspot of the larger Karamoja region which "suffers from a climate-migration-conflict nexus", where recurring, severe cycles of drought force outward migrations of pastoralists within Kenya and across borders, in search of water and grazing land for livestock.[122]

Years of Kenya and Uganda peace and reconciliation building activities at the community, county and cross-border levels have led to many groups laying down their arms voluntarily, even if not all groups complied. However, over the years, recurring drought, increasing poverty and now sustained-climate change effects have been straining those peace efforts, where raids, cattle rustling, skirmishes and shootings within and across borders are once again on the rise.

LORENGIPPI, LOIMA SUB-COUNTY, TURKANA COUNTY

Lying close to the Ugandan border and an internal border with West Pokot County in Kenya, residents here are pastoralists, with many educated and working in other sectors as well. They say their initial insecurity was due to conflict arising from raiding Pokot cattle rustlers and resource conflicts with the Toposa people living in Uganda. But today, "it is the climate crisis that is making us insecure."

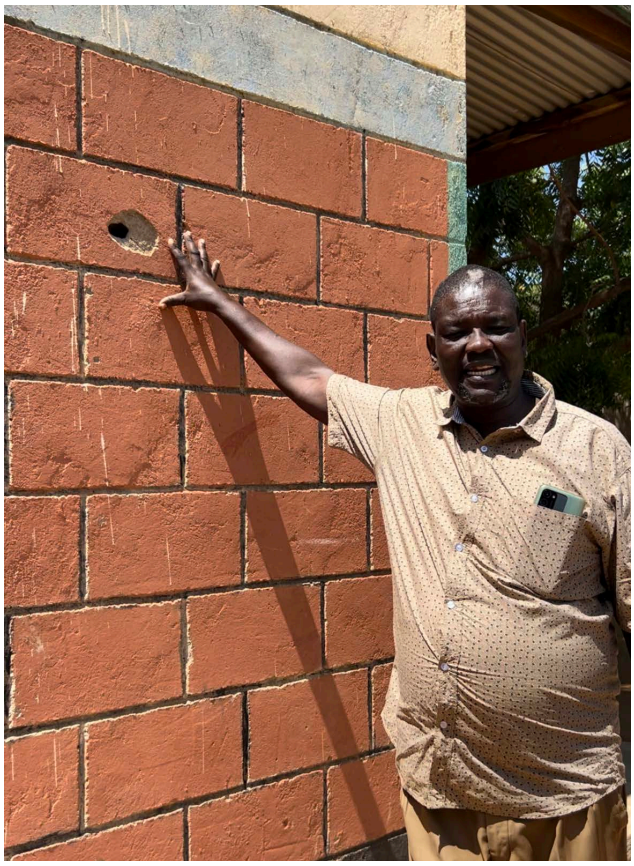
Many here are adapting to climate change through migration. A woman tells us, "the water table is low. We've lost our livestock from drought and disease. There is no water, food or grazing land for the remaining few animals. So many of us have migrated to West Pokot or to Uganda to survive."

120 Ibid.

121 "Strengthening Human Security in the Border Communities of Turkana, Kenya," United Nations Trust Fund for Human Security, 9 August 2017, https://www.un.org/humansecurity/hsprogramme/strengthening-human-security-in-the-border-communities-of-turkana/.

122 "Strengthening Human Security in the Border Communities of Turkana, Kenya," United Nations Trust Fund for Human Security, December 2013, 3-4, https://www.ilo.org/wcmsp5/groups/public/@ed_norm/@ipec/documents/newsitem/wcms_233861.pdf.

"But migration brings its own challenges as well," a young man says. "When you migrate, you do so because you have to, but you're automatically displacing another person in the process," he says. "You're creating and exacerbating conflict with other communities because of the history in this area, and because resources are lacking. When the Ugandan government is asked to intervene in these conflicts, it does not do that. So sometimes, migration alleviates one problem, while creating another."



The Chief pointing to the bullet holes that still remain from a Pokot raid in 2013. After a lull in conflict, skirmishes are renewing due to resource scarcity and displacement driven by climate change by Amali Tower/Climate Refugees

Pointing to migration's maladaptation, an elderly man offered, "even if you go to Uganda, your problems go with you because we are mistreated there. In Turkana, the situation is the same for everyone, everywhere. So there is nowhere to run."

Another man chimes in that even though they share a similar culture and ethnicity, there are accounts of those who migrate to West Pokot being mistreated - "their livestock are taken away by force, or some animals catch diseases in the new environment."

And sometimes, even the educated ones who go to Uganda end up coming back, he says, because there are no jobs. "Some might survive by migrating, but those who are left behind are the elderly and disabled. All together, we are in a situation where no one can help one another."

KAEKOROE-AKWAAN VILLAGE, LOKIRIAMA, TURKANA COUNTY

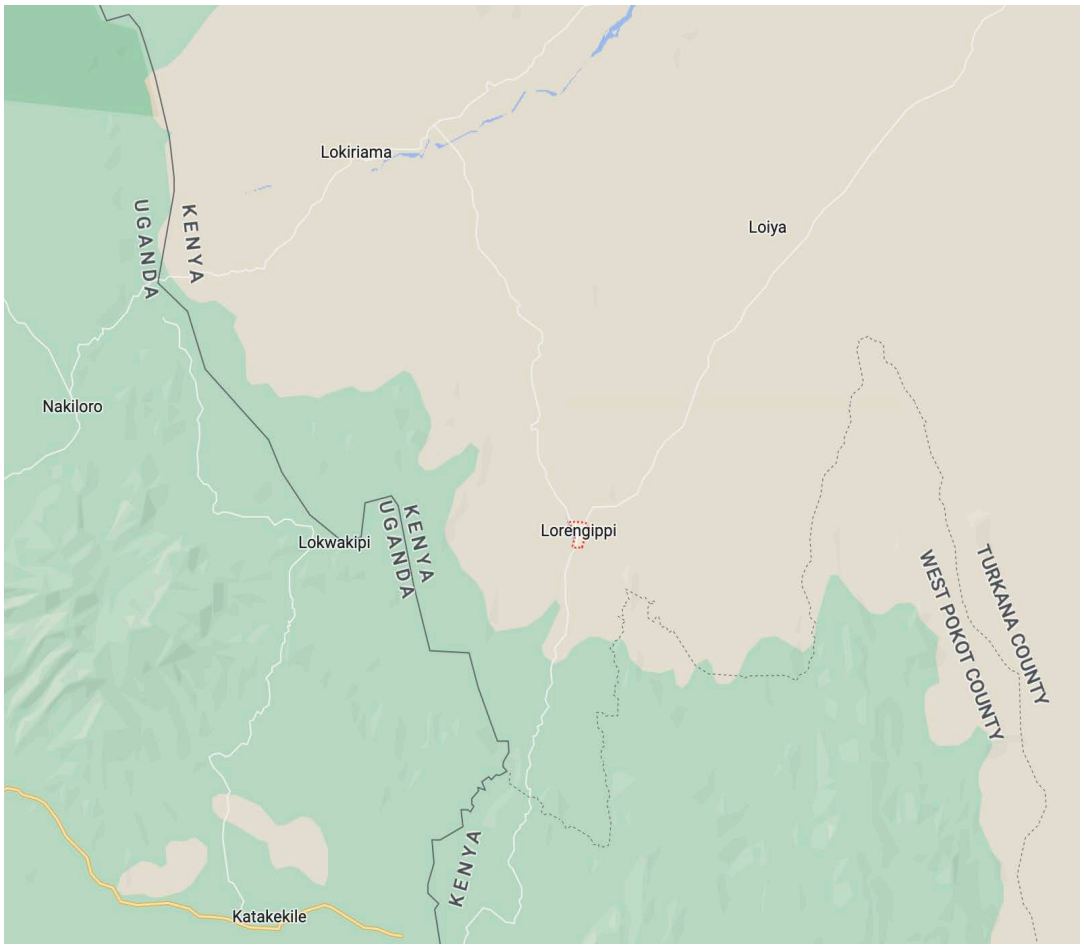
In this desolate Turkana village an elder tells us, "we have many causes for migration. When there is insecurity, we move so we are not raided by the Jie, Toposa or Karamoja. But it's calm right now. Even our livestock are in Uganda now because of the current drought."

We cannot even count how many livestock we lost. The few that survived, the youth and energetic men have now taken them to Uganda."

LOYA VILLAGE, TURKANA COUNTY

In the middle of this Turkana village center where a lucrative livestock market once took place, we met with increasingly desperate elders and community members of the Loya Village. With winds howling and dust swirling all around us, one member said, "climate change is affecting us all. We are forced to migrate."

"People have lost livestock, some people migrate with the few livestock they have left, but they don't



Lokiriama, Lorengippi & Loya locations in Turkana County, Kenya - Google Maps

even know where they're going." Upon our inquiry, he clarifies that "some move to the mountains in Uganda, but they face complex situations with the Karamojong people.

Our closest neighbors are foreign countries. Our closest town is in Uganda and in Kenya, it's West Pokot, where we don't have peaceful neighbors."

Lodwar, Turkana's main urban center where some migrate for opportunities, is over 20 hours away by foot for Loya residents. But the Ugandan border, they say, is just a few hours of distance to travel by foot.

Besides the distance, inter-tribal conflicts with the Pokot, they say, is also a concern. "The Turkana people are being affected adversely. Other tribes are also pushing some of us out, but we don't know where to go. As Turkana, we don't know anything but pastoralism."

"Our government cries have yielded nothing and relief supplies have now waned. I turned to my cousin in Uganda, but they're chasing the Pokot, who are also chasing us here in Turkana," another man said."

"Speaking to us about whether to migrate internally or internationally, one community tells us, 'our closest neighbors are foreign countries.'"

Community conversations amidst a dust storm in Loya Village, Turkana County by Amali Tower/Climate Refugees

RUGUS LOCATION, LAKE BARINGO, BARINGO COUNTY

Rugus is situated on Baringo's mainland, around the larger Lake Baringo basin, where a coastal community of Ilchamus fisherfolk and pastoralists reside. Communities here are plagued by drought, floods and conflict, while flanked by rising lake waters on one side, and raiding Pokot tribespeople on the other.

Climate Refugees spoke to a group of Ilchamus men and women of diverse backgrounds at a local school, just 500 feet from the lake's shores. Without exception, all residents said they had been displaced by both conflict and climate change.

One woman said a linked pattern of insecurity and rising waters had displaced her four times to date - flooding forced her to relocate to higher ground and conflict forced her to move closer to the shoreline.

Bordering West Pokot, the neighboring Pokot tribespeople are pastoralists, long engaged in an entrenched conflict for land and natural resources. This conflict has taken the form of cattle rustling by Pokot and Tugen pastoralists in Laikipia and Baringo counties. Residents say shrinking pasture land in Baringo are forcing Pokot, Tugen and Ilchamus herding communities onto cross-county lands in Laikipia,[123] while the same degraded land conditions in West Pokot are increasing Pokot encroachment on Baringo land, increasingly leading to armed violence and cattle raiding. In lands where wealth is measured by the number of livestock one owns, cattle raiding to herd or turn a quick profit can be immensely helpful for struggling pastoralists.

The Pokot people live in West Pokot and Baringo county, and the Pokot district of the eastern Karamoja region in Uganda. The Ilchamus people, closely related to the Samburu people, live in the southeast of Lake Baringo, and are one of Kenya's smallest minority groups.[124] The Ilchamus people

123 See also: "Absorbing Climate Shocks," ICG, 8.

124 "Unmasking Ethnic Minorities and Marginalized Communities in Kenya," Republic of Kenya National Gender and Equality Commission Headquarters, 2017, 30, https://www.ngeckenya.org/Downloads/Unmasking%20Ethnic%20Minorities%20and%20Marginalized%20Communities%20in%20Kenya.pdf.

are pastoralists and fisherfolk, while the Pokot are purely pastoralists.

Recently, the Kenyan National Army has been deployed to these regions to help police fight bandits and cattle rustlers, who have increasingly turned to "large, premeditated attacks" that can spark wider conflict.[125] The order applies to Baringo, West Pokot, Laikipia, Samburu, Turkana, Elgeyo and Marakwet counties, where the violence has been intensified by droughts.

"Cattle rustling in northern arid regions of Kenya is a longstanding issue but has been aggravated by a series of devastating droughts in recent years and proliferation of automatic firearms," according to local sources.[126] Studies indicate that past drought events in Baringo have led to about 50% livestock loss,[127] greatly playing into the overlapping triggers of conflict, climate and displacement in the ASALs region of Kenya.

"A mother of eight and widow said, 'I've been continuously migrating since 2005.' The first time was due to conflict, but the subsequent three were climate-induced. 'Each time the water comes, I move. I've moved four times also, each time, I rebuild my house with twigs and branches.'"

One woman said she was first displaced by insecurity resulting from Pokot cattle raiders in 2005 and then again in 2018. Both times she moved closer to the lake's shores to create a "protection line" from the Pokot. Later, she was displaced twice more, this time from the lake's rising waters. Pointing upwards and over her shoulder to the hills behind the school, she said, "I moved my family and all our belongings again to higher ground."

Echoed by other community members, she explained that rising waters had put her at risk of conflict insecurity because living at the shoreline had protected her from Pokot pastoralists who live in proximity to pastureland. But now as lake waters frequently get closer, even reaching and flooding the very school in which we were standing, communities have been forced to abandon living at the shoreline.

"A mother of eight and widow when her husband was killed by cattle rustlers told us she's been "continuously migrating since 2005." The first time was due to conflict, but the subsequent three were climate-induced. "Each time the water comes, I move. I've moved four times also", she said, "each time, I rebuild my house with twigs and branches."

Speaking for many, one displaced man said, "we, IDPs, have been left in the middle with God. Even as we speak, we have no houses. We have even lived under trees at times. We need houses and boats. We cannot afford to buy boats, but we need a boat to navigate these waters... for the children... to escort the women, so they can now do fishing as a livelihood."

Local human rights organizations working in Baringo echo the Kenyan National Army's assessment on the conflict situation in Baringo and neighboring counties. Paul Chepsoi, Director of the Ngazi Institute for Minorities Trust says conflicts are rising with increasing droughts, invasive plant species like the Prosopis juliflora and proliferation of weapons, creating "increasing pressure for communities to migrate and move onto other areas with force and violence as grazing resources decline."[128]

According to Amos Katana of the Kenya National Focal Point on Illicit Small Arms and Light Weapons,

125 "Absorbing Climate Shocks," ICG, 9.

126 Josef Skrdlik, "Kenya Deploys National Army to Fight Bandits, Cattle Rustlers," Organized Crime and Corruption Reporting Project, 16 February 2023, https://www.occrp.org/en/daily/17333-kenya-deploys-national-army-to-fight-bandits-cattle-rustlers.

127 Ochieng et al., "Rainfall Variability and Droughts," 2.

128 Kang-Chun Cheng, "Conflict over resources in Kenya hits deadly highs with firearms in play," Mongabay, 19 May 2022, https://news.mongabay.com/2022/05/conflict-over-resources-in-kenya-hits-deadly-highs-with-firearms-in-play/.

insecurity in Baringo is cyclical, triggered by one community migrating and laying claim to another group's pasture lands. That movement, Katana says, is tied to competition over resources, made worse by drought and politics. Katana and NGOs active in the region suggest alternative livelihoods such as agriculture could be a measure to curb violence, however the recurrent droughts with even more rainfall decline projected in the future makes non-irrigated farming an unviable position.[129]

> **"The problems we have (are) as a result of the water. First we were chased by (the) pastoralist enemy. Now (we have) another enemy of the water."**
>
> COMMUNITY PARTICIPANT, RUGUS, BARINGO COUNTY

One man, a former pastoralist, said "we have been forced into fishing because of conflict but fishing is now lost because of climate change." Speaking in English, another community member explained "the problems we have (are) as a result of the water. First we were chased by (the) pastoralist enemy. Now (we have) another enemy of the water."

These climate and environmental stressors are colliding with longstanding land ownership disputes between not only the Pokot and Ilchamus people, but other ethnic groups in surrounding counties as well.

"Competition over available water and land is a major source of intercommunal tensions and a key driver of displacement," says Nazanine Moshiri, a senior analyst in climate and security at the International Crisis Group,[130] and the encroachment of Mathenge collapsing viable pasture land amidst recurrent drought is pushing herders onto other groups' pasture lands, leading to further conflict and displacement in this region.

POLITICAL MARGINALIZATION

"Just look how far the hospital is. It's a sign of the marginalization of our health rights," said one man. Residents say solutions are elusive because of their ethnic minority status, and so too are resources. Resource allocation is based on representation, and "as a minority, we don't have political representation." Traditionally apolitical residents are now organizing. Recently the community agreed and managed to organize for political representation at the local elections, "but we were defeated because we are Ilchamus," they said. Speaking of their historic marginalization, the community told us, "like other Kenyans, like other human beings, we deserve basic services."

129 Ibid.

130 Ibid.

Women fishing in Lake Turkana - Photo by Jane Baldwin

LAKE TURKANA, TURKANA COUNTY

Turkana, Kenya's largest county, includes large swathes of the area around Lake Turkana, which has seen significant climate change impacts. The Lake Turkana basin is a 70,000 km2 region that is home to Lake Turkana, the most saline lake in East Africa and the largest desert lake in the world.[131] The lake itself has increased some 10% in the past decade, with major flooding of low-lying lakeshore areas[132] that is said to have swept entire villages away.[133] The UN Environment Programme estimates that over the next 20 years heavier rainfall over the lake's inflows will increase the risk of "severe" flooding.[134]

Sammy Ekal of TUPADO says, the potential for conflict due to resource scarcity and other issues among these diverse groups only increases with climate change, as well as due to poorly conceived government interventions. For example, Ethiopia's construction of hydroelectric dams on the Omo River, Turkana's main tributary that provides 90% of its water, have had negative impacts on vulnerable populations in the watershed. Data from the US Department of Agriculture shows that following completion of the Gibe 3 dam in 2016, Lake Turkana's water level dropped 2 meters.[135] The loss of freshwater coming into the lake would increase the lake's salinity, decreasing the potable water supply for the community. The dam has caused residents to worry about the future of their livelihoods. Fisherman in the area are concerned about the dam's impacts on fish stocks,[136] while Indigenous groups reliant on the Omo River have long been concerned about their continued ability

131 "Case Study: Friends of Lake Turkana," National Geographic, 18 August 2022, https://education.nationalgeographic.org/resource/case-study-friends-lake-turkana/.

132 Rising Water Levels in Kenya's Rift Valley Lakes," Kenya and UNDP, 19.

133 Joe Inwood, "East Africa hit by drought, yet Kenya's Lake Turkana is flooding," BBC, 18 October 2022, https://www.bbc.com/news/world-africa-63278497.

134 "Climate change could spark floods in world's largest desert lake," UN Environment Programme (UNEP), 19 July 2021, https://www.unep.org/news-and-stories/story/climate-change-could-spark-floods-worlds-largest-desert-lake-new-study.

135 Baz Ratner, "Kenya fishermen say they are squeezed by Ethiopian mega-dam," Reuters, 20 July 2020, https://www.reuters.com/article/us-kenya-environment-lake-turkana-idUSKCN24L0S1.

136 Ibid

to practice flood-retreat cultivation as well as fishing and pastoral activities.[137]

Ekal tells us, although some Turkana pastoralists liken fish to snakes, fishing in Lake Turkana is increasingly becoming another livelihood for pastoralists who are forced to abandon the trade due to climate impacts and cattle rustling. In fact more climate-impacted Kenyans are turning to fish farming as drought and erratic weather impacts increase their frequency and intensity.[138] Unfortunately, fishing is also impacted by increasingly unpredictable climatic conditions. Flooding destroys fishing infrastructure and negatively impacts the process of bringing fish to market,[139] making it unclear whether these adaptive livelihoods will be sufficient in the future.

Like Baringo and Bogoria, Lake Turkana is hit simultaneously by climate change-driven flooding and drought, displacing many and forcing others to migrate to Kakuma town, where infrastructure and services exist in Kakuma Refugee Camp, and also across borders to South Sudan.[140]

As with most cases, the line between forced displacement and other forms of mobility in Turkana County are blurred, particularly within the increasing impacts of climate change and resurgence of small conflicts. On one hand, many have been forced to leave their homes outright due to flooding around the lake. Entire settlements are now uninhabitable, with homes, healthcare facilities, and other critical structures either inundated or marooned.[141] A Kenyan government report found that following flooding in 2020, nearly 800 km2 of typically inhabited land around Lake Turkana became submerged, resulting in "displacement of a large population which has been forced to move to higher grounds."[142] Displacement at Fergusson Bay, Illert, and El Molo Bay in particular have left many without permanent housing and has even spurred several legal conflicts. [143]

137 "Case Study," National Geographic.

138 Wambui, "Crop of the Future?"

139 "Rising Water Levels in Kenya's Rift Valley Lakes," Kenya and UNDP, 22.

140 Inwood, "East Africa hit by drought".

141 "Rising Water Levels in Kenya's Rift Valley Lakes," Kenya and UNDP, 19.

142 Ibid, 21.

143 Ibid, 23.

7. CLIMATE CHANGE AND THE RIGHT TO EDUCATION

Across the globe, 129 million girls are out of school,[144] and with the many barriers to girls' education, climate change, like the flooding in Kokwa, is yet another impediment to the progress and equality of girls around the world, where Kenya is no exception.

KOKWA ISLAND, LAKE BARINGO, BARINGO COUNTY

The rising lake waters submerged large sections of the only school on Kokwa island, including its teachers' quarters and toilets from 2012 to 2021. For many school-goers, this was the only latrine accessible for their use. Teachers were secured for the school through the provision of living quarters. Thus when those facilities were submerged, the teachers were displaced and education was disrupted for nearly 10 years.

While the school dormitory was almost submerged, large parts of it became inaccessible due to the drop in temperatures and wildlife intrusion of crocodiles and hippopotamus. The school serves 240 boys and girls. The girls dormitory was particularly affected, therefore impacting girls education more acutely.

The Universal Declaration of Human Rights enshrines that everyone has a right to education, so too does the International Covenant on Economic, Social and Cultural Rights (ICESCR).[145] The Education 2030 agenda, and the realization of the UN SDG Goal 4 that strives to ensure "inclusive and equitable quality education" for all, [146] is clearly not being realized for the residents of Kokwa island.

"The Kokwa Island school is the only option for many surrounding communities. Thus, migrating out because of the flooding came with the consequence of education disruption if you left the island."

School on Kokwa Island has now resumed after the Kenyan government built a new school on higher land. Due in part to years

144 "Girls' education," UNICEF, n.d., https://www.unicef.org/education/girls-education.

145 "Universal Declaration of Human Rights," art. 26; "d) General Comment No. 13: The right to education (article 13) (1999)," UN Office of the High Commissioner for Human Rights (OHCHR), 8 December 1999, art. 13, https://www.ohchr.org/en/resources/educators/human-rights-education-training/d-general-comment-no-13-right-education-article-13-1999#:~:text=The%20International%20Covenant%20on%20Economic,in%20international%20human%20rights%20law.

146 Sustainable Development Goal 4 is "Quality Education". See: "The 17 Goals," UN Department of Economic and Social Affairs - Sustainable Development.

of missed school, many students are grown adults, like Angela*, who was born on the island and explained that the school on Kokwa Island was the only option for many surrounding communities as well, who could only access the school via boat transfer as seen in this NTV Kenya news story.[147] Thus, migrating out came with the consequence of education disruption if you left the island.

Yet another community member recalled that no school existed when he first arrived in Kokwa. He told us, "Alan", the owner of one of the first hotel lodges, built a school for the local community, and this was greatly welcomed. "Before we had a school, the children only went fishing. Now our children can speak English, are educated and can work."

The arrival of a school was highly welcomed by the community and well-liked. Robust fundraisers that used to be normal practice have been laid waste by the climate impacts. "We would like assistance to build a secondary school beyond grade 8, and educational sponsorships to support our young people," they told us.

RUGUS, LAKE BARINGO, BARINGO COUNTY

Sebastian Lepariyo of BWYO seen at Rugus school often flooded, Photo by Amali Tower/Climate Refugees

On the mainland of Baringo, Rugus residents were quick to point out that the school where our group discussion was held had been flooded multiple times by rising Lake Baringo.

"You know, boats used to pass where we are currently seated," a local leader said. A nurse and lifelong Rugus resident chimed in, "the water started rising in 2007. Back then the lake's shores were two kilometers away." By 2013, the water had started reaching the school. In 2019, it got much worse, the water went well beyond the school. During this time, children could not reach the school, let alone attend school."

Beyond flooding, school fees have become an insurmountable cost for families, especially female-

147 "Here (Kokwa Island), boat transport is the main means of reaching school," NTV Kenya, 21 February 2021, https://www.facebook.com/watch/?v=2997791163786723.

headed households, who cannot afford the fees nor the school uniforms. The women we spoke with privately said the work they had been organizing to get a secondary school in the village has been disrupted with continuous flooding and displacement.

View of Lake Baringo from Rugus school, Photo by Amali Tower/Climate Refugees

Sebastian Leparyio of BWYO points to the white line on the school wall that marks the flood waterline, Amali Tower/Climate Refugees

ATALOKAMUSIO VILLAGE, LOKIRIAMA, TURKANA COUNTY

"We have not taken our children to school. Drought has destroyed all livestock," one woman in this remote Lokiriama village told us. "We used to sell livestock to afford education. But now we can't afford the school fees to send our children to school because there are no livestock to sell." This undermining of educational opportunities due to the impacts of climate change is unfortunately

seen well beyond the communities we visited.[148]

The community says they hope for scholarships, including from the United States, so their children can study abroad, not only because education is the key to their futures, but so too is leaving a place where pastoralism has no future.

"We did not follow previous advice to educate our children. We have learned this lesson now and are ready for change."

KAEKOROE-AKWAAN VILLAGE, LOKIRIAMA, TURKANA COUNTY

Kaekoroe-Akwaan Village is incredibly remote, poor and underdeveloped. Residents here say they have only one early education school but lack teachers to ensure robust and consistent attendance. There are no provisions for primary or high school education. Now scarcity of water and food has diminished attendance in the early education school since the feeding programs that so many village children depend upon is not guaranteed. We observed many children fetching water - traveling great distances to water points or water holes that are increasingly drying.

LAKE TURKANA, TURKANA COUNTY

Our in-country partner IMPACT Kenya has worked with the El Molo community living by the shores of Lake Turkana. They tell us, the El Molo are not only an Indigenous fishing community but also the smallest community in Kenya, hence a minority community.[149] Having borne the brunt of historical injustices, the rise of Lake Turkana water levels have caused a further challenge to school-going children who would previously walk to school but now have to use boats to cross the lake, an expense that is not only financially difficult for this community but also dangerous. Hundreds of homesteads have been submerged including their loved ones' graves as a result. The extreme marginalization of this community is evident as no hospital is built on either Komote island or Laiyeni village. The community reported high cases of water borne diseases and malnutrition among children. It is extremely challenging to access services on the mainland, a financial burden for the residents of Komote and Laiyeni. There are about 2,500 residents of Komote and Laiyeni island recording high food insecurity.

A myriad of intersecting challenges are evident among the El Molo community. Urgent needs identified by IMPACT Kenya include: cash transfers to mitigate livelihood loss, food insecurity and malnutrition; a solar powered boat to help cut costs for school going children; first aid and basic medical supplies.

148 Reinhard Mechler, Colin McQuistan and Barbara Rosen Jacobson, "Falling through the gaps: how global failures to address the climate crisis are leading to increased losses and damages," Zurich Flood Resilience Alliance, 2023, 4, https://floodresilience.net/resources/item/falling-through-the-gaps-how-global-failures-to-address-the-climate-crisis-are-leading-to-increased-losses-and-damages/.

149 "Kenya, El Molo Tribe," Atlas of Humanity, n.d., https://www.atlasofhumanity.com/elmolo.

8. CLIMATE CHANGE AND THE RIGHT TO HEALTH

KOKWA ISLAND, LAKE BARINGO, BARINGO COUNTY

Back on the flood-prone shores of Kokwa Island, Agnes* explained that the only medical dispensary on the island was submerged in 2012. Construction for a new facility began in 2018. In the interim, the community had no access to medicines. When the dispensary submerged, medical professionals who ran the facility stopped coming and/or left the island. Medical professionals like nurses were forced to abandon services on Kokwa.

Beyond the losses caused by inundated fields and buildings, flooding has other impacts, such as making it more difficult to access basic health services when roads are flooded or washed out.[150] Six healthcare facilities have been submerged, which reduces the availability of healthcare,[151] and exacerbates other health-related impacts of flooding. Inundated infrastructure has led to electricity outages, increasing the risk of water-borne diseases and respiratory conditions due to dampness and cold.[152] In 2020, flooding in this area inundated sanitation facilities, which led to a surge of water-borne illness.[153]

For a while the community managed by traveling across the lake to the mainland hospital, but then that was disrupted as well when the hospital was submerged for a period. Today, community members are mostly reliant on a mobile clinic called "Beyond Zero" housed within a container on the island, but access to the clinic via motorbike is cost-prohibitive. Reflecting on this barrier to access, many members said the limitation can "even cause death."

Water-borne diseases are frequent and rising, according to community members. Typhoid, dysentery and cholera have been documented. Accounts exist of submerged Lake Baringo hotel latrines' wastewater flowing into and polluting the lake. In addition, community members noted a major uptick in incidents of malaria.

These stories, while specific to Kokwa Island, are not unfamiliar to other marginalized groups and populations vulnerable to the climate crisis. They demonstrate setbacks in efforts to advance the UN SDG Goal 3 to "ensure healthy lives and promote well-being,"[154] and growing evidence of the risks climate change poses to human health.

150 Inganga and Watson, "Climate migration".

151 "Rising Water Levels in Kenya's Rift Valley Lakes," Kenya and UNDP, 29.

152 Ibid.

153 Ibid, 22.

154 Sustainable Development Goal 3 is "Good Health and Well-Being." See: "The 17 Goals," UN Department of Economic and Social Affairs - Sustainable Development.

THE ENDOROIS PEOPLE, LAKE BOGORIA, BARINGO COUNTY

In almost all our community discussions, we asked residents what they believed was causing climate change. Regardless of location or ethnicity, most communities saw it as a curse from the gods or punishment from the ancestors for wrongdoing. Many of the Endorois People, the elders told us, feel climate change is their fault. As a result, the increasing health problems they face, like mosquito borne illnesses, water-borne diseases and even water insecurity, they think is a result of their own actions.

Medical clinics and hospitals the community once accessed around Lake Bogoria are now lost. The loss of maternity services is particularly acute with maternal mortality rates rising and young girls bearing children at earlier ages. The community representative for women and children shared, "it's even taboo for us to report deaths, like that of a child to the chief in our culture, so many such issues are going underreported, especially now that we are all scattered from displacement."

> **"Submerged clinics have now forced our people to have to walk several kilometers elsewhere to access even basic medicines."**
>
> ENDOROIS COMMUNITY HEALTH WORKERS, LAKE BOGORIA

Minority Rights Group International is supporting the Endorois community with healthcare services. There community health workers confirm the submerged clinics have now forced "our people to have to walk several kilometers elsewhere to access even basic medicines." Government promises to build another health facility have not yet come to fruition. "Since the water submerged several villages, people moved to temporary settlements and many have not built new latrines." As a result, there is open defecation, putting the Endorois at increased risk to waterborne diseases. The submersion of clean water springs and pit latrines by lake expansion has now exposed locals to water-borne diseases such as cholera.[155]

With one voice, the community elders told us they are suffering "psychological torture" - trauma from the many climate change-induced losses their people are facing. "We are landless, our living standards are greatly reduced, and all this has affected the lives and health of old and young people."

ATALOKAMUSIO VILLAGE, LOKIRIAMA, TURKANA COUNTY

In the underdeveloped and harsh terrain of Turkana, communities in Atalokamusio Village say deaths resulting from drought stricken malnutrition are rising, and also because the nearest medical dispensary is 6 kilometers away by foot. The nearest hospital is 50 kilometers away in Lorgum. They say sick residents who are too weak from hunger cannot make the journey by foot. Young people told us they have accompanied people who have died along the way from weakness and lack of water.

Sadly, these residents' plights are representative of the long standing drought plaguing Turkana, where hunger reached Emergency levels of food insecurity (IPC 4) between March and June earlier this year.

155 Billy Rwothungeyo, "Climate-linked lake rise frustrates indigenous Endorois health volunteers," Minority Rights Group International, 6 September 2022, https://minorityrights.org/2022/09/06/climate-endorois/.

9. CLIMATE CHANGE AND HUNGER

FOOD INSECURITY

The longest and most severe drought in the Horn of Africa has left 23.8 million people in hunger, with 35 million people facing food and water insecurity, health, protection and education needs across the region.[156] With only 23% of last year's donor appeal funded, humanitarian agencies are seeking $7 billion to meet the basic humanitarian needs of people, calling this drought a primary example of climate injustice.[157] Kenya's northern counties like Turkana were expected to reach Emergency levels of food insecurity (IPC 4) between March and June 2023. Feared famine-levels in Somalia

The barren landscape and homes of the Turkana community in Atalokamusion Village. Photo by Amali Tower/Climate Refugees

156 "NGOs call out climate injustice and urge global donors to fully fund the humanitarian response in the Horn of Africa now," Oxfam and various partners, 22 May 2023, https://www.oxfam.org/en/press-releases/joint-statement-ngos-call-out-climate-injustice-and-urge-global-donors-fully-fund.

157 Ibid.

have slightly abated due to recent rains, however some regions where agropastoralist populations and IDPs reside remain at risk of famine (IPC 5) if the "long rains" are worse than forecasted and assistance does not reach the most vulnerable.[158] Even with April's improved rain conditions in Kenya, 5.4 million people are food insecure across 23 arid and semi-arid counties, and remain dependent on food and humanitarian assistance.[159]

The Intergovernmental Panel on Climate Change (IPCC) points out that food insecurity, malnourishment, and chronic hunger due to failed crops are often overlooked losses of human assets as a result of climate events.[160] This situation is now made worse by Russia's recent decision to pull out of a grain deal that allowed the export of Ukrainian agricultural goods which Horn of Africa countries are wholly dependent upon. Ayan Mahamoud, a climate resilience expert with the East Africa Intergovernmental Authority on Development (IGAD) trade bloc said, "ending the Black Sea Grain Initiative is adding challenges for countries already experiencing the effects of a changing climate."[161]

ATALOKAMUSIO VILLAGE, LOKIRIAMA, TURKANA COUNTY

"The situation is worsening", a middle-aged woman said. "We are at the alarm stage of the drought, and see lots of cases of malnutrition. I, myself, lost my father to malnutrition."

Hunger and malnourishment is rampant here in this incredibly remote and poverty-stricken village where the landscape is dusty, harsh and dry. "We are hungry," many echoed. Pointing to the barren landscape around us, as mini whirlwinds of dust swirled, one man said, "there is nothing to eat. Our animals have all died, and some of us are dying as well. Very soon, we fear many more of us will die."

At the conclusion of our discussion, a very frail and elderly man who had not spoken throughout the meeting, motioned us over to cross the few feet of distance between us. We could see he was too frail to walk on his own.

He said, "I am hungry. I have not eaten in three days." He thanked us for traveling a long distance to hear their plight. "Not many come here. You can see that we are forgotten."

After assisting in the moment and ensuring local NGO help, he thanked us in the only way he could with a tribal honor and blessing: by spitting into our hand and sealing it with a handshake.

KAEKOROE-AKWAAN VILLAGE, LOKIRIAMA, TURKANA COUNTY

"Our animals are dying from this drought, and next will be us humans dying from malnutrition," one man tells us in this small village of residents we met under a tree, sitting in a now dried-up river bed.

Just prior to our visit a man and woman had died from hunger, as well as an elderly man, the community reported. The situation is bleak, they say, and they have reported these deaths to the Chief, and the Chief to the County government.

LORENGIPPI, LOIMA SUB-COUNTY, TURKANA COUNTY

Under the guidance of a strong village Chief, residents here have been well-mobilized to respond to their community's needs in the absence of development. A community health volunteer tells us he

158 "DRC Horn of Africa Drought Situation Report #8: 1 March to April 30 2023," DRC, 8 May 2023, https://reliefweb.int/report/ethiopia/horn-africa-drought-situation-report-8-1-march-april-30-2023.

159 "National Drought Early Warning Bulletin," NDMA, May 2023, 2, https://www.ndma.go.ke/index.php/resource-center/national-drought-bulletin/send/39-drought-updates/6933-national-monthly-drought-update-may-2023; "Country Briefs Kenya," FAO, 12 June 2023, https://www.fao.org/giews/countrybrief/country.jsp?code=KEN&lang=en.

160 Olsson et al., "Livelihoods and Poverty," 805.

161 Sophie Nieman, "Concern mounts in East Africa over halted Black Sea grain deal," Al Jazeera, 21 July 2023, https://www.aljazeera.com/features/2023/7/21/concern-mounts-in-east-africa-over-halted-black-sea-grain-deal.

is seeing health gains made over the years now eroded by climate change.

Community consultation, Kaekoroe-Akwaan Village, Turkana County - Amali Tower/Climate Refugees

"Malnutrition cases, especially in children, are going up everyday because of food insecurity resulting from climate change. The county government is providing plumpy-nut (a peanut-based paste used for treatment of severe acute malnutrition), as are humanitarian organizations, like Save the Children and International Rescue Committee."

"'I am hungry. I have not eaten in three days.' After assisting in the moment and ensuring local NGO help, he thanked us in the only way he could with a tribal honor and blessing: by spitting into our hand and sealing it with a handshake."

Clearly these stories and the current situation exemplify how woefully unprepared the global community is to factoring the effects of climate change into achieving the UN Sustainable Development Goal 2 of ending hunger, achieving food security, improved nutrition and promoting sustainable agriculture. Urgent and immediate action is required to link climate action to efforts to eradicate global hunger and malnutrition if we are to achieve any of these targets by 2030.[162]

162 Sustainable Development Goal 2 is "Zero Hunger". See: "The 17 Goals," UN Department of Economic and Social Affairs - Sustainable Development.

10. CLIMATE CHANGE AND THE RIGHT TO WATER

CLIMATE, DROUGHT AND WATER INSECURITY

Although the right to safe drinking water and sanitation is enshrined in Article 11(1) of the International Covenant on Economic, Social and Cultural Rights[163] and was fully adopted by the UN General Assembly as a basic human right in 2010, globally 2.1 billion lack access to safe drinking water, while 4.5 billion lack access to safely managed sanitation.[164] If the world is to meet the UN Sustainable Development Goal 6 of ensuring water and sanitation for all by 2030, the UN estimates it will require a six-times and five-times increase in the current pace of progress, respectively.[165]

In many of Kenya's most vulnerable communities, long-standing marginalization and underdevelopment are converging with climate shocks to exacerbate drought conditions for populations who have never had safe, sustainable access to clean water. Now climate change is making that vulnerability downright deadly for some communities we met. In Turkana, 90% of the population lives below the poverty line, and only 40% of the population has access to clean water.[166]

LORENGIPPI VILLAGE, LOIMA SUB-COUNTY, TURKANA COUNTY

Residents in Lorengippi village echoed many of the same challenges shared by other Turkana pastoralists, as well as alarming details of several community members who have died in recent years at community water holes. With increasing water scarcity, residents have had to repeatedly dig new, deeper and wider water holes in Lorengippi, requiring several people to create an assembly line of water collection. During these collections, several water holes have collapsed, killing multiple people. Deaths resulting from collapsed water holes even inform the name of the village. In Turkana, "Lorengippi" literally translates to "red water."

Another water hole, "Akinpipu" means "girls", so named because the water point is used by many young girls who fetch water for their families, and who lost their lives in the process. People here

163 About water and sanitation," OHCHR, n.d., https://www.ohchr.org/en/water-and-sanitation/about-water-and-sanitation#:~:text=Access%20to%20safe%20drinking%20water,Economic%2C%20Social%20and%20Cultural%20Rights.

164 "OHCHR and the Rights to Water and Sanitation," OHCHR, n.d., https://www.ohchr.org/en/water-and-sanitation.

165 Sustainable Development Goal 6 is "Clean Water and Sanitation". See: "The 17 Goals," UN Department of Economic and Social Affairs - Sustainable Development.

166 "Improving Water Access in Turkana," Practical Action, n.d., https://practicalaction.org/our-work/projects/water-for-turkana/.

depend on shallow wells they dig themselves. As pictured here, for many, this is their only source of water. This is certainly reflective of failed development in this region, but now also the increasing effects of climate change.

Young girls and boys at a local water hole tell us they are waiting for the sun and temperature to decrease before setting home with their collected water. A young teenage boy not seen in this picture accompanies them home for male protection - Photo by Amali Tower/Climate Refugees

"Water holes are increasingly dry," Lorengippi residents say, creating situations where multiple holes need to be dug ever deeper, where once the water runs dry, another hole, even deeper, is dug again. This process has led to further deaths.

Nakanjakal water point is one such where three people died in 2021 when the water hole collapsed

A water hole that has now run dry in Turkana County, Kenya - Photo by Amali Tower/Climate Refugees

upon them. Kapesa water hole collapsed in 2020, killing eight people. At Lowsobani water hole, two people were killed in 2014.

The World Meteorological Organization's State of the Climate in Africa report warned "water stress and hazards like withering droughts and devastating floods are hitting African communities, economies and ecosystems hard."[167] Focusing specifically on water, scientists concluded that four out of five African nations are unlikely to have sustainably managed water resources by the end of this decade.[168]

> **"Since climate change started hitting us, we have lost people - mostly the elderly and the poor."**
>
> COMMUNITY CONSULTATION
> PARTICIPANT, LORENGIPPI VILLAGE

All of these deaths have been reported to the Kenyan federal government, who have retrieved the bodies. The high risk of increasing deaths in this manner are a deep concern for community members, who are experiencing increasingly treacherous conditions in Kenya's current drought.

Unfortunately, water holes are vulnerable to more than just collapse and drying out. Flooding events

167 "State of Climate in Africa highlights water stress and hazards," WMO, 8 September 2022, https://public.wmo.int/en/media/press-release/state-of-climate-africa-highlights-water-stress-and-hazards.

168 Ibid.

often destroy boreholes too, such as in 2020 when at least 32 boreholes around Lake Turkana were submerged or otherwise destroyed, including several that supplied Lodwar,[169] northwestern Kenya's largest town. As more boreholes are destroyed, residents are forced to keep drilling, which can weaken the land and lead to sinkholes,[170] further reducing the utility of remaining land. The result is a vicious cycle that will only worsen as water scarcity increases.

In the absence of adequate development initiatives to meet this most basic human need - which is also enshrined in the Sustainable Development Goals[171] - in a way that is sustainable and safe, communities in the region will continue to rely on boreholes,[172] whether government-dug or self-dug, even if they become less reliable and more dangerous with worsening climate conditions.

LOYA VILLAGE, TURKANA COUNTY

"Water is a limited resource here. The government must bring in water tankers because farms depend on water." This was the cry from Loya Village community members in Turkana County. An elderly man said, "this is a drought. We can even see it with our naked eyes."

"Even as we sit, we feel the heat. People are dying. You cannot see quality pasture land here because if there is no rain, there is no pasture. No pasture means no food. No food means people perish," the local pastor told us.

Communities here say solutions must be long-term and come from joint efforts of the Kenyan government and international governments alongside civil society. "People can cope if the land is sufficient to feed people through irrigated farming and boreholes. Israel has dry land like us, but they have innovation. It would be good if the US and UN can intervene to provide us with the technology for irrigation because we believe this area has untapped water."

A young man told us, "there has only been one borehole here since I was born in 1989, serving this whole community. Now that we know climate change is here to stay with us, we cannot solve it with short-term solutions. For example, the Prosopis plant was brought here from abroad. Now it is draining water, even from the Turkwel river."

KAEKOROE-AKWAAN VILLAGE, LOIMA SUB-COUNTY, TURKANA COUNTY

The river Turkwel does not reach the remote village of Kaekoroe-Akwaan, and water points are too few or too far to access on a daily basis. Thus communities here must spend countless hours every week fetching water in community-dug water holes that are increasingly running dry.

But the prolonged drought has now "stressed" the water table, the village Chief says. A solar-powered water system was implemented by the county government and UNICEF, which once provided irrigated farming for local villages, but this too is now defunct due to a lack of water, he says.

Many of his community members are dual citizens in Kenya and Uganda and prosper in Uganda because of the Kobebe dam. He laments that his village doesn't live close enough to access Kenya's own dam along river Turkwel that would help his community, especially the children who go without water and are increasingly the ones who forgo school to fetch the water.

169 "Rising Water Levels in Kenya's Rift Valley Lakes," Kenya and UNDP, 22.

170 Kang-Chun Cheng, "Sinkholes emerge in rural Kenya after series of floods, droughts," Mongabay, 30 December 2021, https://news.mongabay.com/2021/12/sinkholes-emerge-in-rural-kenya-after-series-of-floods-droughts/.

171 Sustainable Development Goal 6 is "Clean Water and Sanitation". See: "The 17 Goals," UN Department of Economic and Social Affairs - Sustainable Development.

172 African Borderlands Centre, "Africa Borderlands," 19.

11. CLIMATE CHANGE AND POVERTY

As highlighted by the IPCC, poverty and persistent inequality are the "most salient of the conditions that shape climate-related vulnerability."[173] The poor are the first to experience loss of assets, poverty traps, and barriers that limit their capacities to adapt to climate change, and those losses include financial assets like farms and jobs, where greater shifts from transient to chronic poverty due to climate change are occurring.[174] This is particularly true for pastoralists, where previous studies in Southern Africa linked climate drivers and poverty as the two causal factors for pastoralists who collapsed into chronic poverty when their livestock assets were lost.[175]

With high confidence, the IPCC warns that climate change-induced slow onset and sudden onset events directly affect the poor through impacts on livelihoods, like crop losses, destroyed homes, and food insecurity.[176]

Kokwa Island group discussion, Photo by Amali Tower/Climate Refugees

The UN Special Rapporteur on extreme poverty and human rights concluded, "climate change will have devastating consequences for people in poverty. Even under the best-case scenario, hundreds of millions will face food insecurity, forced migration, disease and death. Climate change threatens the future of human rights and risks undoing the last 50 years of progress in development,

173 Jesse C. Ribot, "Vulnerability does not just fall from the sky: Toward multi-scale pro-poor climate policy," in Social Dimensions of Climate Change: Equity and Vulnerability in a Warming World, ed. Robin Mearns and Andrew Norton (Washington, DC: The World Bank, 2010), 50; Olsson et al., "Livelihoods and Poverty," 802.

174 Olsson et al., "Livelihoods and Poverty," 805.

175 Olsson et al., "Livelihoods and Poverty," 806.

176 Olsson et al., "Livelihoods and Poverty," 796.

global health and poverty reduction."[177]

The Kokwa island community exemplifies this. They are among the extremely vulnerable to both climate change and poverty, highlighting yet another Special Rapporteur finding that the burden of climate change effects will fall on those in poverty.[178] If climate change conditions are worsening this community's poverty, let's realize, climate change is also creating setbacks to the attainment by 2030 of UN Sustainable Development Goal 1 to end poverty in all its forms everywhere.[179]

As the UN has tracked, the propensity for global crises like the Covid-19 pandemic has had disastrous setbacks on efforts made to eradicate poverty. We now also know that rising inflation and the effects of the Ukraine war have further derailed progress.[180] The World Bank has estimated that by 2030, climate change could push a further 120 million people into poverty.[181]

From what we witnessed, poverty and climate change are deeply intertwined in this community, stripping many of hope for solutions at a time of exponentially growing impacts. We know what the climate crisis is already sustaining on vulnerable and marginalized groups who have contributed almost nothing to global warming, so imagine what worse impacts and suffering await these communities if runway global heating is not curbed.

"Poverty is not only stripping many of mobility, but also a vital climate adaptation tool."

CLIMATE CHANGE AND IMMOBILITY

The Kokwa community are among the extremely vulnerable. Their poverty has rendered them immobile, unable to migrate, even if desired. Their plight is echoed in recent findings by the Potsdam Institute for Climate Impact Research[182] detailed in this *Climate Refugees article*[183]: poverty is not only stripping many of mobility, but also a vital climate adaptation tool. Poverty-induced immobility also constitutes a human rights loss to residents' universal right to freedom of movement and residence within Kenya.[184]

Poverty and climate change are leading to family separation as well. The elevated lake has now subdivided the island into three, separating families who once lived on one island. One elder we met told us the lake waters have forcibly separated him from his wife and children who now live on a different island. Relatives of some community members who could afford the travel have left

177 "Climate change and poverty," UN Human Rights Council doc. A/HRC/41/39, 1.

178 Ibid, 2.

179 Sustainable Development Goal 1 is "No Poverty". See: "The 17 Goals," UN Department of Economic and Social Affairs - Sustainable Development.

180 Ibid.

181 Stephane Hallegatte et al., Shock Waves: Managing the Impacts of Climate Change on Poverty (Washington, DC: The World Bank, 2016), 12, https://documents1.worldbank.org/curated/en/260011486755946625/pdf/ShockWaves-FullReport.pdf.

182 Albano Rikani et al., "More people too poor to move: divergent effects of climate change on global migration patterns," Environmental Research Letters 18 (2023), https://iopscience.iop.org/article/10.1088/1748-9326/aca6fe/pdf.

183 Rahul Balasundaram and Ryan Plano, "Climate Change and Immobility: New Study Highlights Some Too Poor To Migrate," Climate Refugees, 20 February 2023, https://www.climate-refugees.org/spotlight/2023/2/20/climatetraps.

184 "Universal Declaration of Human Rights," UNGA, art 13.

the island all together. Other families have been forced to take up new residences on the opposite island. For separated families, visits are infrequent because they cannot afford the appropriate boats necessary to navigate high waters. On the rare occasions they canoe over, they are forced to stay the night due to the high tide and wildlife dangers encountered during return.

ATALOKAMUSIO VILLAGE, LOKIRIAMA, TURKANA COUNTY

The IPCC notes the prevalence of poverty traps amongst pastoralist communities, "triggered through droughts, restricted mobility owing to conflict and insecurity."[185] The Turkana people, living in Kenya's poorest county and also experiencing devastating drought and increased conflict are amongst the most vulnerable to increased poverty. Speaking to communities in an extremely remote and isolated village, just 45 kilometers from the Ugandan border, many tell us they are too poor to migrate to Uganda, because they lack the water and food for the 10-day journey.

"We don't have sufficient water and food for the journey to the border. Some of us have tried and our sugar levels have gone down."

One elder tells us, "the young travel to Uganda, taking what remaining livestock have survived from our community, while the elderly and disabled remain behind, praying to God to bring the rain."

Others are reluctant to leave their homes, citing that migration is no longer a temporary measure. Additionally, during times of heightened security or perceived weapons proliferation, border closures or migrant entry denials are utilized.

LORENGIPPI, LOIMA SUB-COUNTY, TURKANA COUNTY

"I want to echo the voices of the disabled," a woman told us, struggling to stand to attention with less than ideal crutches.

Having had access to education and a modicum of opportunities, the residents in this village in Lorengippi are slightly better off than other Turkana pastoral communities, but their exposure to the intersections of underdevelopment and climate change are just as acute.

"Because of climate change, the distance to water points has increased, so the disabled cannot access water. I used to go to my neighbors nearby for water, because it was available. But now that is not an option because of the drought."

A feeble elderly man added, "us elderly are adversely affected because we have no energy to move - to migrate - even to mobilize for resources."

185 Olsson et al., "Livelihoods and Poverty," 806-807.

12. CLIMATE CHANGE AND INSECURITY

Photo of man in Balsa wood boat and rudimentary hand paddles by Amali Tower/Climate Refugees

“With climate-induced heavy rains causing Lake Baringo to double in size over the past decade, the expanded lake has brought in crocodiles and hippos that have turned up on people’s doorsteps and in classrooms.”

Poverty is also stripping many Kokwa Island residents in Lake Baringo of the appropriate boats for use in daily life, including fishing and transport. Poor communities here have long managed with small, local boats made of Balsa wood. Increasing water levels mean those boats are now inadequate for transport and protection from the rising waters and wildlife that live in the lake.

The shores of the lake have become measurably less safe due to wildlife incursion from crocodiles and hippopotamus. With climate-induced heavy rains causing Lake Baringo to double in size over the past decade, the expanded lake has "brought in crocodiles and hippos that have turned up on people’s doorsteps and in

classrooms."[186] Associated Press reporting from the region found it is "not rare now to see village children scarred by sharp teeth marks" with attacks on the rise. Winne Keben who lost her leg in a crocodile attack said, "it was not like this in the past. People would move when the water moves, but it would go back soon enough.[187]

Communities we spoke with said they encounter the dangerous wildlife everyday. The threat of attack has impacted livelihoods. Women we spoke with said essential fishing they once conducted at the shore has now been disrupted due to the threat of attack and increased crocodile attacks across Lake Baringo. During our visit, crocodiles were rampant, observed resting on submerged hotels and on rocks at the lake's shore where women and children bathe and wash laundry.

All residents said they know someone who has been attacked or killed by the crocodiles. Like Winnie Keben who the AP spoke to, they recalled a different time, when the wildlife lived deep inside the lake, far from bother and danger to local residents.

Local resident Lionel* said Kokwa is "my birth place so I know everything about it and have even verified my memories by consulting local elders." He recalled a time "some years back", when the lake was 1 kilometer away from the shore line, unlike today where no shore exists.

Like residents around Baringo and elsewhere, Lake Turkana residents are also seeing wildlife attacks, negative impacts on thousands of small businesses,[188] and flooded irrigation systems[189] to name just a few.

Photo of crocodile resting on submerged edge of now abandoned hotel by Amali Tower/Climate Refugees

186 Inganga and Watson, "Climate migration".

187 Ibid.

188 "Rising Water Levels in Kenya's Rift Valley Lakes," Kenya and UNDP, 19.

189 Ibid, 22.

13. CLIMATE CHANGE AND GENDER EQUALITY

Because of the discrimination they suffer, women and girls experience disproportionate effects of climate change.[190] For instance, 80% of people displaced by climate change are women,[191] and the inequality does not stop there. Though women make up 40% of the agriculture workforce and 60 to 80% of food production, women in rural areas are doubly discriminated against, exploited and subjected to gender-based violence. According to Save the Children, "the environmental crisis aggravates pre-existing patterns of discrimination and violence against women and girls."[192] Gender inequality and discrimination have been noted by scientists to be barriers to climate adaptation.[193]

In repeated studies, the World Bank has found women are disenfranchised from economic opportunities through laws that limit their abilities to own assets. As a result, women tend to depend more on natural resources for their livelihoods.[194]

In the Global South, access to land is essential for survival from subsistence farming to a meager source of livelihood income. Thus, land rights become a crucial issue that cuts across gender equality, poverty reduction, food security and development, overall. In this context enters climate change, which not only threatens to impact all these sectors but also adversely affects women because of discrimination and inequality that limit their access to land, natural resources, sources of livelihood, education, healthcare and more.

"Residents in Kiwanja Ndege IDP camp are only here because when Lake Bogoria rose, it submerged their homes. Now they say climate displacement has exposed them to gender-based violence."

According to UN Women, climate change and disasters endanger women and girls' health by limiting access to services and healthcare, as well as increasing maternal and child health risks.[195] In Kokwa, these risks are acute.

KOKWA ISLAND, LAKE BARINGO, BARINGO COUNTY

New mother Agnes* explained the situation

190 Olsson et al., "Livelihoods and Poverty," 808 (box 13-1).

191 "Climate change exacerbates violence against women and girls," OHCHR, 12 July 2022, https://www.ohchr.org/en/stories/2022/07/climate-change-exacerbates-violence-against-women-and-girls.

192 Ibid.

193 Birkmann et al., "Poverty, Livelihoods and Sustainable Development," in Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, edited by Hans-Otto Pörtner et al. (Cambridge and New York: IPCC via Cambridge University Press, 2022), 1174, https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Chapter08.pdf.

194 Women, Business and the Law 2020 (Washington, DC: The World Bank, 2020), https://openknowledge.worldbank.org/server/api/core/bitstreams/6c2b5974-9a3b-5249-995b-2b22e5fd7909/content.

195 "Explainer: How Gender Inequality and Climate Change are Interconnected," UN Women, 28 February 2022, https://www.unwomen.org/en/news-stories/explainer/2022/02/explainer-how-gender-inequality-and-climate-change-are-interconnected.

of the Kokwa community's access to healthcare, demonstrating how gender inequality and climate change are intertwined. The only hospital accessible to the community is on the mainland, which once was part of Kokwa, but is now separated due to the lake rise that subdivided the island into three. When she went into labor, it happened in the middle of the night. Having only Balsa wood boats that must be paddled with rudimentary hand paddles rather than oars, she and her helpers attempted to cross over to the mainland while she was in labor.

They were unsuccessful, and Agnes was forced to give birth on the boat. Thankfully everything turned out well for both mother and baby, as well as the others in the boat. Clearly though, it was visible to see that even two years later, Agnes was still shaken. We asked Agnes how she felt then and now, sharing that story. "Scared," she said shyly, "but I managed."

The Global Compact for Safe, Orderly and Regular Migration highlights the importance of gender-responsiveness that States need to take into account in climate change contexts, as does the 2030 Agenda for Sustainable Development, which includes goals and targets on gender equality and protection in migration.[196] Clearly these statistics and stories exemplify how climate change[197] erodes progress on achieving the UN SDG Goal 5 to achieve gender equality and empower all women and girls, and as well, SDG Goal 13 to combat climate change. With women and children 14 times as likely as men to die during a disaster, UN Women advocates for disaster risk planning that takes into account the particular vulnerabilities women and girls face in the climate crisis.[198]

In climate policy, the UNFCCC also acknowledges the gendered impacts of climate change, focusing on gender-responsive programming in all national climate plans,[199] and as previously mentioned, the Paris Agreement of the UNFCCC and the 2021 Glasgow Climate Pact ensures the protection and promotion of human rights, including gender equality and the empowerment of women, expressly connecting the risks that climate change poses to international human rights, including to migrants, Indigenous Peoples, persons with disabilities, local communities, vulnerable and marginalized people, as well as the right to development, gender equality and the empowerment of women. [200]

International human rights law, specifically the Committee entrusted with monitoring implementation of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), provides a useful framework related to gender, migration and climate change. The Committee outlined that all stakeholders should "ensure that migration and development policies are gender responsive and that they include sound disaster risk considerations and recognize disasters and climate change as important push factors for internal displacement and migration. This information should be incorporated into national and local plans to monitor and support the rights of women and girls during migration and displacement."

KIWANJA NDEGE IDP CAMP, MARIGAT, BARINGO COUNTRY

Residents in Kiwanja Ndege IDP camp are only here because when Lake Bogoria rose, it submerged their homes. Recall we shared earlier that IDPs here also live in fear of forced eviction because of being sheltered on Kenyan government land that is slated for an official airport to be built sometime in the future in Marigat.

The needs amongst women and girls in this camp are acute, particularly in areas of gender-based

196 "Ensuring safe and regular migration for women and girls in the context of climate change," UN Women, 2023, 6, https://www.unwomen.org/en/digital-library/publications/2023/06/policy-brief-ensuring-safe-and-regular-migration-for-women-and-girls-in-the-context-of-climate-change.

197 Sustainable Development Goal 5 is "Gender Equality" and Goal 13 is "Climate Action". See: "The 17 Goals, " UN Department of Economic and Social Affairs - Sustainable Development.

198 "SDG 13: Take urgent action to combat climate change and its impacts," UN Women, n.d., https://www.unwomen.org/en/news/in-focus/women-and-the-sdgs/sdg-13-climate-action.

199 "The Gender Action Plan," UNFCCC, n.d., https://unfccc.int/topics/gender/workstreams/the-gender-action-plan.

200 "2015 Paris Agreement," United Nations Framework Convention on Climate Change (UNFCCC), 12 December 2015, https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf; "COP 26 Cover Decisions, Glasgow Climate Pact," UNFCCC, 2021, https://unfccc.int/sites/default/files/resource/cop26_auv_2f_cover_decision.pdf.

violence (GBV). Women leaders here told us that because of the lack of land and space devoted to their shelter, entire families are forced to sleep in one tent. This means boys and girls are forced to sleep in the same tents, and partners are not afforded any privacy.

The situation, they say, is leading to husbands seeking sex workers. It's also leading to an uptick in gender-based violence amongst wives and daughters, and a rise in previously reduced female-genital mutilation (FGM). Although the camp has no community hall, the camp Chair responsible for women and children's issues has been attempting to host community gatherings under a tree for women, girls and some men to try to educate, empower and eradicate the GBV and FGM. But she says attendance is poor after two years due to the rising temperatures, lack of shelter and lack of funding to offer incentives such as tea and biscuits that promote attendance.

UN Women notes it is well-documented that gender-based violence increases in the aftermath of disasters, particularly for women and girls who live in displaced persons camps or without privacy. Climate-induced migration and displacement can increase the risks of violence. Domestic violence, intimate partner violence, sexual abuse and exploitation, and early, forced and child marriage are known to increase during climate crises.[201]

Thanks to two years' work and over 1,000 sources of research, we know of linkages[202] in environmental stress and gender-based violence (GBV), including amongst climate migrants and refugees.

Through conflicts and the aftermaths of disasters we know that displacement leads to increased human trafficking. The UN Environment Programme has noted as much as a 20-30% increase in trafficking after disasters and INTERPOL also warns of women's increased exposure to trafficking following disasters.[203]

RUGUS, LAKE BARINGO, BARINGO COUNTY

On the mainland of Baringo surrounding Lake Baringo, many women here have been widowed - both by conflict and lake wildlife attacks. In a private interview, they told us, "the situation is really bad. We come to the school just to have some security." One woman, a widow and mother of eight children who has already been displaced four times, is now living in proximity to Pokot cattle raiders. "I don't know what else to do," she says. "The Pokot have already taken my cattle and I'm left to make a living from catching fish at the shore for sale." She earns an average of 20 USD on a good day, and fish are not guaranteed every day. She fears the dangerous wildlife that co-exist at the shore, but she tells us, "I have no choice." Now this, too, is dwindling, with fish evermore scarce at the lake's shores.

TURKANA COUNTY

Turkana is one of the most arid areas of Kenya, deeply devastated by the continuing drought. Here, in the multiple villages we visited, although women and girls lack access to information and decision-making processes, women and girls are responsible for securing water, fuel and food. In Turkana County, many walk at least 15 km to reach a water source.[204] With rivers running dry and water sources increasingly elusive, women and young girls are foregoing school to travel longer distances in order to fetch water. These distances are putting them at high-risk to safety and security, where they are made vulnerable to GBV, exposure to extreme heat and dry-arid conditions that undermine their health, while denying their rights to education.

201 "Ensuring safe and regular migration," UN Women, 4.

202 Itzá Castañeda Camey et al., "Gender-based violence and environment linkages," IUCN, 2020, https://portals.iucn.org/library/sites/library/files/documents/2020-002-En.pdf. Itzá Castañeda Camey et al., "Gender-based violence and environment linkages," IUCN, 2020, https://portals.iucn.org/library/sites/library/files/documents/2020-002-En.pdf.

203 "Women most at risk from climate disasters, says UN report," UNEP, 6 December 2011, https://www.preventionweb.net/news/unep-women-most-risk-climate-disasters-says-un-report.

204 "Improving Water Access," Practical Action

Women are working in extreme heat and hardship conditions to produce polluting fuels like charcoal and gather firewood, both for use in their homes and to sell to refugee communities in nearby Kakuma Refugee Camp.

"I sell aloe vera," a pregnant woman often forced to stay at home in Loya Village said. "I can't be exposed to the smoke to produce firewood and charcoal for sale. But I have children to feed, so I go deep into the bush looking for wildfruits for my children. Each time I go out, I do not know what risks I will face."

In times of drought, it is not uncommon for women and girls to experience higher food insecurity since their discriminatory lower social status forces them to eat less than men. In Turkana, this reality was heard over and over again, where whole communities are suffering extreme hunger, but it is women and girls who are foraging for berries, as they are in Loya Village, that eat less than men and have less access to relief services.

CLIMATE CHANGE AND SOCIAL PROTECTION

The IPCC notes the propensity for weather events and climate to erode social and cultural assets, such as disrupting labor pathways, social assistance programs, and social networks of the poor, elderly, women and women-headed households.[205] The Endorois were particularly outspoken, unpacking exactly what climate-driven social loss looks like.

THE ENDOROIS PEOPLE

In Lake Bogoria in Baringo County, a group of Endorois community leaders spoke of alarming incidents of exploitation and protection concerns, which they conveyed as the loss of cultural values as a result of family fragmentation due to displacement and poverty induced by climate change. For example, both men and women elders mentioned their deep concern at the rise of sexual exploitation of children. Their stories directly connected the climate-induced flooding to the resultant loss of homes, land, livelihoods and jobs, which have resulted in displacement and loss of social networks. Some men have been forced to migrate, leaving women behind. As a result, "our community is now spread out, dispersed, and our children are exposed to child exploitation. They are told to expose their bodies for payment. Young girls are at increased risk to early marriage," purely because of poverty induced by displacement. They also mourned the breakup of families, where women were increasingly becoming sex workers as a way to earn money as a result of livelihood loss.

This in-depth local Kenya TV news story depicts the plight of displaced Bogoria residents, now living in temporary makeshift homes within a nearby national park. Not only are these residents facing possible eviction and long-term displacement, the story details their current plight of poverty, lost jobs, lost livelihoods, clean water and food insecurity, death and rising disease due to submerged healthcare facilities and lack of social protections, evidenced by increasing early pregnancies amongst young girls in unprotected female-headed households.[206]

It is key to view gendered impacts through the lens of both oppression and vulnerability because it is precisely because of discriminatory social and cultural norms that women face for being women that leads to their oppression, thus making them vulnerable to the gendered-impacts of climate change. In many societies, men do have more rights and mobility than women, and most social and cultural norms do place the primary role of breadwinner on male-headed households.

205 Olsson et al., "Livelihoods and Poverty," 805.

206 "Climate Refugees - Lake Bogoria IDP's," K24TV.

This can also disadvantage migrant men faced with climate change-driven livelihood loss, who in desperation are forced into exploitative labor situations and abysmal living standards. For example, research conducted in Ethiopia found that drought nearly doubled labor-related migration of men, while in Ghana, men tended to migrate permanently as a climate adaptation strategy, and women migrated temporarily.[207] These asymmetrical migration patterns demonstrate how gender can be interrelated in situations of migration and displacement, and in some cases, put vulnerable groups at further risk.

Dr. Lewis Turner, whose areas of research includes refugee men, informal labor markets and sexual violence prevention, reinforces this thought. He says when men migrate in search of alternate sources of income, the issues are often framed as women "left behind."[208]

This is understandable, he says, and important, but with it comes an assumption that men will find a way to support their families, and in the process overlooks the very real difficult and exploitative labor migration situations men encounter.

He adds that the psychological impacts of losing livelihoods, combined with the continued communal pressure on men to be the sources of financial support are immense and are often overlooked.

He says the mental health needs of both men and women, and their families and communities, are usually sidelined by the more prescient economic realities.

It bears noting that since cultural norms do grant more rights and mobility to men, anyone non-binary, or who society identifies as gender non-conforming, could be subject to the same oppression or limitations and vulnerability faced by women.

Based on these accounts, the international community must recognize that climate-driven losses and damage have the potential to be extreme, all-encompassing, as well as inter-related, for people marginalized on the basis of several factors, including gender, ethnicity, Indigeneity, like the Indigenous Endorois, and other groups assessed in this report, who through a history of exclusion, face major human rights losses, humanitarian crises, losses and damages induced by the climate crisis.

207 "Ensuring safe and regular migration," UN Women, 4-5.

208 KII with Dr. Lewis Turner, Lecturer, Newcastle University (May 2020). See also: Dr. Turner's published works, https://newcastle.academia.edu/LewisTurner.

14. CLIMATE CHANGE AND CULTURAL LOSS

The Endorois Indigenous community of Lake Bogoria that have suffered generational trauma and loss of cultural heritage from forced eviction off their lands are now suffering those losses all over again through the forces of climate change.

"When the lake expanded, it swallowed the grazing fields and buried the bones of our ancestors," said a member of the Endorois. And this is not the first time they have suffered such losses. After forced eviction, the Endorois had to pay to access their lands where ancestors are buried, and were denied their right to perform ceremonies or prayers on the land.[209] Culturally significant land areas, important to ceremonies, worship and ancestral appeasement are now under water, as well as the loss of Indigenous knowledge systems, like their traditional medicines, are now lost in the submerged herbal clinic.[210]

> **"When the lake expanded, it swallowed the grazing fields and buried the bones of our ancestors."**
>
> ENDOROIS COMMUNITY PARTICIPANT,
> LAKE BOGORIA, BARINGO COUNTY

The Endorois have attempted Indigenous farming practices in the present climate changed landscape that should be supported. Preservation of cultural rights and disaster risk response requires a whole of society engagement and partnership, and in the light of climate justice, we would argue it requires a global engagement and partnership. The Sendai Framework for Disaster Reduction recommends cultural measures to reduce disaster vulnerabilities, and links improving the resilience of cultural heritage to improving disaster preparedness.[211] Indigenous knowledge practices of the Endorois community should be harnessed and scaled to mitigate climate losses and build resilience even in situations of displacement and loss.

The IPCC notes the increased vulnerability that Indigenous people face of seeing their "cultural points of reference disappearing."[212] The UN Declaration on the Rights of Indigenous Peoples affirms Indigenous peoples rights to the conservation and protection of their environment, lands and resources, and spells out States' obligations to assist such without discrimination. Indigenous people also have the right to determine how their lands and resources are used through free, prior and informed consent, and methods for redress must exist when there are negative environmental and cultural impacts.[213]

These policy frameworks and international laws must be viewed through the reality that Endorois

209 Joseph Lee, "Indigenous Endorois Fight for their Land and Rights at UN," Grist, 4 May 2022, https://grist.org/global-indigenous-affairs-desk/indigenous-endorois-of-kenya-fight-for-their-land-and-rights-at-un/.

210 Otieno and Kimosop, "Climate Change Adaptation".

211 "Sendai Framework for Disaster Risk Reduction 2015-2030," United Nations, 2015, 12 (paras. 16 and 17) and 36, https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf.

212 Olsson et al., "Livelihoods and Poverty," 805.

213 "UN Declaration on the Rights of Indigenous Peoples," UNGA, 2007, arts. 29 and 32, https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf.

traditional knowledge is intertwined with nature, symbolized in totems. For instance, clan systems where customs are attached to totems depicted by animals, plants and ecosystems have already been lost, first via forced evictions, and now again, via climate-driven land loss and displacement.[214]

> "Our cultural practice is that during hard times, wealthier families share with poorer families, but not anymore. Now with climate change, our entire community is affected all at the same time. Therefore, everyone is poor at the same time, and none of us have anything to share with another."
>
> TURKANA PASTORALIST,
> ATALOKAMUSIO VILLAGE, TURKANA COUNTY

In 2020, the UN Special Rapporteur in the field of cultural rights issued a report to the UN General Assembly on climate change, culture and cultural rights. In it, she noted, "culture should be seen as a pillar of sustainable development. Progress on cultural rights obligations and on the UN Sustainable Development Goals (SDG) are two sides of the same coin."[215] Culture, she noted, contributes directly to attaining many of the SDGs and are essential for implementing SDGs that explicitly reference culture, such as target 4 of Goal 11 that ensures efforts in safeguarding the world's cultural and natural heritage, and target 7 of SDG Goal 4, which requires States to ensure education on culture's contribution to sustainable development.[216]

Lake Turkana residents who are able to stay still face immense losses, however. Cultural destruction is just one of the many results of Lake Turkana flooding, with burial sites in El Molo and Longech island submerged in recent years.[217] Globally, Indigenous People comprise 6% of the global population yet safeguard 80% of the world's resources.[218] In Kenya, all of the climate displaced communities we spoke to were Indigenous, marginalized populations with rich cultures of collectivism. These include coping mechanisms in pastoral communities where resource sharing during dry spells and lean periods is integral to community survival.

As the Turkana community in Kaekoroe-Akwaan village described, "our practice is that during hard times, wealthier families share with poorer families, but not anymore. Now with climate change, our entire community is affected all at the same time. Therefore, everyone is poor at

> "Under a tree in the waning sun, Climate Refugees held a discussion with a small group of Endorois community leaders. The conversation left us with the sense that this community has suffered immense losses that they see cumulatively as cultural erasure."

214 Kiburo, "Impacts of Climate Change".

215 "Under a tree in the waning sun, Climate Refugees held a discussion with a small group of Endorois community leaders. The conversation left us with the sense that this community has suffered immense losses that they see cumulatively as cultural erasure."

216 Ibid.

217 "Rising Water Levels in Kenya's Rift Valley Lakes," Kenya and UNDP, 22.

218 "Indigenous Peoples," World Bank, 6 April 2023, https://www.worldbank.org/en/topic/indigenouspeoples#:~:text=There%20are%20an%20estimated%20476,of%20non%2Dindigenous%20people%20worldwide.

the same time, and none of us have anything to share with another."

Turkana pastoralists in Lorengippi provided examples of their sustained cultural losses, "We have our own conflict resolution systems that arise from resource sharing, but our rules and systems are being eroded by climate change. We have been forced to compromise our own cultural practices."

Kaekoroe-Akwaan Village, Lokiriama, Turkana County by Amali Tower/Climate Refugees

15. STORIES OF ENVIRONMENTAL LOSS

THE CASE OF PROSOPIS JULIFLORA OR MATHENGE IN KENYA

Beyond lake rise, droughts and floods, an invasive plant species called Prosopis juliflora or 'Mathenge' as it is called in Kenya, is increasingly contributing to the competition over land and water resources in Baringo, Bogoria, Turkana and surrounding counties.

Even though we have previously lived and traveled widely throughout Kenya, we were not aware of the great challenges imposed by the mathenge plant that communities have long been suffering. In fact, the opportunity to learn about this particular problem would not have been possible without the intention to be open and to create space for communities to disclose wide and far-reaching challenges they face due to climate change.

Communities that Climate Refugees interviewed spontaneously initiated conversation about the thorny shrub, pointing to its rampant overgrowth and the devastating effects that Mathenge is having on livestock, groundwater and community life. Multiple residents in Rugus spoke of the loss of land, complaining of livestock whose teeth and gums have been harmed by the plant's many thorns. Their wide-spread concerns have led us to investigate the plant a bit further.

An evergreen thorny shrub or small tree, Prosopis juliflora is a mesquite plant producing small pods found throughout Mexico, South America and the Caribbean. The plant is considered an invasive species in Kenya and throughout East Africa.[219] In the arid and semi-arid regions (ASALs) of Kenya, it has been found to negatively impact livestock cultivation in pastoral communities.[220] The history behind the introduction of the mesquite plant in East Africa is unclear, but its introduction to Kenya dates sometime between 1970 to 1980.

During Climate Refugees' visit, Mathenge was observed growing wildly throughout Turkana, Bogoria and Baringo, blanketing the region. It's especially problematic in Baringo where the plant was introduced in 1982 seemingly by the Kenyan Government's Kenya Forestry Research Institute (KFRI) and the FAO. [221]

The plant's introduction to Baringo was part of the Fuelwood Afforestation Extension project,[222] initiated as a means to protect natural vegetation from overexploitation from growing populations, reduce soil erosion, prevent desertification, reduce the effects of dust storms and to provide firewood and livestock fodder for pastoralists.

While it has done some of that, the plant has taken over all other natural and indigenous plants in the area. It is notoriously hard to manage because it bears constant fruit, germinates and grows on

219 "Prosopis juliflora," Keys and Fact Sheets, Bio-NET-EARFRINET, n.d., https://keys.lucidcentral.org/keys/v3/eafrinet/weeds/key/weeds/Media/Html/Prosopis_juliflora_(Prosopis_or_Mesquite).htm.

220 Zeraye H. Mehari, "The Invasion of Prosopis Juliflora and Afar Pastoral Livelihoods in the Middle Awash Region of Ethiopia," Ecological Processes 4, no. 13 (2015), 1. https://doi.org/10.1186/s13717-015-0039-8.

221 Charles Lekuyen Nabori et al. v. AG et al. [2008], Republic of Kenya in the High Court of Kenya at Nairobi, Petition 466 of 2006, http://kenyalaw.org/caselaw/cases/view/51663.

222 "Scientists Recommend Measures to Contain Rapid Woody Weed Spread in Baringo County, Kenya", CABI News, 23 May 2019, https://www.cabi.org/news-article/scientists-recommend-measures-to-contain-rapid-woody-weed-spread-in-baringo-county-kenya/.

contact to any moisture, and when cut, regrows rapidly. Today, the plant is considered one of the world's 100 worst invasive plants.[223]

Mathenge thrives in high temperatures and humidity, and once grew rapidly during periods of El Nino. According to Mongabay, "it restored the landscape, but also displaced native vegetation and people."[224]

The plant is so invasive the Ilchamus community of Baringo County brought a lawsuit against the Kenyan government in 2006.[225] The residents' complaint charged that they were misled to believe that Prosopis juliflora would curb deforestation and provide livestock fodder and firewood, while in reality the plant's rapid overgrowth killed indigenous plants in the area, causing a loss of pasture land and livestock and led to the blockage of roads, footpaths and rivers.

The community eventually won their lawsuit, but residents in Rugus told Climate Refugees "when the plant was brought in, it took the land away, and while we are legal victors, we lack the financial means to enforce compensation."

"'Our animals have no grazing land, only Prosopis,' one pastoralist said. 'They eat the pods, and we have no other food, so we feed it to them as well. The pods and the thorns are destroying our animals' teeth and gums.'"

PASTORALIST, BARINGO COUNTY

Other communities in Turkana see the effects of the drought being amplified by deforestation and the Mathenge plant. "Our forests are damaged. We used to have acacia trees everywhere that provided shade. Now trees are dying; we not only have no water, we also have no shade to protect us from this heat."

Scientists' findings concur with community experiences, pointing to the invasive nature of the plant that has now spread rapidly into natural shrubs, grasslands and croplands. A 2019 study undertaken by researchers at the Institute for Climate Change and Adaptation at the University of Nairobi found that the plant's rate of invasion is a major threat to the environment, economy and people, precisely because it depletes the groundwater table, suppresses rural livelihoods, negatively impacts livestock health and production, and increases costs of crop cultivation.[226]

Using satellite data, the study also documented the shrub's rapid expansion from 882 hectares in 1988 to 18,792 hectares in 2016. In that same period, grasslands declined by 86%, irrigated croplands by 57% and rainfed cropland by 37%. The authors concluded that besides weather changes, deforestation, overgrazing and land clearing, the "Prosopis invasion was the cause of over 30% of these negative changes and the biggest driving force behind shrinking grasslands and croplands in the region"[227] The authors say the extensive growth of Prosopis is accelerated from seed spread by livestock and wildlife to extreme climatic events like the 2013 floods, causing

223 S. Lowe et al., "100 of the World's Worst Invasive Alien Species," IUCN et al., 2000, https://portals.iucn.org/library/sites/library/files/documents/2000-126.pdf.

224 Rosalia Omungo, "Kenyan Charcoal Businesses Trying to Nip Invasive Tree in the Bud," Mongabay, 30 October 2018, https://news.mongabay.com/2018/10/kenyan-charcoal-businesses-trying-to-nip-invasive-tree-in-the-bud/.

225 Lekuyen Nabori et al. v. AG et al. [2008], Republic of Kenya in the High Court.

226 Purity Rima Mbaabu et al., "Spatial Evolution of Prosopis Invasion and its Effects on LULC and Livelihoods in Baringo, Kenya," Remote Sensing 11, no. 10 (May 2019), https://www.mdpi.com/2072-4292/11/10/1217/htm.

227 Purity Rima Mbaabu, "Kenya Faces Devastating Prosposis Invasion: What Can Be Done," The Conversation, 14 July 2019, https://theconversation.com/kenya-faces-devastating-prosopis-invasion-what-can-be-done-118858.

Camels feeding on the pods that Prosopis juliflora produces in Turkana County by Amali Tower/Climate Refugees

significant economic damage by severely limiting livestock production, increasing agricultural costs and consuming a lot of water.[228]

Kenya's Environment and Forestry Cabinet Secretary Keriako Tobiko recently declared Prosopis a threat to national security. Speaking in Baringo County last year on the UN's World Day to Combat Desertification and Drought, Tobiko cited the plant's devastating effects in 20 Kenyan counties, spreading at a rate of 15% yearly and occupying 2 million hectares of land.[229]

Local residents told Climate Refugees they feed their livestock the seed pods that Prosopis produces, and following a plant management program instituted by the Kenyan government, communities harvest the mesquite trees to produce charcoal, a carbon-based fuel, and other commercial products as sources of income. Charcoal production is prolific throughout the region, and was widely observed during Climate Refugees' travels.

Turkana county is believed to have the most Mathenge trees in the country, amounting to twice the size of the massive Masai Mara National Reserve. Impoverished Turkana residents are concerned about the plant's impacts on farms, animals and groundwater, but survive on contracts to supply firewood to Kakuma Refugee Camp and through production of charcoal.[230] A youth leader in the Turkana village of Loya spoke passionately about the uncontrolled spread of Prosopis "contributing a lot" to challenges like a lack of grazing land and water. "Governments must come together to solve the problem of the Prosopis," he said. "We don't need short-term food relief, we need long term solutions like eliminating the Prosospis tree and replacing it with good trees."

228 "Scientists Recommend Measures," CABI News.

229 Liz Anyango, "Mathenge Tree Declared a Threat to National Security in Kenya," Talk Africa, 21 June 2022, https://www.talkafrica.co.ke/mathenge-tree-declared-a-threat-to-national-security-in-kenya-cs-tobiko/.

230 Omungo, "Kenyan charcoal businesses".

Numerous herders in Baringo, Bogoria and Turkana spoke of their struggles with Prosopis and their livestock. "Our animals have no grazing land, only Prosopis," one pastoralist said. "They eat the pods, and we have no other food, so we feed it to them as well. The pods and the thorns are destroying our animals' teeth and gums," he said.

Until recently, the Kenyan government has been controlling the spread of Prosopis through a 'management by utilization' method, filling shortages in firewood and charcoal that about 70% of Kenyans rely upon, however the strategy has not stemmed the annual growth rate of 4 to 15%.[231] Not only is the plan ineffective in curbing the plant, it is also unsustainable. The government pursued a deforestation alongside reforestation policy by encouraging communities to reseed harvested areas with grass to sustain livestock, possibly explaining the observed increase in grassland between 2009 and 2016. However, the study's results concluded the plant management scheme is ultimately ineffective because residents do not completely remove the plant stumps, resulting in the plant's continued regrowth.[232]

Even if reforestation had been successful, the deforestation part of the plan is counter-productive to efforts to curb climate change. According to the UN, an estimated 1 to 2.4 gigatons of CO2e of greenhouse gasses are "emitted annually in the production and use of fuelwood and charcoal, which is 2–7% of global anthropogenic emissions."[233] With about 70% of Kenyans reliant on charcoal for energy, the high carbon emissions in charcoal production via traditional kilns exacerbate the already extreme climate effects and pose health risks to highly vulnerable communities.[234] According to one study by the Environment and Forest Ministry, the totality of Kenya's Mathenge trees could produce 30 billion Kenyan shillings or 295 million USD worth of charcoal.[235] Thus alternate clean fuels or in the absence of that, sustainable charcoal production that reduces emissions and lower health and climate risks must be a top priority.

"Experts say the extensive growth of Prosopis is accelerated from seed spread by livestock and wildlife to extreme climatic events like the 2013 floods, causing significant economic damage by severely limiting livestock production, increasing agricultural costs and consuming a lot of water."

Noting the utilization methods ineffectiveness, the Kenyan government has now introduced a National Strategy and Action Plan to manage the colonizing plant through a combination of biological, chemical, mechanical and utilization methods that will involve communities in prevention and intervention systems.[236]

The plant is having devastating impacts on peoples' lives. Their testimonies and the legal actions

231 Simon Choge Kosgei, Purity Rima Mbaabu and Gabriel Mukuria Muturi, "Chapter 5 - Management and control of the invasive Prosopis juliflora tree species in Africa with a focus on Kenya," in Prosopis as Heat Tolerant Nitrogen Fixing Desert Food Legume, edited by María Cecilia Puppo and Peter Felker (Eslevier, 2022), https://www.sciencedirect.com/science/article/abs/pii/B9780128233207000249.

232 Mbaabu, "Kenya Faces Devastating Prosopis". Mbaabu, "Kenya Faces Devastating Prosopis".

233 "The Charcoal Transition," FAO, 2017, 2, https://www.uncclearn.org/wp-content/uploads/library/charcoal.pdf.

234 "Charcoal: a burning issue," UNEP, 27 December 2019, https://www.unep.org/news-and-stories/story/charcoal-burning-issue#:~:text=Studies%20have%20identified%20charcoal%20production,a%20waste%20of%20wood%20resources.

235 Omungo, "Kenyan charcoal businesses".

236 Choge Kosgei et al., "Chapter 5".

pursued by local communities more than confirms that. In the era of the climate crisis, there is a need for their concerns to be heard, further studied and truly addressed, chiefly to assess whether Prosopis juliflora is contributing to adverse impacts of climate change, and to incorporate the realities of the plant into any existing and future environmental, climate, economic, and human security policymaking.

Prosopis Juliflora, Wikipedia Image

“Governments must come together to solve the problem of the Prosopis. We don’t need short-term food relief, we need long term solutions like eliminating the Prosospis tree and replacing it with good trees.”

YOUTH LEADER, LOYA VILLAGE, TURKANA COUNTY

16. CLIMATE DISPLACED POPULATIONS IN KENYA'S REFUGEE CAMPS

Unfortunately, it's not only Kenyans who are feeling escalating climate change effects. In the face of the Horn of Africa crisis, many of Kenya's neighboring countries are also dealing with similar climate shocks, driving displacement across borders in order to seek shelter and protection within Kenya's borders. When the drought intensified and 83,000 refugees fled Somalia, Ethiopia and South Sudan, 83% of them sought refuge in Kenya.[237] But with 80-90% of reservoirs drying up in Turkana alone, [238] where one of Kenya's refugee camps is situated, many are finding little relief in Kenya either.

The IPCC notes the high risk for refugees and internally displaced persons to fall into "climate traps" because of the high likelihood of settlements being disproportionately situated in highly vulnerable climate zones, and also, because forcibly displaced people lack the means to migrate away from climate hazardous zones.[239] Even in refuge, refugees face high exposures to climate risks because highly climate vulnerable countries host over 40% of the world's refugees.[240]

Kenya is home to two of the largest refugee camps in the world: Kakuma Refugee Camp and Dadaab Refugee Camp. Dadaab lies in the northeastern Garissa County, along Kenya's border with Somalia, in a region also grappling with intense drought and climate hazards, while Kakuma sits within the highly impoverished and climate-vulnerable Turkana County, at Kenya's border with South Sudan.

KAKUMA REFUGEE CAMP

We visited Kakuma Refugee Camp and Kalobeyei Integrated Settlement during our travels through Turkana county. The camp itself is divided into four sections: Kakuma 1, 2, 3 and 4, while Kalobeyei comprises three villages: Village 1, 2 and 3. Both the camp and the settlement are home to approximately 230,000 refugees from 19 different countries.[241]

One such country is South Sudan. Deng Dak Malual[242] is a South Sudanese refugee living in Kakuma camp. Separated from his parents while fleeing conflict in South Sudan, he arrived in Kakuma at age 13 in 2006.

Now an adult and refugee-advocate leading multiple refugee social enterprises, including in the

237 Kyilah Terry and Aishwarya Rai, "Amid Record Drought and Food Insecurity, East Africa's Protracted Humanitarian Crisis Worsens," Migration Policy Institute (MPI), 18 January 2023, https://www.migrationpolicy.org/article/east-africa-drought-food-insecurity-refugees.

238 Morgan Winsor et al., "Millions of lives at risk as famine stalks Horn of Africa," ABC News, 11 May 2022, https://abcnews.go.com/International/millions-lives-risk-famine-stalks-horn-africa/story?id=84643535.

239 Birkmann et. al., "Poverty, Livelihoods and Sustainable Development," 1183 (box 8.1).

240 "Climate Action Brief," UNHCR, November 2021, https://reliefweb.int/report/world/climate-action.

241 "Kakuma Camp and Kalobeyei Settlement Visitor's Guide, " UNHCR Kenya, n.d., 3, https://www.unhcr.org/ke/wp-content/uploads/sites/2/2018/02/UNHCR-Sub-Office-Kakuma-Visitors-Guide.pdf.

242 "Deng Dak Malual," World Economic Forum, n.d., https://www.weforum.org/people/deng-dak-malual.

Refugees traverse via motorbike in Kakuma Refugee Camp, Turkana County by Amali Tower/Climate Refugees

World Economic Forum's Global Shapers Kakuma Hub, Deng says it is evident that many new arrivals to Kakuma today are fleeing the impacts of climate change in their home countries.

"The highest number of new asylum seekers are coming from South Sudan," he says, fleeing the effects of one and a half years of flooding, which suddenly stopped when the Horn of Africa drought began in 2020. More than half of South Sudan's 6.3 million population were facing acute food insecurity at the end of 2022.[243]

He says a smaller number of Somali refugees, fleeing the harsh effects of the drought, are also showing up in Kakuma. Many Somalis have left Somalia's harsh drought for refuge in Ethiopia, Yemen and Kenya's other refugee camp, Dadaab, situated on the Kenya/Somalia border.

"Even as we speak, the reception center in Kakuma 3 is full of new arrivals, mostly from my country of South Sudan, and some Somalis as well", who Deng believes will likely transfer to Dadaab camp.

Kakuma 3 is only supposed to hold 2,000 people, he says, but currently the center is housing 6,000 new asylum seekers. Kalobeyei settlement is housing a further 9,000, even if the shelter only has capacity for 3,000 people.

According to UNHCR, South Sudanese refugees constitute the largest protracted situation on the African continent. Over 2.3 million refugees are now living in neighboring countries, fleeing "various factors such as the extreme drought and food security situation in the region." Just since the beginning of 2022, 90,000 South Sudanese have fled to neighboring countries, fleeing sporadic violence, chronic food insecurity and devastating flooding, which have had disastrous setbacks to hard-fought humanitarian gains.[244]

243 Terry and Rai, "Amid Record Drought".

244 "South Sudan Situation", UNHCR, 2023 situation overview, https://reporting.unhcr.org/operational/situations/south-sudan-situation#:~:text=have%20been%20recorded.-,After%20nearly%20a%20decade%20of%20conflict%20and%20despite%20efforts%20toward,achievements%20on%20the%20humanitarian%20front.

Deng is surprised to see how many people are fleeing the effects of climate change. He says, "In many ways, it's better to be fleeing war because at least you can hide from war, like I did in the forest. With climate change, there is no hiding. If the issue is hunger, you remain hungry. If there's no water, you remain thirsty. There is nowhere to hide from climate change."

To determine refugee protection needs, and with so many of Kakuma's recent arrivals facing climate hardships, we wondered whether new asylum seekers in Kenya were being asked about any climate change effects they may be fleeing or whether asylum seekers were disclosing the climate drivers behind their cross-border displacement.

Unfortunately, due to the lengthy pause on refugee eligibility interviews in Kenya, we were unable to identify suitable climate-impacted populations to interview during our visit. We did, however, ask partners and other stakeholders for their thoughts.

Deng believes from his own experience and deep connection to the South Sudanese community that no one would mention their climate change situation to an official refugee eligibility officer. "We are fearful of being denied asylum, so we know what to say that fits the refugee definition because we don't want to give them a reason to send us back," he said.

The 1951 Refugee Convention recognizes a refugee as someone in need of international protection that flees across borders due to conflict or persecution on the basis of race, religion, nationality, political opinion or membership in a particular social group. The process of being conferred 'refugee' status is a legal one. In Kenya, it is based on the 2006 Refugee Act, which is informed by the 1951 Refugee Convention and the 1969 Organization of African Unity Refugee Convention.

Registration as well as official Refugee Status Determinations (RSD) are now conducted by the Government of Kenya's Refugee Affairs Secretariat (RAS), who officially took over the RSD interview process from UNHCR in 2015[245], but didn't fully transition until 2017, according to the UNHCR staff we consulted. Due to a variety of reasons from refugee case backlogs, training and streamlining of processes during the takeover and implementation, RSD interviews have been slow to resume, post-takeover from UNHCR. Although UNHCR Kenya notes RAS has resumed RSD interviews in Kakuma in January 2021,[246] staff on the ground shared that the process has been slow and haphazard in implementation thus far, so it is difficult to know whether any population is going through the full RSD process as yet.

"It's better to be fleeing war because at least you can hide from war, like I did in the forest. With climate change, there is no hiding. If the issue is hunger, you remain hungry. If there's no water, you remain thirsty. There is nowhere to hide from climate change."

DENG DAK MALUAL, SOUTH SUDANESE REFUGEE LIVING IN KAKUMA REFUGEE CAMP

According to published information, all asylum seekers, with the exception of

245 "Letter of Intent between the Department of Refugee Affairs and UNHCR on the Process of Gradual Assumption of the Responsibility for Refugee Status Determination by the Government of Kenya," UNHCR Kenya, September 2015, Refugee Status Determination Strategy, Kakuma Refugee Camp, Kenya, https://data.unhcr.org/en/documents/download/65134.

246 "Eligibility/Refugee Status Determination," UNHCR Kenya, n.d., https://help.unhcr.org/kenya/kakuma/refugee-status-determination/.

persons from South Sudan, are subject to an RSD interview.[247] It would seem asylum seekers from South Sudan are recognized as refugees on a prima facie basis. [248]

UNHCR Kenya tells us their primary concern is whether refugees are receiving full services and protection under either the 1951 Refugee Convention or the 1969 OAU Convention, which widens protection to persons fleeing "external aggression, occupation, foreign domination or events seriously disturbing public order."[249] In 2011, during yet another drought in the Horn of Africa, Kenya received 400,000 new asylum seekers. At that time, although not official, there was tacit approval to apply the 1969 OAU Convention defining the drought as events "seriously disturbing public order" in order to provide protection services and refugee status to the new arrivals.[250]

Local staff at the Danish Refugee Council's (DRC) Kakuma camp office tell us it is evident that many refugees are fleeing the effects of climate change, but it is hard to know the details since most refugees are not going through eligibility interviews.

Despite this, DRC is providing climate resilience programming to combat the effects of climate change on refugee populations in Kakuma and on the Turkana host community in Kakuma town. Deng's organization Prime Demand Solution is providing climate change education programming and youth empowerment in Kakuma's primary schools, including tree planting to create shelter from the sun and barriers against the encroaching desert sands in the camp.

As he sees it, "20th century refugees were primarily worried about wars and in displacement locations, sought shelter, food and safety. But 21st century refugees are fleeing multiple crises, including climate change, and it's important government's realize that today's refugees can be major contributors to local economies."

"I have never experienced this kind of drought. It forced me to flee my country in search of food."

RECENT SOMALI REFUGEE TO UNHCR UPON ARRIVAL IN DADAAB REFUGEE CAMP, KENYA

DADAAB REFUGEE CAMP

Lying 55 miles away from Kenya's northeastern border with Somalia, Kenya's oldest refugee complex Dadaab, first built in the 1990s to accommodate Somali refugees fleeing conflict, is now swelling with new arrivals from Somalia fleeing climate change.

According to UNHCR, devastating drought is the primary driver, forcing over 110,000 Somalis to flee to Kenya over the last two years.[251] That now puts Dadaab's population at well over 350,000, straining already overstretched resources and the overcrowded capacity of Dadaab's three camps, Hagadera, Ifo and Dagahaley.

UNHCR staff we spoke to in April 2023 said many new arrivals have not yet been registered, are living informally, but have been enrolled in order to receive basic services.[252] However, July media reports suggest Dadaab has received 135,000 new Somali arrivals, with the Kenyan government

247 "Refugee Status Determination," UNHCR Kenya, n.d., https://www.unhcr.org/ke/refugee-status-determination.

248 KII with Markus Topp, Senior Protection Officer for IDPs, Mixed Movement, Climate-Induced Displacement, Regional Bureau for East, Horn of Africa and Great Lakes, UNHCR (Nairobi, Kenya: 4 April 2023).

249 Convention Governing the Specific Aspects of Refugee Problems in Africa (Organisation of African Unity, 1969), art. 1.2, https://www.refworld.org/docid/3ae6b36018.html.

250 KII with Topp.

251 "Kenya's Dadaab Camp Swells with Somalis Fleeing Drought, Conflict," UNHCR, 28 February 2023. https://www.unhcr.org/news/kenyas-dadaab-camp-swells-somalis-fleeing-drought-conflict.

252 KII with Topp.

resuming registration in February, allowing some to access food rations.[253]

Having made the multiple day journey to Dadaab, many refugees do not find food and shelter immediately upon arrival. Scarce resources and backlogs in registration force new arrivals to share services with extended families and community members. Long-term residents are feeling the strains of drought and economic slowdown as well. In the past year, the International Rescue Committee reported 32 children dying of malnutrition[254] in just one section of the camp where they work, while Médecins Sans Frontières said its health facility in Dagahaley has treated 33% patients - mostly children - over the past year. They report a 45% uptick in cases of malnutrition in just the latter half of 2022 and a rise in cases of cholera in the overcrowded camps, and outside the camps as well where around 800 families without access to basic amenities.[255]

> **"Extreme weather events are not slowing down - the population is exhausted from battling a debilitating drought, and now wading through life-threatening flood waters."**
>
> WFP DADAAB HEAD OF OFFICE SARAH BORCHERS

Describing her reasons for flight, one 82-year old refugee woman said "I have never experienced this kind of drought. It forced me to flee my country in search of food."[256]

Another refugee Guuray Abdi, 68, told UNHCR that although she had endured 30 years of conflict in Somalia, there was no way to withstand the crippling hunger. The drought destroyed her family's crops and killed all their livestock. "The drought is worse than the ongoing conflict in Somalia, it made life even more difficult. Imagine not being able to feed your children and they sleep on hungry stomachs," Abdi said.

Refugees who have lived in Dadaab since its inception say although Dadaab's residents have suffered many challenges over the years, those situations pale in comparison to today's plight. And new arrivals like Shamsa Amin Ali say, "I cannot go back to Somalia because the challenges are still there. The drought is still there. My farm, animals and even my house have been destroyed, so there is nothing to go back to."

The World Food Programme is straining to meet the increasing demands for food in Kenya. Refugees in Dadaab camp alone account for more than 50% of the approximately 600,000 refugees WFP assists in Kenya.[257] Limited humanitarian funding as a result of global economic slowing and climate change effects are multiplying vulnerabilities and threatening further displacement. After months of drought, heavy rains created flash floods across Somalia and Kenya in April 2023, killing more livestock, destroying homes and straining the resilience of already fragile communities.

253 Evelyne Musambi, "In a Refugee Camp in Kenya, Food Shortages Left Kids Hungry Even Before Russia Ended Grain Deal," Los Angeles Times, 20 July 2023, https://www.latimes.com/world-nation/story/2023-07-20/in-a-refugee-camp-in-kenya-food-shortages-left-kids-hungry-even-before-russia-ended-grain-deal.

254 Ayenat Mersie, "Fleeing Drought, Somalis Face Malnutrition and Cholera in Kenya." Reuters, 27 February 2023, https://www.reuters.com/world/africa/fleeing-drought-somalis-face-malnutrition-cholera-kenya-2023-02-27.

255 Caroline Kimeu, "Children Go Hungry at Kenya Refugee Camp as Malnutrition Soars," The Guardian, 26 January 2023, https://www.theguardian.com/global-development/2023/jan/26/children-go-hungry-at-kenya-refugee-camp-as-malnutrition-numbers-soar#:~:text=Around%20800%20families%20currently%20live,without%20access%20to%20basic%20amenities.&text=MSF%20has%20also%20raised%20concerns,been%20reported%2C%20according%20to%20MSF.

256 "Kenya's Dadaab camp swells," UNHCR, https://www.unhcr.org/news/kenyas-dadaab-camp-swells-somalis-fleeing-drought-conflict.

257 "Hit by Multiple Crises,Tens of Thousands of Somalis Flock to Refugee Camps in Kenya," WFP, 4 May 2023, https://www.wfp.org/stories/hit-multiple-crises-tens-thousands-somalis-flock-refugee-camps-kenya.

17. LEGAL PROTECTIONS AND POLICY FRAMEWORKS FOR PEOPLE DISPLACED BY CLIMATE CHANGE

As previously mentioned, the 1951 Refugee Convention recognizes a refugee as someone in need of international protection that flees across borders due to persecution on the basis of race, religion, nationality, political opinion or membership in a particular social group. Today, people fleeing conflict and persecution that meet the threshold of this definition are generally regarded as refugees, whether under UNHCR's mandate for protection or being granted this legal status by the government of the country of asylum.

People displaced across borders by climate change-induced events, however, do not fit this rather narrow definition determined in 1951. With over 70% of refugees and displaced people today coming from the most climate-vulnerable countries, it would seem that our international refugee protection system has not kept pace with the dynamics of global displacement today.[258] People displaced in part or whole by climate change need robust protections - legal and policy-based - to minimize the losses and damage they experience and to ensure they are able to move with dignity and agency. To make this a reality, the current protection patchwork will need to be strengthened and expanded.

INTERNATIONAL PROTECTION MECHANISMS AND FRAMEWORKS

With the exception of Eritrea, Kenya and its neighbors are parties to the 1951 Refugee Convention and its 1967 Protocol Relating to the Status of Refugees, both of which are legally binding.[259] While this provides a critically important avenue for protection for those fleeing across borders from conflict and persecution along grounds of race, religion, nationality, political opinion or membership in a particular social group, it falls short for those displaced internationally by climate change. As UNHCR and others continue their efforts to clarify what 'persecution' means, and how those displaced by climate change may - or may not - fit into these existing agreements,[260] there remains a massive protection gap that demands urgent and innovative solutions at the international level.

Thankfully we are starting to see shifts in how the UN system approaches the issue of climate displacement. The Global Compact on Refugees (GCR), affirmed by the UNGA in late 2018, is concerned primarily with improving global coordination and responsibility-sharing around refugees, [261] but does usefully recognize that "sudden-onset natural disasters and environmental degradation" may

258 Kristy Siegfried, "Displaced people from climate frontlines raise their voices at COP27," UNHCR, 18 November 2022, https://www.unhcr.org/news/stories/displaced-people-climate-frontlines-raise-their-voices-cop27.

259 Rebecca Roberts and Gwendolyn L. Roeske, "Human Mobility and Climate Change in the IGAD Region," UNHCR, 2023, 34, https://www.unhcr.org/africa/sites/afr/files/2023-05/human_mobility_and_climate_change_in_the_igad_region.pdf; Convention and Protocol Relating to the Status of Refugees, UNHCR/UNGA, https://www.unhcr.org/sites/default/files/legacy-pdf/3b66c2aa10.pdf.

260 Roberts and Roeske, "Human Mobility," 34-35.

261 "The Global Compact on Refugees," UNHCR, https://www.unhcr.org/about-unhcr/who-we-are/global-compact-refugees.

drive displacement.[262] Around the same time, the majority of UN member states adopted the Global Compact for Safe, Orderly and Regular Migration (GCM)[263], which contains several references to 'environmental migration' as well as sudden and slow onset events.[264] Unfortunately, environmental migration tends to be a catch-all term that does not necessarily refer to climate change-induced migration. Further, the agreement - like the GCR - is not legally binding, though that did not prevent several countries, including the United States,[265] from opposing it at one time, although it has since adopted the Compact.[266]

These stumbling blocks do not change the need for protection mechanisms, but rather highlight the importance of using a variety of tools, both existing and still to be developed, in order to protect and uphold the rights of those displaced by climate change. "The international community must realize its responsibility to protect people displaced across borders by climate change impacts."[267] This was the clear yet urgent message by Ian Fry, the first and newly appointed United Nations Special Rapporteur on the promotion and protection of human rights in the context of climate change, as he presented findings from his report "Providing legal options to protect the human rights of persons displaced across international borders due to climate change"[268] to the UN Human Rights Council in Geneva in June 2023.

Fry's report provides key recommendations for states and policymakers. First, he recommends the establishment of a new protocol under the 1951 Refugee Convention to give legal protection to persons displaced across international borders due to climate change. Until such a protocol is established, the Special Rapporteur urges all nations to develop national legislation that provides humanitarian visas for persons displaced across international borders due to climate change. It is important that states, who still differ on the terminology used to describe this phenomenon,[269] nevertheless implement protection measures with urgency. Fry also suggests that regional human rights bodies expand their definition of refugees to include these individuals, highlighting the importance of a multi-level approach.

Speaking to the migration and displacement that climate change is forcing upon communities, residents in Loya Village in Turkana County suggested that the Kenyan government and civil society work together to help affected Kenyans "appeal to tribes to depend on each other for mutual dependency and free movement to cope and accommodate peacebuilding and conflict resolution. Because our closest towns are in Uganda and in West Pokot in Kenya, we need peaceful relations."

Loya's local pastor says, "if there is good cooperation between Turkana and other counties, and those in Uganda, then people can share resources and each benefit. We can trade mutually as a cooperation mechanism, instead of what is happening now, which is migration through fear."

Notwithstanding the significant and much-needed call for new protection mechanisms from the Special Rapporteur, in the interim, Africa and East Africa have several regional instruments of cross-

262 Global Compact on Refugees (New York: United Nations, 2018), 6 (para. 12), https://www.unhcr.org/sites/default/files/legacy-pdf/5c658aed4.pdf; Roberts and Roeske, "Human Mobility," 35.

263 "Global Compact for Migration," International Organization for Migration (IOM), n.d., https://www.iom.int/global-compact-migration.

264 Roberts and Roeske, "Human Mobility," 30; Dina Ionesco and Mariam Traore Chazalnoël, "10 Key Takeaways from the GCM on Environmental Migration," International Organization for Migration (IOM), n.d., https://environmentalmigration.iom.int/10-key-takeaways-gcm-environmental-migration.

265 "National Statement of the United States of America on the Adoption of the Global Compact for Safe, Orderly, and Regular Migration," United States Mission to the United Nations, 7 December 2018, https://usun.usmission.gov/national-statement-of-the-united-states-of-america-on-the-adoption-of-the-global-compact-for-safe-orderly-and-regular-migration/#:~:text=The%20United%20States%20did%20not,contained%20in%20the%20Compact%20itself.

266 Stefano Fella, "The United Nations Global Compact for Migration," UK House of Common Library, 16 August 2019, 14-15, https://researchbriefings.files.parliament.uk/documents/CBP-8459/CBP-8459.pdf. See also: "Revised National Statement of the United States of America on the Adoption of the Global Compact for Safe, Orderly and Regular Migration," US Department of State, 17 December 2021, https://www.state.gov/wp-content/uploads/2021/12/GCM.pdf.

267 "Legal Protection Essential for People Displaced by Climate Change: UN Expert," UN News, 27 June 2023, https://news.un.org/en/story/2023/06/1138147.

268 "Providing legal options to protect the human rights of persons displaced across international borders due to climate change," Report of the Special Rapporteur on the promotion and protection of human rights in the context of climate change, Ian Fry, UNGA, Human Rights Council doc. A/HRC/53/34, 18 April 2023, https://undocs.org/A/HRC/53/34.

269 Ibid, 2-3 (para. 4).

border cooperation that are instructive for global cooperation.

REGIONAL AGREEMENTS TO FACILITATE FREE MOVEMENT ACROSS BORDERS AND PROTECT DISPLACED PEOPLE

Various regional agreements exist which may be of relevance to those displaced by climate change. While examples can be found in other regions, our primary focus here is on those relevant for the communities represented in this report. Importantly, regional solutions may help move beyond the Global North-dominated policy arena that tends to downplay climate change causality, an issue Fry highlighted in his report.[270]

The 1969 Convention Governing Specific Aspects of Refugee Problems in Africa, a legally-binding agreement of the African Union's (AU) predecessor the Organization of African Unity (OAU),[271] provides a potentially useful model for expanding the refugee definition on a regional basis, as suggested by Fry's report. The Convention includes a wider definition of reasons where people might be "compelled to leave" their homes "to seek refuge outside their country of origin or nationality."[272] This includes "events seriously disturbing the public order" which it has been argued may include displacement due to the "adverse effect of climate change."[273]

Of particular relevance for communities in Kenya are tools developed by the eight countries that make up the Intergovernmental Authority on Development (IGAD) and the seven countries that comprise the East African Community (EAC). Last year, IGAD and EAC signed the Kampala Ministerial Declaration on Migration, Climate Change and Environment.[274] The declaration specifically notes the UNFCCC call to coordinate and cooperate on climate change-induced displacement, migration and planned relocation at national, regional and international levels, and among other commitments, agrees to "create adaptive mechanisms for safe migration," take actions to avert, address and minimize internal and cross-border displacement in the context of climate change, and create a multi-partner finance agreement on loss and damage.

It is not altogether surprising that countries on the frontlines of the climate crisis would be the first to establish an agreement that addresses people fleeing climate change and disasters specifically. In 2020, IGAD established The Protocol on the Free Movement of Persons in the IGAD Region (herein The Protocol on Free Movement), which ensures the movement of people across borders in temporary and circular migration patterns.[275] The Protocol on Free Movement ensures "the right of citizens of a Member State, to enter, stay, move freely, study, work, establish business."[276] The Protocol recognizes the positive effects of migration that can mitigate the impacts of poverty, conflict, unemployment and underemployment, but also drought, disasters, climate change and environmental degradation that drive displacement and migration. It is worth noting that a similar treaty exists under the auspices of the AU,[277] though progress on ratification has stalled,[278] and it is

270 Ibid, 17 (para. 63).

271 Roberts and Roeske, "Human Mobility," 36.

272 Convention Governing the Specific Aspects of Refugee Problems in Africa (OAU, 1969), art. 1.2; Roberts and Roeske, "Human Mobility," 36.

273 "Legal considerations regarding claims for international protection made in the context of the adverse effects of climate change and disasters," UNHCR, 1 October 2020, https://www.refworld.org/docid/5f75f2734.html; Roberts and Roeske, "Human Mobility," 36.

274 Kampala Ministerial Declaration on Migration, Environment and Climate Change, (IGAD, 29 July 2022), https://environmental-migration.iom.int/sites/g/files/tmzbdl1411/files/documents/Kampala%20Ministerial%20Declaration%20on%20MECC_English%20signed.pdf.

275 Protocol on Free Movement of Persons in the IGAD Region, (IGAD, 26 February 2020), https://environmentalmigration.iom.int/sites/g/files/tmzbdl1411/files/event/file/Final%20IGAD%20PROTOCOL%20ENDORSED%20BY%20IGAD%20Ambassadors%20and%20Ministers%20of%20Interior%20and%20Labour%20Khartoum%2026%20Feb%202020.pdf.

276 Ibid, 3 (art. 1: Definitions).

277 Protocol to the Treaty Establishing the African Economic Community Relating to Free Movement of Persons, Right of Residence and Right of Establishment (African Union, 2018), https://au.int/en/treaties/protocol-treaty-establishing-african-economic-community-relating-free-movement-persons.

278 Alan Hirsch, "African countries are stuck on the free movement of people. How to break the logjam," The Conversation, 16 January 2022, https://theconversation.com/african-countries-are-stuck-on-the-free-movement-of-people-how-to-break-the-log-jam-174720.

not yet in force. [279]

In addition to the Protocol on Free Movement, the IGAD Protocol on Transhumance, adopted in June 2021, specifically aims to address the unique needs and challenges of pastoralists who practice seasonal movement of livestock in the region. It acknowledges the impact of climate change and weather extremes on transhumance by calling on member states to facilitate adaptation mechanisms and harmonization of policies on various relevant issues, including the "free, safe and orderly cross-border mobility of transhuman livestock and herders in search of pasture and water."[280]

Of particular note that is worthy of replication in other transboundary migration agreements, is the accommodation that the Protocol on Transhumance makes for communities who lack official identification documents, a practical necessity amongst pastoralist communities we encountered. As part of its implementation, IGAD is initiating the IGAD Transhumance Certificate in 2023, which will be issued by countries of origin to pastoralists, and in addition, will record ownership details about the livestock each pastoralist owns.[281] This additional facilitation is truly reflective of the local community needs, and goes a long way in addressing and alleviating root causes of cattle rustling and conflict, grounded in land tenure and resource scarcity.

IGAD is also cooperating with information sharing and early warning systems, but local civil society experts we spoke to say implementation of these systems are sporadic and are as yet ineffective. Experts say for better early warning systems, IGAD countries need to gather, coordinate and report data, implementing information tracking with local, federal and regional governments, including intergovernmental organizations like the AU, UN and local and global civil society.

Migrants and displaced persons interviewed told us they had successfully received a right of admission to stay and pathways to citizenship in IGAD countries. However, Danish Refugee Council staff in Lodwar told us, while the Turkana are able to move to Uganda, the Ugandan government does not allow them to hold land. Therefore the Turkana go with firearms to protect themselves from the inevitable land, water and resource conflicts that arise between the Turkana and the Jie, Dodoth and Tepeth tribes.

DRC says some have moved to Ethiopia as well in search of water and pasture land. However, the Ilemi triangle at the intersections of Ethiopia, Kenya and South Sudan is a "no man's land," even if it is rich in resources that pastoral communities cannot access. Staff we spoke to at LOKADO say while Uganda is planning for cross-border movement, Ethiopia's border migration systems are lacking to accommodate the influx of people on the move due to regional climate impacts. Ethiopia is guided by IGAD protocols, but implementation, notably scaling up and training border staff on IGAD protocols, remains poor. This situation, they say, is leading to migrants not being allowed into the country.

DRC staff say a lot more can be done to prioritize and be proactive about climate change at the county level. They suggest parties implement much stronger policies at the county, borderlands and cross-border levels to protect pastoral communities.

Experts tell us when violent skirmishes arise, the Ugandan government blames the Turkana people. They say, the strong power and presence of Uganda's Yoweri Museveni government serves as a deterrent against full scale violence between migrating groups, but given the president's advancing years, there is concern whether this strongman approach will continue to serve as a deterrence against conflict in a post-Museveni Uganda.

Although robust implementation must be gauged, through these various protocols that exist, it would seem IGAD countries are cognizant of ensuring policies and practices that ensure a person's right to stay and their right to migrate in situations where climate change is driving untenable

279 "OAU/AU Treaties, Conventions, Protocols & Charter," African Union, accessed 26 July 2023, https://au.int/en/treaties/1162.

280 IGAD Protocol on Transhumance, (IGAD, February 2020), 6 (art. 2), https://icpald.org/wp-content/uploads/2021/06/IGAD-PROTOCOL-ON-TRANSHUMANCE-Final-Endorsed-Version.pdf; Roberts and Roeske, "Human Mobility," 33-34.

281 Roberts and Roeske, "Human Mobility," 34.

situations. These instruments extend a policy of welcome to migrants, instead of the growing Global North border security policies that tend to criminalize migrants. Importantly, IGAD cooperation also extends to ensure that displaced communities' livelihoods are restored, as much as possible, in situations of migration and displacement, and it is hoped will also ensure land rights for migrants that must stay. Collectively, all of these cooperative regional policies should be the goal for other regions experiencing cross-border climate change migration, as well as at the global level for all climate displaced persons.

Many pastoral communities told us about their temporary and permanent movement from Kenya to the Ugandan highlands, where water and grazing land are more available, noting that historic circular movements were becoming increasingly permanent due to sustained climate change impacts. Particularly acute are historic conflicts of cattle rustling in Turkana and between the peoples of Pokot and Baringo counties.

At the same time, it is true that as with any multilateral agreement, signatures and ratification do not guarantee action. Full implementation of the IGAD protocols and related frameworks are sometimes hindered by a number of factors, including the complexity of coordination across multiple jurisdictions, intermittent border closures during times of heightened tensions, a lack of protection and operational capacity in the face of multiple crises, and a lack of data on how climate change impacts mobility-related decisions made at the individual and household level, especially for vulnerable groups.[282] This latter point demonstrates how important it is to highlight and amplify local voices in order to inform decisions made at higher levels, as we seek to do in this report.

Despite this reality, these agreements serve as examples of subsidiary protection pathways, and the reality of States who more readily understand effective regional cooperation mechanisms in the face of growing climate-induced migration. Through these regional agreements, East Africa and the Horn of Africa has recognized migration as a vital climate adaptation measure that other countries and regions, especially the Global North, would be wise to replicate. States should continue to strengthen existing mechanisms and pursue additional solutions for cross-border movement due to climate change, always considering a locally-led, human rights-based approach.[283]

REGIONAL MECHANISMS FOR THE PROTECTION OF IDPS

Given that a significant proportion of the climate displacement we know about seems to take place within countries,[284] legal protections must explicitly recognize and protect IDPs. This is especially important given that such people may largely fall outside the scope and mandate of international organizations, such as UNHCR,[285] and are generally considered to be the primary responsibility of States.

Given the key role States play in protecting IDPs, solutions will generally be domestic or regional in character. As with internationally displaced persons and cross-border movement agreements, there are useful models from which to draw inspiration.

In terms of regional instruments, The Kampala Convention on the protection of internally displaced

282 Ibid, 5.

283 Katherine Braun, "Addressing the Protection Gap - Human Mobility and the Climate Crisis in International Frameworks," Act Alliance and Brot für die Welt, January 2023, 39-40, https://www.brot-fuer-die-welt.de/blog/new-analysis-on-human-mobility-and-climate-crisis/.

284 Alice Baillat, "Seizing the opportunity to address disaster displacement in the loss & damage discussions," IDMC, June 2023, https://www.internal-displacement.org/expert-opinion/seizing-the-opportunity-to-address-disaster-displacement-in-the-loss-damage; Hans-Otto Pörtner et al., "Technical Summary," in Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, edited by Hans-Otto Pörtner et al. (Cambridge and New York: IPCC via Cambridge University Press, 2022), 52 (TS.B.6), https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_TechnicalSummary.pdf.

285 "UNHCR's mandate for refugees, stateless persons and IDPs," UNHCR, n.d., https://emergency.unhcr.org/protection/legal-framework/unhcrs-mandate-refugees-stateless-persons-and-idps.

persons in Africa[286] is the world's only legally binding regional instrument on internal displacement. The Kampala Convention is heralded because of its goal to uphold the 1998 Guiding Principles on Internal Displacement across all states in Africa. At least 33 member states of the AU have become Parties to the Kampala Convention thus far, although Kenya is not a party. The Kampala Convention addresses responsibilities related to internal displacement that States and non-state actors, including armed groups and private actors must abide by and guides States on coordinating their responses to internal displacement at national and local levels, as well as engagement with displaced persons and international actors.

On a national level, Colombia is moving forward legislation that could soon provide legal recognition to Colombians internally displaced by climate change events. The landmark bill, which has already passed one of four stages, would "recognize the existence of forced displacement due to causes associated with climate change and environmental degradation."[287]

As our organization highlighted earlier this year, it is "encouraging that the proposed law encompasses a broad definition of climate displacement, from families fleeing sudden events such as hurricanes to slow onset events like drought and environmental degradation, situations that are increasingly forcing farmers to move due to crop failure."[288]

286 African Union Convention for the Protection and Assistance of Internally Displaced Persons (African Union, 2009), https://au.int/en/treaties/african-union-convention-protection-and-assistance-internally-displaced-persons-africa.

287 María Mónica Monsalve S., "Colombia considers first law on climate refugees in Latin America," El País, 7 April 2023, https://english.elpais.com/international/2023-04-07/colombia-considers-first-law-on-climate-refugees-in-latin-america.html.

288 Rahul Balasundaram and Amali Tower, "Colombia Moves Closer To Legally Recognizing Internal Climate Displacement," Climate Refugees, 30 May 2023, https://www.climate-refugees.org/spotlight/2023/5/30-colombia. Climate Refugees also brought this development to the attention of Paula Gaviria Betancur, UN Special Rapporteur on the Human Rights of Internally Displaced Persons, in June 2023. See: "Climate Change & Internal Displacement: Submission To The UN Special Rapporteur," Climate Refugees, 12 June 2023, https://www.climate-refugees.org/advocacy/2023/6/12/unsr-idps.

18. VULNERABLE URBAN COMMUNITIES IN NAIROBI

KIBERA INFORMAL SETTLEMENT

The Kibera area of Nairobi is an immense informal urban settlement that is quite possibly the largest in Africa.[289] The Kenyan government owns all of Kibera's land, with about 90% of tenants living in shacks with no land rights.[290] Officially, about 250,000 people live in less than 3 square kilometers,[291] making it far more densely populated than Dhaka and Mumbai which are considered the world's most densely populated cities.[292] Due to a lack of census data, Kibera's population is disputed, with numerous websites listing the unofficial population as high as 350,000 to one million.[293] Kibera residents we interviewed say the actual population is at least one million, if not higher, with frequent new arrivals from rural areas, driven by poverty, inequality and climate change impacts.

With the area experiencing more frequent and severe flooding events,[294] the potential for loss of physical assets in an era of unchecked climate change is high. Damage to homes and other physical shelters by extreme weather events and climate change is well-documented in poor urban settlements, precisely because they are generally built on risk-prone floodplains and hillsides with poor infrastructure.[295]

"'Residents here are domestic climate refugees', said one Weather Mtaani leader. 'They move from one village to another based on different disasters and even with early warning, when their houses are at-risk, they choose to move and start again in a new shack because it's much cheaper.'"

KIBERA RESIDENT AND WEATHER MTAANI LEADER

289 Amélie Desgroppes and Sophie Taupin, "Kibera: The Biggest Slum in Africa?," Les cahiers d'Afrique de l'Est/The East African Review 44 (2011), https://doi.org/10.4000/eastafrica.521.

290 "Kibera Facts & Information," n.d., https://www.kibera.org.uk/facts-info/.

291 Margaret Evans, "A Nairobi slum vulnerable to flooding is engineering its own climate solutions and not waiting for the West," CBC News, 15 November 2021, https://www.cbc.ca/news/world/kenya-climate-change-cop26-1.6248779.

292 Callum Brodie, "These are the world's most crowded cities," World Economic Forum, 22 May 2017, https://www.weforum.org/agenda/2017/05/these-are-the-world-s-most-crowded-cities/.

293 "Participating countries," UN-HABITAT, n.d., https://web.archive.org/web/20160304050148/http://mirror.unhabitat.org/content.asp?typeid=19&catid=548&cid=4962.

294 Evans, "A Nairob slum".

295 Olsson et al., "Livelihoods and Poverty," 804-805.

Kibera is highly vulnerable to flash floods. Photo by Amali Tower, Climate Refugees

This loss is usually followed by displacement, precisely because poor people have limited options to adapt to the impacts of disasters. According to the IPCC, flooding has adversely affected large cities in Africa, especially in "dense informal settlements due to inadequate drainage, and health infrastructure," while middle-to-high income populations that reside in floodplains or high-risk areas are protected through insurance and lobby for protective policies.[296]

As is common in slums, Kibera has inadequate infrastructure on all fronts, from clean water provision, sanitation and plumbing, to roads, safe shelter and electricity, and is therefore woefully unprepared for severe weather events. Poor to non-existent drainage systems and spotty garbage collection exacerbate the flooding impacts of storms when alleyways, drains, ravines and community corridors are blocked with stagnant garbage and even human waste.[297]

Loss of life during particularly heavy rains is not unheard of, whether from drowning, building collapses, or even electrocution.[298] Even after floodwaters recede, residents are faced with lasting and dangerous impacts, and displacement. Post-flood cleanup is necessary to reduce stagnant water but often entails a highly unsanitary process where residents shovel human waste without proper protective equipment.[299] Water supplies can easily become contaminated,[300] and families may even lose their makeshift homes altogether, displacing already marginalized people.[301]

296 Ibid, 805.

297 Nita Bhalla, "We need cash to adapt, Kenyan slum dwellers tell COP26 president," Reuters, 26 March 2021, https://www.reuters.com/article/us-climate-change-kenya-trfn/we-need-cash-to-adapt-kenyan-slum-dwellers-tell-cop26-president-idUSKBN2BI2QU.

298 Ibid.

299 Evans, "A Nairob slum".

300 Bhalla, "We need cash to adapt".

301 Evans, "A Nairob slum".

Disaster risk analysis in Kenya's other slum Mukuru reveals that a major driver of vulnerability is "lack of risk preparedness" and an inability to respond when flooding events not only block streets and homes, but lead to sewage overflows and water-borne disease.[302] Cumulative flooding events also exacerbate poverty and the inherent instability of informal settlements. This is especially acute in places like Mukuru and Kibera, where home and land ownership is inconsistent, making it difficult for residents to plan, and while sometimes living under threat of eviction.

As flooding becomes more frequent in Kibera, and with outside help slow to arrive if at all, local organizations and residents have taken steps to minimize loss and damage and build climate resilience. The DARAJA pilot project of KDI Nairobi with support from the UK-based firm Resurgence and the Kenya Meteorological Department (KMD) addresses the vulnerability of informal settlements in Kenya to extreme climate and weather events.[303] DARAJA, which means "bridge" in Kiswahili, pairs the knowledge of residents with the data and expertise of KMD to provide daily and weekly localized weather forecasts in Kiswahili and local slang via SMS, WhatsApp and radio to residents in Kibera.[304] The service provides accessible and actionable information, such as which routes to avoid, which river banks are likely to be swollen during weather events,[305] and even evacuation, when necessary.

The Kibera community project ran from 2019-2021 with training from KDI and KMD, and implementation by 24 established resident leaders who called themselves the 'Weather Mtaani Leaders,' a registered community based organization. Local 'Mtaani leaders' not only provide information for use in forecasting and warning dissemination, they also organized community clean-ups of drains and roads, and helped residents waterproof their homes when storms were expected.[306] Despite the project formally ending in Kibera, local activists are self-funding wherever possible to keep the project going, such as clearing drains to prevent streets and homes from becoming inundated. [307]

Climate Refugees met with KDI and the Weather Mtaani leaders in Kibera. KDI says 56% of Kibera residents received daily weather forecasts. The Weather Mtaani leaders say approximately 2,400 people received their daily and weekly weather forecasts, but it is hard to know the exact number of people that benefited from the forecasts since the system is also based on word of mouth and phone calls to vulnerable people.

According to the Mtaani leaders, "people here are forgotten by the government, so they don't trust the government weather forecasts, they also don't understand the information. We make it accessible in our local slang, and they trust the importance of the information when it comes from their own community."

Kibera has been experiencing increasing climate change impacts over the past five years, according to the Mtaani leaders. They spoke vividly of the acute impacts from flooding and drought to extreme heat. Extreme heat has resulted in fire outbreaks when high temperatures merge with exposed electrical wiring and discarded incendiary devices. KDI and the Mtaani leaders say the 2019 drought merging with Covid-19 pandemic impacts led to scarcity of food and people dying from hunger in Kibera, while in rural areas, the same food insecurity and loss of animals and people increased urban migration to Kibera.

"The worst of the drought impacts hit us just as the pandemic left people jobless." Most Kibera residents are petty traders or run small shops, and a sizable number work as domestic workers in affluent Nairobi households, all of which promptly ended during the pandemic. The Mtaani leaders recalled that Kibera had no water and food during the Covid-19 lockdown, and sanitation services

302 Lou del Bello, "Kenyan Slum Activists Build Climate Resilience from the Bottom Up," IRIN, 12 January 2017, https://www.refworld.org/docid/587ccb2a4.html.

303 See: "DARAJA," KDI, n.d., https://www.kounkuey.org/projects/daraja, and "DARAJA," Resurgence, 26 may 2023, https://www.resurgence.io/solutions/climate-risk-visualisation-and-communication/daraja/.

304 Bhalla, "We need cash to adapt"; "DARAJA: Impacts and Climate Ambition," Resurgence, 24 January 2023, https://www.resurgence.io/solutions/climate-risk-visualisation-and-communication/daraja/.

305 Bhalla, "We need cash to adapt".

306 Ibid.

307 Evans, "A Nairob slum".

Weather Mtaani Leader, assessing climate vulnerability in Kibera's many low-lying flood-prone plains - Amai Tower/Climate Refugees

were out of order for over a year. "There were many disease outbreaks like cholera and typhoid," they said, "and though government services were informed, there was no response." The drought exacerbated these pandemic conditions, which came with extreme heat. "You have to remember, our shacks are tin homes, the heat inside was boiling."

The Mtaani leaders are all life-long residents of Kibera, some even from birth. They all say climate change effects have accelerated in Kibera, and with it, disaster impacts like electrocution, flooding and fires are ever increasing. "The goal is to disseminate weather information to warn people, move them out of harm's way... save lives, but also minimize the social and economic impacts on the poorest people. Life is really hard here, and climate change is making things so much worse."

"Residents here are domestic climate refugees," said one Weather Mtaani leader. "They move from one village to another based on different disasters and even with early warning, when their houses are at-risk, they choose to move and start again in a new shack, because it's much cheaper."

Toxic waste dumps and open drains full of dirty stagnant water, garbage, human and animal waste, even animal carcasses are rampant throughout Kibera. The leaders tell us, increased drought has led to bigger piles of garbage scattered all throughout Kibera's landscape. Since there is no regular garbage collection, these piles of trash, human and animal waste create toxic dumps that line Kibera. When the flash floods hit, these toxic dumps flow downstream and block passageways, exacerbating flood impacts. The toxic pollution has also resulted in cholera, typhoid and malaria outbreaks.

The Ngong River passes through Kibera. When the dwindling rains do come, they are increasingly more extreme, swelling the Ngong River and flooding Kibera. Because monthly rents are significantly cheaper in shacks that line the river, death, loss and damage during flash floods have been much higher in these quadrants. Seeing flash flood impacts increase with frequency and intensity, combined with the DARAJA early warnings, many residents have chosen to relocate to higher ground during the rainy season.

The Mtaani leaders told us about their now defunct pilot project that provided essential early warning disaster preparedness as well as pollution and climate education and training services to Kibera's residents. Their activities included: weather forecasting training of trainers, scaling up of Red Cross and County government disaster preparedness, and community clean-ups of roads, drainage, garbage pick-up, education and awareness raising through providing consistent

information, presence and fostering of community involvement.

The leaders said the project was a resounding success, and residents asked them: "what took you so long?" The project was only funded for one-year, and was seemingly very popular. "We are losing our publicity and credibility," one of the Mtaani leaders said, adding, "we want to be empowered to make changes in our own community." They've received numerous complaints from Kibera residents since the project's end, pointing to the loss of daily forecasts and community rapport, as well as a major uptick in dirtier environments.

One of Kibera's many open waste dumps. Photo by Amali Tower/Climate Refugees

The Mtaani leaders point to the intangible losses as well, like the rampant fear of repeat disasters, displacements and continued trauma for communities that suffer constant losses from abject poverty to climate disasters. "The community needs us for disaster preparedness. The Red Cross only comes to Kibera after a disaster, but what we really need is a whole community approach alongside the Red Cross to connect the myriad community needs to disaster preparedness." KDI and the Mtaani leaders are actively searching for new sources of funding.

Unfortunately, as Kibera continues to experience the impacts of climate change, these local solutions - no matter how well-conceived - will be insufficient to prevent displacement and other forms of loss and damage. Improved early-warning systems are required throughout Kenya,[308] and the DARAJA project provides a useful blueprint for how the government can scale-up proven solutions in Nairobi and beyond.

Besides its immediate and practical role in warning residents, DARAJA stands out as a locally-driven resilience-building solution, where an impact assessment revealed, 76% of Kibera households surveyed said they avoided loss and damage through preventative actions taken via weather and climate warnings.[309]

308 "Absorbing Climate Shocks," ICG, 21-22.

309 See: "DARAJA: Impacts and Climate Ambition," Resurgence, 'Impact Results' slide 14.

19. WHAT IS LOSS & DAMAGE?

There is no agreed upon definition of 'loss and damage' in the United Nations Framework Convention for Climate Change (UNFCCC), however loss and damage is generally understood as the impacts - sometimes repairable, but sometimes irreversible - arising from the adverse effects of climate change, which include sudden onset events like disasters and extreme weather events, as well as slow onset events like temperature rise, drought, sea-level rise, desertification, land and forest degradation, salinization and loss of biodiversity. The latest science tells us that actions to limit global warming to 1.5°C would greatly reduce projected losses and damages but cannot eliminate them all. [310]

In Article 8 of the 2015 Paris Agreement, UN member states recognized the importance of averting, minimizing and addressing loss and damage, and the role of sustainable development in reducing the risk of loss and damage. To do so, parties agreed to cooperation and facilitation to enhance understanding, action and support in areas, including:[311]

- Early warning systems
- Emergency preparedness
- Slow onset events
- Events that may involve irreversible and permanent loss and damage
- Non-economic losses
- Resilience of communities, livelihoods and ecosystems

Losses and damages as a result of climate change are felt disproportionately in Global South countries, who have contributed the least to cause climate change and have benefited the least from the industrialization and the fossil fuel-based economies that led to the wealth and development of Global North countries. The Vulnerable Twenty (V20) Group, was formed in 2015 to represent countries systematically vulnerable to climate change. The 58 member states, of which Kenya is one, have already lost $525 billion USD over the past 20 years as a result of climate change. This amounts to about a fifth of their combined wealth.[312]

Loss and damage is the result of a failure to sufficiently and effectively mitigate and adapt to the effects of climate change, and the current efforts to address such losses and damages are themselves insufficient, where frontline communities are receiving inadequate protection and other forms of support.[313] This makes coping with subsequent disasters more difficult, creating a vicious cycle of loss and damage.[314]

310 "Loss and Damage," UNFCCC, n.d., https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction#loss-and-damage.

311 Ibid; "The Paris Outcome on Loss and Damage," UNFCCC, n.d., https://unfccc.int/files/adaptation/groups_committees/loss_and_damage_executive_committee/application/pdf/ref_8_decision_xcp.21.

312 "Climate Vulnerable Economies Loss Report," Vulnerable Twenty Group (V20), June 2022, https://www.v-20.org/resources/publications/climate-vulnerable-economies-loss-report.

313 Mechler, McQuistan and Rosen Jacobson, "Falling through the gaps," 6-7.

314 Ibid, 79-80.

Africa's climate has already changed, according to the World Meteorological Organization, a specialized UN agency. Over the past 50 years, drought-related hazards in Africa have killed over a million people and sustained economic losses of over $70 billion. Over the same period, 1,000 flood-related disasters have occurred, claiming the lives of over 20,000 Africans.[315] In Kenya, the loss of livestock has incurred an economic loss of more than $1.5 billion.[316] Past experience has proven it takes at least 5 years for pastoralist families to rebuild their herd after a drought. In Kenya's Baringo County, flood impacts and the Covid-19 pandemic, has led to an estimated loss of 95 million shillings (nearly 700,000 USD) in tourism and infrastructure in 2021.[317]

Communities we interviewed in the village of Lorengippi, Turkana County said, "right now, climate change is controlling everything. We have to cooperate and be compensated. We have lost people. We have lost livestock. Our government in Kenya needs to share resources with climate-affected communities. We also want the people who brought us into this mess to compensate us. This problem of climate change was not created by God. There are people responsible in the West in countries like the UK, USA, Canada, China, Japan and oil producers in the Middle East."

These impacts, losses and damages will continue to increase in Africa without urgent and comprehensive adaptation and mitigation action, which is also necessary globally to achieve "[r]eal progress" on loss and damage.[318] These losses and damages must be understood as human rights losses as well as development setbacks in Africa, delaying the progress of the UN Sustainable Development Goals (SDGs): economic prosperity (SDGs 1, 8 and 11), eradication of poverty and hunger (SDGs 1 and 2), equality (SDGs 4, 5 and 10) and ensuring healthy human lives (SDGs 2, 3 and 6).[319]

NON-ECONOMIC LOSS AND DAMAGE

While some of the losses and damages from climate change are easily quantifiable, such as the price in a given currency to rebuild a home damaged in a hurricane, many are much more difficult to understand in dollars and cents, especially as they regard the loss of human rights like the loss of economic, social and cultural rights. But this does not mean impacted people do not deserve compensation and other support. There is a growing consensus that non-economic loss & damage (NELD), which can result from both sudden and slow onset events,[320] must be included in any serious discussion about L&D.

315 "State of the Climate in Africa 2021," WMO, 2022, 36, https://library.wmo.int/doc_num.php?explnum_id=11512.

316 Horn of Africa Drought," OCHA.

317 Cherono, "Baringo Lost Sh95 Million".

318 Mechler, McQuistan and Rosen Jacobson, "Falling through the gaps," 2.

319 "State of the Climate in Africa 2021," WMO, 34; See: "The 17 Goals," UN Department of Economic and Social Affairs - Sustainable Development.

320 "Understanding Climate-Induced Cultural and Non-Economic Loss," SLYCAN Trust, 2 March 2023, 2, https://www.slycantrust.org/knowledge-resources/scoping-paper-understanding-climate-induced-cultural-and-non-economic-loss.

Turkana men. Photo by Amali Tower

"'We want the people responsible for climate change to give us irrigation farming,' pastoralist communities in Turkana County said. 'We have land, but no rain. We are ready to do agricultural farming. We need seeds. We need capacity building.'"

Given the challenges of quantifying NELD,[321] there are various strategies and guidelines to consider in order to ensure that assistance is appropriate based upon actual experiences and needs. First and foremost, it is important to be flexible with terminology. Affected communities rarely categorize the climate impacts they experience as 'economic' or 'non-economic',[322] and so while this distinction may be useful to higher-level actors, strict adherence to such terms may hinder meaningful data collection and policy development. It is also important to be inclusive when discussing NELD. Losses and damages help encompass the totality of climate impacts for which assistance is needed, recognizing that non-economic assets can sometimes be recoverable - such as ecosystems[323] - while there are some things that simply cannot be brought back - such as lost time with loved ones during displacement,[324] or cultural heritage, two key points raised by communities we interviewed.

Beyond flexibility and inclusiveness of terminology, the approach used to assess NELD is critical. A values-based approach, where affected peoples' valuations of things in their daily lives is taken into account, is important given that certain groups and cultures - women, children, elderly, marginalized groups - may value certain things differently.[325] Given that case study evidence routinely shows that NELD is "context-specific",[326] it is important to eschew rigid and predetermined conceptualizations

321 Ibid.

322 Melanie Pill, "Re-framing non-economic loss to non-economic impacts for effective policymaking: evidence from the Caribbean," Climate and Development 14, no. 8 (2022), https://doi.org/10.1080/17565529.2021.1987852; "Practical Action," Scottish Government, 45.

323 "Practical Action," Scottish Government, 45.

324 Douwe van Schie et al., "Centring local values," 44 (s. 7.1.2).

325 "Practical Action," Scottish Government, 46.

326 Ibid, 47; See also: "Cultural and Non-Economic Loss," SLYCAN Trust, 2-3.

of NELD as well as top-down interventions, and instead privilege localization and community-driven approaches.[327]

NELD are experienced at multiple levels. Individuals may experience displacement, physical and mental health issues, and even loss of life. Communities may lose traditional ways of life, including Indigenous knowledge, loss of territory, and loss of cultural identity and heritage. And more broadly, biodiversity loss and environmental degradation can be forms of NELD.[328] This reality demands an appropriately multi-level approach.

As many of the communities we discuss in this report clearly demonstrate, cultural loss - from loss of homeland to inundated burial grounds - is a particularly challenging form of NELD. But that does not mean there are no solutions. In fact, there are several potential methods for addressing cultural loss, centered around documentation, preservation, and compensation.[329] Of course, the effectiveness of these solutions depends on efforts to mitigate cultural loss,[330] showing just how urgent NELD action must be. It also crucially depends on the realization of accessible and adequate L&D funding, including specific provisions for NELD.[331]

L&D AND CLIMATE DISPLACEMENT

People on the move as a result of climate change may experience various losses and damages. And while those forced from their homes by a tropical cyclone demonstrate this very clearly, it is important to remember that even so-called voluntary climate migrants can experience L&D. In 2013, the Peninsula Principles recognized that "voluntary and involuntary relocation often result in the violation of human rights, impoverishment, social fragmentation and other negative consequences".[332] Indeed the binary of voluntary-involuntary obscures the fact that people on the move are inherently vulnerable,[333] especially in already climate-fragile contexts.

Another clear theme that emerges from both literature and our field visits is that displacement itself often constitutes loss and damage, but it can also amplify or extend L&D caused by climate impacts.[334] The L&D - both economic and non-economic - that stem from climate displacement are various and often continue over an extended period of time. For example, someone who leaves their ancestral homeland due to flooding or drought conditions does not simply lose their physical place of abode, they may also be forced to abandon their native language and culturally relevant places.[335] This is why it is important to move beyond a simplistic analysis of the drivers of migration, and consider how movement shapes the impacts people experience,[336] which are examples of loss and damage. This is key to improving L&D data collection, which inadequately accounts for displacement and its various effects, and therefore fails to fully understand the scope of the issue.

Climate Refugees was a contributing member to a submission of climate displacement case studies to the UN expert group on non-economic losses, which demonstrated that most NELD incurred

327 "Practical Action," Scottish Government, 56.

328 "Cultural and Non-Economic Loss," SLYCAN Trust, 1.

329 Ibid, 4.

330 Ibid.

331 Julie-Anne Richards et al., "The Loss and Damage Landscape," L&DC and Heinrich Böll Stiftung, 9, https://www.lossanddamage-collaboration.org/publication/the-loss-and-damage-finance-landscape.

332 "The Peninsula Principles on Climate Displacement Within States", Displacement Solutions, 2013, 12 (preamble), https://www.displacementsolutions.org/_files/ugd/9ec010_a3c43e289e824b7c8f3a0229a01d03ce.pdf; "Practical Action," Scottish Government, 40.

333 "Practical Action," Scottish Government, 49.

334 PDD and L&DC, "Human mobility and non-economic loss and damage," s. 2.3.

335 Guy Jackson et al., "Passed the Point of No Return: A Non-Economic Loss and Damage Explainer," L&DC, 2022, https://uploads-ssl.webflow.com/605869242b205050a0579e87/63581776a7e3681e75e45c72_L%26DC_NELD_EXPLAINER_FULL_BRIEF_24102022.pdf; "Practical Action," Scottish Government, 49.

336 PDD and L&DC, "Human mobility and non-economic loss and damage," s. 2.1.

as a consequence of displacement can be avoided by preparing for, adequately managing and effectively resolving situations that arise in displacement contexts.[337] This not only informs actions that must be taken in displacement and humanitarian contexts, but also informs the need for new forms of financing that address the unique nature and needs that arise in climate change-induced displacement situations.

Given the lack of attention towards displacement outside of humanitarian contexts or other situations that receive significant media attention, L&D finance must be scaled up and made available for displaced people and their specific needs within and outside of specific climate change events, such as those who may already be displaced but are now particularly vulnerable to climate change as a result. In order to maximize support, knowledge-gathering must occur throughout the phases of displacement: before, during, and after. And of course, to truly fulfill the mandate of the Paris Agreement - specifically its call to avert, minimize, and address L&D - displacement must be a central component of efforts by all actors. For example, developing safe and regular migration pathways now can be a key tool in averting future displacement.

As civil society organizations, UN agencies, and governments grapple with the complexities of climate displacement, the inextricable link between displacement and loss and damage in the discussion is key. As advocates in the loss and damage and mobility space often articulate, attention must be paid to displacement and its impacts in order to meaningfully assess and address loss and damage from climate change. And perhaps most critically, there are fundamental human rights at stake. Upholding the rights of people on the move demands all stakeholders effectively address loss and damage, including NELD.[338]

L&D AND FINANCE

Addressing losses and damages as a result of climate change in Kenya and elsewhere will require significant financial resources. As many developing countries have made clear during international negotiations, funding must be new, additional, innovative, predictable, grant-based, and in line with the common but differentiated responsibilities and respective capacities (CBDR-RC) principles of the UNFCCC. It will also need to be distinctly separate from funding directed to humanitarian crises.

Beyond more traditional sources like public finance from Global North countries, scholars, activists, policymakers, and others have been thinking about what innovative L&D finance could look like, an issue that has never been more important given the need to operationalize the Loss and Damage Fund (LDF) agreed to at COP27 in late 2022.[339] The most interesting proposals recognize the fundamental justice issue at the heart of the climate crisis, recognizing that communities and countries who have contributed the least to the climate crisis are bearing the brunt of its impacts.[340] One such proposal is an air travel levy that would provide funds for loss and damage by taxing a high-emitting activity that is already unaffordable for many in climate-vulnerable, developing countries. This proposal is particularly promising because it has essentially already been piloted: in the early 2000s, the French government instituted a 'solidarity levy' on commercial air tickets to finance public health efforts in developing countries, with no impact on air traffic or tourism.[341]

Beyond the issue of how funds are realized, it is important that they can be accessed by communities who are experiencing losses and damages. Funding to national governments is

337 Ibid, s. 2.3.

338 Ibid, s. 2.7.

339 "COP27 Reaches Breakthrough Agreement on New 'Loss and Damage' Fund for Vulnerable Countries," UNFCCC, 20 November 2022, https://unfccc.int/news/cop27-reaches-breakthrough-agreement-on-new-loss-and-damage-fund-for-vulnerable-countries.

340 "Practical Action," Scottish Government, 67.

341 Saleemul Huq, Robert Filipp and Benito Müller, "International Climate Solidarity Levies," ICSL Consortium, 20 April 2023, https://www.icccad.net/news/loss-and-damage-response-fund/; "Information sheet on the airline-ticket levy," Leading Group on Innovative Financing for Development, n.d., https://www.leadinggroup.org/IMG/pdf/Airline_ticket_levy_information_sheet.pdf.

important, especially to ensure implementation of national climate change action plans,[342] but it cannot be the only avenue for local communities - especially marginalized ones - to receive urgently needed assistance. This is especially true where national and/or local governments have been slow to respond to climate change and loss and damage, such as in certain areas of Kenya. For example, in 2010 a newly adopted constitution in Kenya gave new powers to county governments, which led to the creation of a devolved climate finance (DCF) mechanism[343] called the County Climate Change Funds (CCCF).[344] While the CCCF has seen notable successes,[345] not every county in need of finance has taken part. Turkana County, which we visited and constitutes a major part of this report, acknowledges that climate change is a pressing issue,[346] but has apparently not participated in the CCCF, further constraining its already low investment in climate finance.[347] As civil society has made abundantly clear during international climate change negotiations, climate finance funds, especially those that specifically address loss and damage, must include windows for local communities to directly access funds without relying on bureaucratic, reluctant, or simply overwhelmed governments.

Relatedly, L&D finance must be grant-based. Loans and other debt-incurring instruments are wholly inappropriate given the disproportionate impacts climate-vulnerable countries are facing, many of whom are already faced with a high debt burden.[348]

Regarding the 'newness' of loss and damage finance, it is critical that L&D funds are separate and in addition to humanitarian relief funds, a funding source that also requires scaling up, but must be distinct and separate from the Loss and Damage fund. A severely overstretched humanitarian sector is already struggling to raise adequate funds to meet the basic needs of crisis-impacted communities around the world,[349] a gap which will likely only grow with climate change and continued global economic woes.[350] As shown in the multiple stories from Kenya, these are examples of local communities suffering climate impacts that need to be addressed in a climate-specific way and via a climate justice lens. These exemplify why support must come from new, additional, adequate and accessible funding via the Loss and Damage fund.

It remains to be seen how the new LDF will be operationalized, but a Transitional Committee is currently discussing this and related matters in order to make recommendations for COP28.[351] Given that agreement to establish a LDF took 30 years,[352] there is an urgent need to continually highlight the impacts of loss and damage in order to equip negotiators with the information necessary to develop a fit-for-purpose fund and set of funding arrangements. It will also be critical to maintain focus on states into the future to ensure they fulfill their obligations, especially given their difficulty

342 "National Climate Change Action Plan 2018-2022 (NCCAP)," LSE Grantham Research Institute on Climate Change and the Environment, n.d., https://climate-laws.org/document/national-climate-change-action-plan-2018-2022-nccap_a381.

343 "Devolved Climate Finance (DCF) Alliance", International Institute for Environment and Development (IIED), 28 January 2021, https://www.iied.org/devolved-climate-finance-dcf-alliance.

344 "Practical Action," Scottish Government, 35-36.

345 Ibid, 36.

346 "Unlocking Climate Financing for Enhanced Climate Resilience in Turkana County," Trocaire, 1 (s. 1), https://www.trocaire.org/wp-content/uploads/2021/04/Policy-Brief-no-2_Unlocking-Climate-Financing-for-Enhanced-Climate-Resilience-in-Turkana-County.pdf?type=policy.

347 Ibid, 2 (s. 2 and 3)

348 "The Vicious Cycle: Connections Between the Debt Crisis and Climate Crisis," ActionAid, April 2023, https://actionaid.org/publications/2023/vicious-cycle#downloads.

349 Angus Urquhart et al., "Global Humanitarian Assistance Report 2023," Development Initiatives, 2023, 30 and 43, https://www.devinit.org/documents/1350/GHA2023_Digital_v9.pdf; Mechler, McQuistan and Rosen Jacobson, "Falling through the gaps," 1.

350 Mark Leon Goldberg, "Our Global Humanitarian Nightmare," Global Dispatches, 22 May 2023, https://open.substack.com/pub/globaldispatches/p/our-global-humanitarian-nightmare?utm_campaign=post&utm_medium=web.

351 Teo Ormond-Skeaping and Julie-Anne Richards, "Loss and Damage at the SB 58 Bonn Climate Conference," L&DC, 2023, 24, https://uploads-ssl.webflow.com/605869242b205050a0579e87/64787c40a97aaae67c22e793_L%26DC_SB58__EXPECTATIONS_BREIF.pdf.

352 Lyndsay Walsh and Teo Ormond-Skeaping, "The Cost of Delay: Why finance to address Loss and Damage must be agreed at COP27," L&DC, 2022, 6, https://uploads-ssl.webflow.com/605869242b205050a0579e87/6355adbb4f3fdf583b15834b_L%26DC_THE_COST_OF_DELAY_.pdf.

in meeting previous climate finance commitments.[353]

Finally, it is important to recognize that finance for loss and damage is not simply a question of providing money to those harmed by climate change. As our community visits demonstrate, it is also about protecting fundamental human rights and key development gains, and preparing for future displacement and other impacts.[354] A failure to act now will be devastating for communities around the globe.

HUMAN RIGHTS-BASED APPROACH TO LOSS AND DAMAGE

As this report has made clear, L&D can be seen as human rights losses, development setbacks, and woefully inadequate efforts to protect displaced people. Given states' obligations under international human rights law, such rights must be a part of any approach to truly address L&D.[355]

With negotiations about the new LDF ongoing, civil society organizations and impacted communities have highlighted various key areas where human rights principles must inform the development and operationalization of the fund.

For example, commitments to the principle of non-discrimination[356] are a critical starting point to ensuring that marginalized communities - who tend to bear the brunt of climate impacts[357] - have their unique needs recognized and ultimately met as part of L&D finance provision.[358]

A human rights-based approach is also vital in ensuring L&D finance and other tools maximize public benefit and protections and do not end up causing negative social and environmental impacts.[359] Various safeguards would help prevent a L&D-specific form of maladaptation, in which climate change adaptation measures actually increase vulnerability,[360] such as mandatory involvement of vulnerable communities in decision-making and adherence to international obligations on gender, labor rights and standards, and cultural preservation,[361] to name just a few.

International human rights provide us a compass for addressing the harms already caused by climate change and preventing - or, when not possible, minimizing - future harms. The rights identified in the International Bill of Human Rights - the Universal Declaration of Human Rights (UDHR), the International Covenant on Economic, Social and Cultural Rights (ICESCR) and the International Covenant on Civil and Political Rights (ICCPR) - together, form the foundation of international

353 Industrialized countries pledged 100 billion USD to developing countries each year from 2020 to 2025, but failed to provide that amount in 2020, 2021, and 2022. See: Mechler, McQuistan and Rosen Jacobson, "Falling through the gaps," 20. See also: Richard Kozul-Wright, "A climate finance goal that works for developing countries," United Nations Conference on Trade and Development (UNCTAD), 14 June 2023, https://unctad.org/news/climate-finance-goal-works-developing-countries.

354 Mechler, McQuistan and Rosen Jacobson, "Falling through the gaps," 76.

355 "Human Rights as a Compass for Operationalizing the Loss and Damage Fund," Center for International Environmental Law (CIEL), February 2023, https://www.ciel.org/wp-content/uploads/2023/02/Human-Rights-as-a-Compass-for-Operazionalizing-the-Loss-Damage-Fund_submission-Amnesty-and-CIEL_Feb-2023.pdf.

356 Sustainable Development Goal 10 is "Reduced Inequalities". See: "The 17 Goals," UN Department of Economic and Social Affairs - Sustainable Development. In addition, various instruments encompass this principle, most notably the International Covenant on Economic, Social and Cultural Rights (including General Comment No. 20), the International Convention on the Elimination of All Forms of Racial Discrimination, and the Convention on the Elimination of All Forms of Discrimination against Women. See: "The Core International Human Rights Instruments and the monitoring bodies," Office of the UN High Commissioner for Human Rights (OHCHR), n.d., https://www.ohchr.org/en/core-international-human-rights-instruments-and-their-monitoring-bodies; "General Comment No. 20: Non-discrimination in economic, social and cultural rights (art. 2, para. 2, of the International Covenant on Economic, Social and Cultural Rights," UN Committee on Economic, Social and Cultural Rights, 2 July 2009, https://www.refworld.org/docid/4a60961f2.html.

357 See: "Report: Inequalities exacerbate climate impacts on poor," UN Department of Public Information, 3 October 2016, https://www.un.org/sustainabledevelopment/blog/2016/10/report-inequalities-exacerbate-climate-impacts-on-poor/. See also: "Marginalised communities bear the brunt of climate crisis in USA: New report," 5 October 2021, Environmental Justice Foundation, https://ejfoundation.org/news-media/marginalised-communities-bear-the-brunt-of-climate-crisis-in-usa.

358 "Human Rights as a Compass," CIEL, 4-5.

359 Ibid, 8-9.

360 Lisa Schipper, "Catching maladaptation before it happens," Nature Climate Change 12 (2022), https://doi.org/10.1038/s41558-022-01409-2.

361 "Human Rights as a Compass," CIEL, 8.

human rights law, including the right to an adequate standard of living, the right to education, and the right to movement, among others.[362] Failing to take meaningful action on L&D, and therefore allowing climate change to harm communities around the world, especially in disproportionate and unjust ways, constitutes a failure to uphold these rights which apply to every human being.

362 "Universal Declaration of Human Rights," UNGA, arts. 25, 26 and 13; "International Bill of Human Rights," OHCHR, https://www.ohchr.org/en/what-are-human-rights/international-bill-human-rights.

20. CONCLUSIONS AND RECOMMENDATIONS

FOR THE UNFCCC

Urgently operationalize a Loss and Damage Fund (LDF) at COP28 – Financing around loss and damage needs to differ and be separate from funding allocated for climate adaptation and humanitarian response. Adaptation finance does not cover the climate change impacts from both slow-onset and rapid onset events, as well as the social impacts, development setbacks and human rights losses articulated in this report as economic and non-economic loss and damage. A holistic understanding of loss and damage in developing countries estimates an annual 425 billion USD in losses in 2020, 671 billion USD in 2030, and over one trillion USD by 2050[363] – figures that far exceed what humanitarian aid can cover.

- **The LDF must provide new and additional funding** to already pledged sources of funding to developing countries; be adequate, accessible and accountable, ensuring that the most affected groups, including displaced communities, historically marginalized, Indigenous Peoples, women, children and frontline communities can access remedies and resources.

- **Establishment of the LDF should be guided by the principle of equity and common but differentiated responsibilities and respective capabilities (CBDR-RC)**. Parties should respect, protect and fulfill human rights, adopting an intersectional, inclusive and human-centered approach that places affected populations at the center, and recognizes that climate change impacts hit certain countries and communities harder than others in a fundamentally unjust way.

- **The establishment of the LDF should ensure meaningful and effective participation of frontline and affected communities**, including displaced populations, historically marginalized, Indigenous Peoples, women and diverse gender groups and civil society, especially local actors from vulnerable and frontline countries to ensure that recommendations and actions reflect the needs of people and communities most impacted.

- **Funding must be grant-based** and programmatic as opposed to loans and one-off interventions. Insurance alone is insufficient to meet funding needs, especially as countries have a long history of prioritizing wealthier areas and communities for protection, endangering people in poverty.[364]

363 Julie-Anne Richards et al., "Loss and Damage Finance Landscape," 6; "Unpacking finance for Loss and Damage," Heinrich Böll Stiftung, n.d., https://us.boell.org/en/unpacking-finance-loss-and-damage.

364 "Climate change and poverty," UN Human Rights Council doc. A/HRC/41/39, 4.

Despite an ambitious Nationally Determined Contribution (NDC) on climate adaptation and mitigation, Kenya's NDC is less than 35% funded with 85% of funding coming from loans.[365] This puts Kenya at high-risk of debt distress, joining many other vulnerable countries in debt as 70% of climate finance is provided in loans.[366]

- **The Transitional Committee must address how loss and damage funding will be separate but coordinated with humanitarian assistance** – while the humanitarian system is interrelated to climate action, humanitarian funding often has major gaps and is already under-funded. The humanitarian system is not always appropriate to respond to pre-crisis activities and provide all the support people need in climate change contexts. Furthermore, humanitarian funding must be entirely separate from loss and damage funding precisely because climate impacts need to be addressed through a climate justice lens. However, because of their extensive experience in crisis, highly-fragile and conflict-affected settings, humanitarians can be helpful in informing loss and damage funding.

- **Ensure direct access to the LDF for displaced and impacted people** – L&D finance must be scaled up and made directly available to displaced people. This is key to ensure that displaced people do not fall through the system, given the lack of attention towards displacement outside of humanitarian contexts or situations that receive significant media attention. Funding should be provided through national and sub-national grants and community-managed funds and programs for displaced people and their specific needs within and outside of specific climate change events, such as those who may already be displaced but are now particularly vulnerable to climate change as a result. As well, efforts must also ensure that historically marginalized people, like ethnic minorities and Indigenous People have direct access in the same manner.

- **Recognize displacement and forced population movements as an example of loss and damage** and prioritize funding for displaced people who must have access to the LDF and other arrangements in order to recover, restore and rehabilitate their lives and lost livelihoods, and importantly, move out of displacement situations. Without this key focus, the international community runs the risk of increasing global forced displacement and keeping displaced people in situations of protracted displacement.

- **Ensure mechanisms for the LDF to be responsive to both slow-onset and rapid-onset events**, including mechanisms for providing direct access for communities and actors working at the local level and directly with affected communities, and to enable long-term support where needed.

365 "Giving Countries in Conflict," ICG.

366 Tess Woolfenden and Sindra Sharma Khushal, "The debt and climate crises: Why climate justice must include debt justice," CAN International et al., 3, https://climatenetwork.org/resource/debt-and-climate-crises/.

FOR UN ACTORS AND DISPLACEMENT RESEARCHERS

- **Better understand climate change-induced displacement** – Despite a remarkable and rapid increase in interest among civil society actors, states, and intergovernmental organizations, displacement as a result of climate change remains poorly understood, which allows it to be downplayed and obscured. The lack of understanding stems from both logistical challenges - such as visiting hard-to-reach communities and obtaining useful data - and an apparent lack of political will and ambition. As UN Special Rapporteur Ian Fry noted in his recent report to the UN Human Rights Council, there is an apparent "reluctance" among some actors to push the limits of organizational mandates in order to provide comprehensive data and assessment on cross-border displacement as a result of climate change in particular.[367] As a result, once such people cross an international border, "their status becomes poorly defined."[368] At the same time, even internal displacement - for which data is generally much better than it is for cross-border displacement - is likely underrepresented in current approaches.[369] Unfortunately these gaps are not all that surprising: many have largely come to expect - and worse, accept - displacement in the Global South, so a lack of data and understanding is the logical result. This culture of acceptance must be challenged.

- **Improve data collection on climate change displacement** – This report has highlighted many examples of loss and damage from displacement, as well as loss and damage sustained in the course of displacement, to help contextualize the harms of climate change and show the importance of widening the net we use to collect data on impacts. Scaling up such human-centered research on climate change impacts will be a critical part of "[k]eeping research on human mobility grounded on real-world evidence and complexities".[370]

- **Better assess displacement and loss and damage** – Efforts to expand and improve data on climate change displacement must include data collection on how displacement can be a form of loss and damage on its own, as well as how the wide array of losses and damages that households and communities experience as a result of displacement, such as trauma, loss of livelihoods, reduced access to healthcare services, and increasing situations of insecurity for women and girls.[371] To realize effective loss and damage policy and practice, especially funding, it is critical to assess the impacts of displacement, especially in the context of impacted populations' needs, marginalization and vulnerability. Current methods of documenting and understanding displacement rarely consider its impacts, notably the cascading and long-term impacts of displacement on communities.

- **Utilize a human rights-based approach as key to understanding potential loss and damage** - such an approach assesses the impact of displacement on the enjoyment of human rights.

- **Include displaced persons in action and support on Loss and Damage.**

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367 "Providing legal options," Human Rights Council doc. A/HRC/53/34, 4 (para. 12). See also: Rahul Balasundaram and Ryan Plano, "Global Displacement On The Rise, But Lack Of Comprehensive Data And Understanding Of Climate Change Displacement Persists," Climate Refugees, 26 June 2023, https://www.climate-refugees.org/spotlight/2023/06/26/climate-displacement.

368 "Providing legal options," Human Rights Council doc. A/HRC/53/34, 4 (para. 12).

369 Habas, Marco and Miranda, "Drought displacement modelling," 33.

370 "15 Observations on Disaster Displacement as Loss and Damage," PDD, 2022, 3, https://disasterdisplacement.org/portfolio-item/15-observations-on-disaster-displacement-as-loss-and-damage/.

371 Ibid, 2.

- **Incorporate expanded knowledge into relevant and appropriate policy processes.** While some countries have taken steps to explicitly include human mobility in climate change policies, globally there is room for improvement, which for some developing countries will require support.[372] As part of this process, impacted communities - especially those from marginalized groups - and civil society groups should be consulted in a meaningful way,[373] including to improve vulnerable populations options and abilities to move - this is key in order to effectively avert and address loss and damage.This will help ensure that policies on climate change displacement seek to preserve and increase, as much as possible, the agency of those on the move, as this is a key factor in successful movement.

FOR MULTILATERAL ACTORS

Increase grant-based climate funding to scale climate adaptation and resilience-building in all climate and conflict-affected areas in Kenya and the Horn of Africa, including by crucially funding local actors working in intersections of climate change, development and humanitarian response. This must include local organizations like TUPADO, Baringo Women and Youth Organization and others who are providing peacebuilding and conflict mitigation, and locally-led programs highlighted in this report, to identify feasible projects that mitigate the impacts of droughts and floods, provide integrated water resource management, strengthen local governance and mitigate climate security risks for the most vulnerable communities.

- **Prioritize tools that allow for a rapid and flexible response to crises** from the very first signs of shocks and crises, even if it produces aid for crises that do not end up occuring, as such support can be shifted to resilience-building.[374] Monitoring conditions alongside affected communities is a key component of this.[375] Previous and current efforts by humanitarian organizations and other actors provide a useful roadmap for preventing the most severe impacts of climate change, notably drought.

- **Provide social protection and maintain community resilience**, beyond provision of basic needs.[376] Given that impacted communities are often their own first responders, external actors should listen to what locals have to say about climate shocks, methods of providing intra-community support, and coping strategies.[377] This is likely to be much more effective than top-down approaches.

- **Incorporate peacebuilding measures into drought response mechanisms in conflict-affected areas**.[378] Examples include the work of TUPADO in Turkana as highlighted in Chapter 6, and improved natural resource management,[379] such as the IGAD Protocol on Transhumance's

372 Braun, "Addressing the Protection Gap," 38.

373 Ibid.

374 "Outsmarting La Niña: Lessons and Recommendations for Strengthening Resilience Through the Drought Response in the Horn of Africa," MercyCorps, March 2022, 7, https://www.mercycorps.org/research-resources/outsmarting-la-nina-drought-response.

375 Ibid, 9.

376 Ibid.

377 Ibid, 11-12.

378 Ibid, 17.

379 Ibid.

recognition of the cross-border movement for livestock and herders in search of water and pasture discussed in Chapter 17. Given how climate change interacts with existing issues and inequalities, such as poverty, conflict, and poor governance, responses to drought and other climate impacts must work towards addressing these issues in order to actually build resilience.[380]

FOR INTERNATIONAL FUNDERS, KENYA & HORN OF AFRICA GOVERNMENTS

Invest in and strengthen multi-hazard early warning systems such as the Intergovernmental Authority on Development's Conflict Early Warning and Response Mechanism. The specific needs in flood-affected communities in Baringo and Turkana Counties, as well as Kibera, point to the need for an Emergency Alert System for notification of high tide, polluted waters and other flood-related concerns. The 2021 State of the Climate in Africa by the World Meteorological Organization (WMO) noted that the rate of drought and flood-early warning systems implementation in Africa is lower than elsewhere in the world, with only four out of ten people protected. WMO highlights the need to fill the capacity gap in collecting data for basic hydrometeorological variables which underpin better climate and early warning services that mitigate deaths and reduce loss and damage.[381]

- **Invest in climate-resilient water security** – More than two billion people live in countries experiencing high water stress, while in some arid and semi-arid places, water scarcity could displace at least 24 million and hundreds of million more by 2030.[382] The Kenyan government and international partners must immediately and urgently install boreholes and solar-powered water systems in water-scarce communities, scaling provision urgently amongst all vulnerable communities. In the short-term, the Kenyan government must address immediate pressing needs by providing water tankers to desperate communities in Turkana and elsewhere. The needs in Turkana are massive and evident, as are needs in Baringo and neighboring counties, where resource conflicts are grounded in water insecurity. With climate adaptation finance constituting only 16% of climate finance, and only one-third reaching the least developed countries,[383] there is an urgent need for the international community to meet its obligations under the UNFCCC to not only meet water security targets, but also avert further losses and damages that marginalized communities are suffering in the face of the climate crisis.

- **Fund and support early local preparedness and resilience** – Given the progression of the climate crisis, there is an urgent need to implement measures to better prepare communities and countries, rather than relying on post-event responses. This is particularly true in the Horn of Africa, where experts spotted the potential for drought in 2019, but funding for early response was elusive, as we have highlighted in this report.

- **Fund disaster risk reduction and preparedness in urban settlements** – As amply highlighted in Chapter 18, Nairobi has several informal settlements like Kibera that are highly vulnerable to increasingly severe and frequent climate disasters, and which are home to hundreds of thousands of residents who live in dangerous and risky dwellings. The DARAJA Project of Weather Mtaani Leaders in Kibera has proven to be a life-saving vital resource for residents

380 Ibid, 14.

381 "State of the Climate in Africa 2021," WMO, 8 and 40.

382 "Climate Action Pathway, Water," UNFCCC, 9, 2020,

383 Ibid.

at risk of climate disasters that must be funded, supported and scaled in order to save lives. Alongside these immediate efforts, Nairobi city government leaders must urgently coordinate with other global networks of city leaders, like the C40 Thriving Cities Initiative and the Mayors Migration Council, to urgently address the impacts of the climate crisis in Nairobi's many informal settlements.

- **Strengthen and improve the performance of the agricultural sector** – The sector's role in poverty alleviation in Kenya is paramount given the dwindling land allocated to commercial farming and the majority of drought-affected populations engaging in subsistence pastoral farming and agro-pastoralism. The FAO recommends the engagement of the poorest and most vulnerable in this process as a "prerequisite and a necessary condition for achieving recovery and growth in Kenya after recent years of drought and slow development."[384]

- **Develop new livelihoods that advance climate change adaptation, like clean and renewable energy sources** – The counties assessed in this report would greatly benefit from the development of infrastructure and shared technologies to produce solar-powered renewable sources of energy in parts of Kenya where sunshine is near constant, but underdevelopment is acute. These investments would also have the added benefit of creating new sectors and jobs for communities longing for new livelihoods.

- **Invest in anticipatory action** – Though some relevant information already exists, such as the previously-cited joint Kenya-UNDP report and academic study predicting rainfall variability and drought in Baringo County,[385] local communities lack climate information and early warning of impending disasters and droughts. Local communities also lack the information, tools, seeds, capacity-building and means to mitigate losses and adapt to changing climate conditions as they relate to farming and herding. Coordinated data generation, information sharing and early warning systems building via foreign governments and external agencies should be utilized in situations where governments lack the capacity to warn local communities.

- **Utilize cash payments to ward off humanitarian crises and food insecurity,** even where anticipatory climate adaptation funding is lacking, as this allows local communities to buy basic necessities to survive both rapid and slow climate events.

- **Provide basic and essential commodities** like water purification tablets, insecticide-treated bed nets that ward off malaria and other vector-borne diseases, and life vests for lake-rise and flood-prone communities in the Rift Valley Lakes region, as well as urgent sanitary needs for women and girls.

- **Strengthen transboundary cooperation** in IGAD countries in areas of border management, including training and scaling guards, to enable migration as a means of climate adaptation, as well as support affected states in their early response efforts. In recognition that herders are having to travel further for adequate pasture and water due to drought conditions and

384 "Kenya at a glance," FAO.

385 Ochieng et al., "Rainfall Variability and Droughts".

water scarcity, governments should focus on continuing to facilitate and strengthen migration agreements between herders, pastoralists and landowners.

- **Protect IDPs through ratification of the Kampala Convention** – Kenya, as an IGAD and AU member state, should take swift steps to ratify the African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa, commonly known as the Kampala Convention. The connection between climate change and displacement is clear, the displacement that we know of is largely internal and it is generally occurring in the most vulnerable locations in the world. In some years, disasters - almost all climate-driven - have displaced three times more people than violence and armed conflict,[386] and the World Bank estimates that, by 2050, sub-Saharan Africa could have nearly 86 million internal climate migrants.[387] Given that the Kampala Convention is a regional instrument that aims to prevent internal displacement, protect IDPs and provide durable solutions for internal displacement in Africa, ratification could not only help reduce Kenya's vulnerability to internal climate displacement, but as well, solidify its resolve and efforts to strengthen the rights and protections of Kenyans already displaced and at-risk to climate displacement.

386 Bruce Burson, "Displacement in a Changing Climate," IFRC, 2021, 4,

387 Clement et al., "Groundswell Part 2," xxii.


Emirates
FLY BETTER