CASE STUDY

Kenya - LOIYANGALANI

GEOGRAPHICAL CONTEXT

Loiyangalani is a village in Marsabit County, Kenya, located along the southeastern shores of Lake Turkana – the world's largest permanent desert lake and a UNESCO World Heritage site.[1] The lake is home to at least 79 fish species, 12 of which are endemic, and serves as a vital source of livelihood for local fisher and nomadic communities, especially during periods of drought. Loiyangalani is also known for its rich cultural diversity, being inhabited by various ethnic groups, including the El Molo and Turkana.[2] It is the only area in Kenya where the El Molo – the country's smallest Indigenous community – reside. For the approximately 2400 households of El Molo and Turkana living in the area, fishing activities remain the primary sources of livelihood.[3]

1 ECOLOGICAL AND TERRITORIAL DISRUPTION FROM CLIMATE CHANGE AND HUMAN ACTIVITY

The communities of Elmolo and Turkana have been increasingly affected by the following environmental challenges and climate change impact:

- RISING WATER LEVELS: Since 2020, communities have observed a steady rise in Lake Turkana's water levels (approximately 500 square meters), resulting in the frequent flooding of land,[4] homes, ancestral burial grounds, fishing boats and equipment.[5]

1 African Center for Aquatic Research and Education (AGL), "Lake Turkana," *African Great Lakes*, https://www.agl-acare.org/resources/the-african-great-lakes/lake-turkana/.

2 African Center for Aquatic Research and Education (AGL), "Lake Turkana: Status, Challenges, and Opportunities," *Journal of Great Lakes Research*, 2023, https://www.agl-acare.org/wp-content/uploads/2025/02/10.-Lake-Turkana-Status-challenges-and-opportunities_2023_Journal-of-Great-La.pdf, 1.

3 Information provided by the Chief's Office.

4 Nation Media Group, "*El Molo: A Community's Predicament in the Face of Climate Crisis*," Nation, https://nation.africa/kenya/health/el-molo-a-community-s-predicament-in-the-face-of-climate-crisis-4359866.

5 Al Mayadeen English, "*Kenya's El Molo Tribe Threatened by Climate Crisis,*" Al Mayadeen, https://english.almayadeen.net/news/environment/kenyas-el-molo-tribe-threatened-by-climate-crisis.

This rise has also submerged traditional fishing points and pushed breeding grounds to deeper areas, leading to a decline in viable fish reproduction. This phenomenon has been linked to a combination of intense rainfall events and increased inflow from the Omo River Basin in Ethiopia, which contributes more than 90% of Lake Turkana's water. These inflows have been affected by both climate variability and upstream water infrastructure projects (i.e. dams and irrigation schemes), including the Gibe III Dam.[6] As water levels rise, flooding occurs more frequently as Lake Tukana has no outlet. This further devastates the livelihood of water-dependent communities. Moreover, the community has also observed rising water temperatures, with surface waters becoming noticeably warmer over time. This has caused the migration of highly valued fish species, such as moon fish, golden Nile perch, and balloon fish.

- EXTREME AND UNPREDICTABLE WEATHER PATTERNS: The region has been experiencing increasingly erratic seasonal and rainfall patterns. Seasonal cycles have shifted, disrupting traditional weather expectations due to unpredictable timing and intensity of rainfall. In 2019, the area experienced a significant weather anomaly, known as the Indian Ocean Dipole. This phenomenon brought unusually high rainfall, disrupting the typical El Niño sequence that regulates precipitation in the region. The heightened humidity altered prevailing wind patterns, accelerating water evaporation and contributing to abnormal warming and prolonged dryness. As a result, the frequency and severity of droughts have increased – from occurring roughly once every ten years in the past to at least once every five years today.[7] Additionally, between January and March, the area often experiences extreme heat (approximately 40 degrees Celsius), leading to serious health issues such as heat stress among the local population.

6 Oxford School of Global and Area Studies, "What Future for Lake Turkana? Update," University of Oxford, https://www.africanstudies.ox.ac.uk/sites/default/files/africanstudies/documents/media/whatfuturelaketurkana-_update_0.pdf, 41.

7 Homa Peninsula Paleoscape Project, "*Climate and Hydrological Variability in the Turkana Basin*," Environmental Development 50 (2025), https://www.sciencedirect.com/science/article/pii/S2211464525000594.

2 THE IMPACTS OF CLIMATE CHANGE ON FISHER PEOPLES' HUMAN RIGHTS, LIVELIHOODS AND WAYS OF LIVING

RIGHT TO FOOD AND NUTRITION

Fishing remains the primary source of livelihood for the El Molo community and is increasingly essential for the Turkana people. However, climate change – particularly rising water levels in Lake Turkana – has severely disrupted fish breeding grounds, leading to a sharp decline in fish stocks. Community members estimate a 40% reduction in fish catch. Key species such as Golden Nile perch (*Invilate*), balloon fish (*Tuwaate*), mudfish, and catfish rely on shallow shoreline areas to spawn. As these habitats become submerged or physically altered, fish reproduction is hindered, resulting in fewer fingerlings surviving into adulthood and an overall decline in fish populations.

The situation is worsened by fluctuating water temperatures and prolonged heatwaves, which have further reduced egg survival rates and triggered the migration of vital fish species to cooler waters.[8] These species, once abundant and highly valued at local markets, played a key role in feeding entire families and extended networks. Their disappearance has deeply undermined food availability, economic stability, and traditional systems of food sharing and mutual support among the community members.

As fish stocks dwindle, many households are now unable to meet their basic nutritional needs. Families report going without sufficient food for extended periods – sometimes a month or more – unable to maintain a normal, active, and healthy life. Rising food prices have further strained their access to adequate diets, and what little is caught through fishing is often barely enough to feed a single household.

Although some members of the community keep livestock, their numbers are small, and prolonged droughts and disease – exacerbated by climate change – have decimated herds. Fishing communities are particularly hard hit, as they have fewer livelihood alternatives. Since the severe rise in water levels in 2020, many families have become dependent on seasonal food aid (e.g. maze, beans, lentils, soybeans, cooking oil) provided by the government and civil society organizations. Although most villager's diet is comprised of fresh or fried fish, supplemental produce has become essential in complimenting this basic diet.[9] However, this aid is irregular, often insufficient, and does not restore their autonomy over food production or access.

Climate change has significantly eroded the community's right to food and nutrition. Once self-sufficient, the community is now increasingly dependent on external aid, undermining their agency to determine how and what they eat.

8 Such as moon fish (*Yot*), Golden Nile perch (*Invilate*), and balloon fish (*Tuwaate*).

9 Rongo University, "*Factors Driving Exclusion and Discrimination of El Molo in Kenya: A Case of El Molo in Turkana County*," ResearchGate, 2024, https://www.researchgate.net/publication/380414071_Factors_Driving_Exclusion_and_Discrimination_of_Elmolo_in_Kenya_A_Case_of_El_Molo_in_Turkana_County.

RIGHT TO WATER

Loiyangalani has a natural spring at its center, fed by underground sources running from hills approximately 24 kilometers (15 miles) away.[10] However, in recent years, this crucial water source has been damaged and has deteriorated due to flooding, As a result, residents, particularly women and children, are walking up to 5 kilometres farther to access fresh water, firewood, and other basic services. The community has adapted to increasing water scarcity, often relying on donkeys to transport water from neighboring areas, including the town of Loiyangalani itself. These changes are directly linked to the impacts of climate change, which has disrupted both natural water systems and traditional means of accessing essential resources.

RIGHT TO TERRITORIES AND RIGHT TO HOUSING

Rising water levels in Lake Turkana have displaced over 150 households between 2021 and 2022, and continue in current years. Several settlements remain at risk, with residents still in the process of relocating from their original homes.[11] Families have been forced to move to higher ground. Despite the scale of this crisis, no formal government support has been provided. Instead, assistance has come from local community-based organizations, offering space in their homes and stores to shelter displaced families.[12] Despite this, some affected residents have been able to maintain access to fishing.

In 2024 , approximately 617 households were displaced across the El Molo, Turkana, and Samburu communities in Loizangalani and beyond. Of these, 330 were women and 287 men, reflecting both the demographic makeup of the area and the gendered dimensions of climate vulnerability - where women, who form the majority in these communities, are disproportionately affected.[13]

As water levels continue to rise, available land for homesteads is shrinking. This has led to overcrowded living conditions, with families forced to live in close quarters and compete for limited space. Due to insecure land tenure, many families have migrated to higher grounds in search of safety. However, relocation comes at a cost: many of the new settlements are remote, making it difficult for residents to access basic services such as markets, shops, schools, and clinics.

10 Loiyangalani Trust, "*Loiyangalani – About the Region*,", https://www.loiyangalanitrust.org.uk/loiyangalani.php.

11 According to the testimonies and photo documentation on the ground.

12 The support was provided by the Gurapau Women Group.

13 According to the testimonies of elders from land registration they viewed in April and May 2025.

The rising lake has also led to the loss of critical infrastructure, including roads and schools. In the neighbouring village of Komote, also located in Loiyangalani Sub-County, what was once a thriving settlement has become an island due to persistent flooding. Some homes have been completely submerged, forcing more residents to evacuate to higher ground. As entire villages are marooned into isolated islands, transportation has become increasingly difficult, further cutting off affected communities from essential services and support.

RIGHT TO HEALTH AND RIGHT TO EDUCATION

Communities in Loiyangalani are increasingly affected by a range of health challenges directly linked to climate change. Residents report rising incidences of cholera, malaria, waterborne diseases, heat strokes, and heat stress, particularly since 2021. Children under the age of five are among the most vulnerable. Alongside physical health issues, the constant threat of displacement and the loss of livelihoods have taken a toll on the community's mental health. Access to healthcare services remains extremely limited. Many health facilities are poorly equipped and frequently lack essential medicines.[14] For proper treatment, residents must travel to the town center in Loiyangalani, where private chemists charge high prices that many cannot afford.

Due to rising water levels, entire villages have become isolated islands, with limited or no access to the mainland where schools, clinics, and markets are located. Families must pay up to USD 2, daily, to travel back and forth by boat to access these essential services. For parents, this means additional daily expenses to bring children to school and to buy food, which places an even greater financial burden on households already struggling with shrinking incomes from fishing. Many families can no longer afford to pay school fees. This has led to a 30% dropout rate, with increasing reports of early pregnancies and early marriages, sometimes as early as age 14, contributing to further educational decline among girls.

RIGHT TO CULTURE

In Layeni village, over 50 graves have been submerged due to rising water levels, causing deep emotional distress among community members. For the indigenous El Molo people, this loss represents more than physical displacement - it is a profound cultural erosion. Sacred spaces such as ancestral graveyards and traditional shrines can no longer be regularly visited, severing spiritual and cultural ties that are essential to the indigenous Elo Molo community's identity.

As fish stocks decline, traditional fishing practices that once sustained communities for generations, are rapidly disappearing. Methods passed down through elders, and tools crafted over decades, are being abandoned in favor of modern techniques, often adopted out of economic necessity. While these new methods may increase yields in the short term,

14 *Loiyangalani – About the Region .*

they also bring high maintenance costs, environmental degradation, and dependence on distant markets and external supply chains. This transition has not only reshaped local economies, but has also eroded cultural identity. Broader changes in livelihoods and daily life have also accelerated cultural assimilation into “Western” norms, disconnecting younger generations from their heritage and weakening intergenerational knowledge sharing. Without adequate support and sustainable alternatives, communities risk deepening social and economic vulnerabilities while losing vital aspects of their cultural fabric.

IMPACT ON WOMEN AND GIRLS

Women and girls bear a disproportionate brunt of the burden. As they walk long distances to fetch firewood and water, they are more exposed to wildlife attacks (e.g., hyenas) and gender-based violence, including sexual assault. There have been reports of women suffering miscarriages and health complications from these long, strenuous walks. Additionally, low literacy levels and weakened livelihoods leave women with few alternatives for income generation.

Women who once sustained themselves by processing and selling dried fish report a 20% drop in income, cause by declining fish stocks decline species migration. This has further compounded women’s economic vulnerability.

Overall, climate change is severely impacting women and girls, increasing their workload, reducing their access to education, exposing them to violence, and heightening health risks.

3 CLIMATE CHANGE AND ENVIRONMENTAL POLICIES, LAWS AND GOVERNMENT ACTIONS IN KENYA

The El Molo - Kenya's smallest Indigenous community - and the Turkana living in Loiyangalani are increasingly vulnerable to the adverse impacts of climate change, including rising water levels, the loss of traditional fishing grounds, and cultural displacement. Although Kenya possesses a robust legal and policy framework, its implementation remains insufficient to adequately safeguard and protect the human rights of the El Molo and Turkana communities.

The Kenyan Constitution (2010) guarantees the rights of marginalized communities to cultural protection, participation, and a clean and healthy environment.[15] The Climate Change Act (2016)[16] further emphasizes the inclusion of vulnerable groups in climate planning, and the National Climate Change Action Plan outlines goals for community-led adaptation and sustainable livelihoods.[17] Additional laws such as the Fisheries Management and Development Act (2016) and the Community Land Act (2016) provide for customary resource access and co-management.

However, despite these frameworks, the El Molo remain largely excluded from formal decision-making. Their ancestral fishing grounds and sacred lands face increasing threats, while the Government is failing to protect their human rights. International frameworks, like the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), the UN Declaration on the Rights of Peasants and People working in Rural Areas (UNDROP), and the Paris Agreement, also reinforce the state's obligation to ensure equitable, culturally appropriate adaptation responses.

Kenya is failing to uphold its obligations under existing legal and policy frameworks. In addition, it is promoting so-called "false solutions" that risk further jeopardizing the human rights of the El Molo and Turkana. These measures undermine customary rights, disrupt traditional livelihoods, and contribute to growing precarity within the communities. One such example is the South Lokichar oil development project, a major onshore oil project which is expected to produce large volumes of oil and generate economic benefits. Although the project is not formally part of Kenya's Blue Economy agenda, it is closely linked through major infrastructure initiatives such as the Lamu Port and the LAPSSET Corridor.

15 Constitution of Kenya, Articles 11 (Culture), 42 (Right to a Clean and Healthy Environment), 56 (Protection of Marginalized Groups), and 69 (Obligations of the State in Respect of the Environment).

16 Republic of Kenya, *Climate Change Act, No. 11 of 2016*, http://kenyalaw.org:8181/exist/rest/db/kenyalex/Kenya/Legislation/English/Acts%20and%20Regulations/C/Climate%20Change%20Act%20-%20No.%2011%20of%202016/docs/ClimateChangeAct11of2016.pdf.

17 Republic of Kenya, *Kenya National Climate Change Action Plan (NCCAP) 2018–2022 Implementation Status Report*, National Adaptation Plan Global Network, 2022, https://napglobalnetwork.org/wp-content/uploads/2022/01/napgn-en-2022-kenya-NCCAP-2018-2022-Implemantation-Status-Report.pdf.

Both have been criticized for lacking community consultation and causing harmful impacts.[18] [19] These developments threaten to further marginalize fishers in Loiyangalani by degrading Lake Turkana's aquatic ecosystems, reducing fish stocks, and limiting access to traditional fishing grounds. In prioritizing extractive industries and export infrastructure, the government continues to disregard the survival and food sovereignty of small-scale fishers like the El Molo.

FISHER PEOPLES' RESISTANCE AND SOLUTIONS TO CLIMATE CHANGE

The fishing communities of El Molo and Turkana demontrate resilience in their fight against rising water levels and submergence of their territories. The communities are actively engaging in participatory climate risk assessments to better understand their vulnerabilities and are collaboratively developing targeted climate change action plans.[20]

Communities prioritize education and awareness-raising about climate change impacts, ensuring that all community members understand the challenges they face and can contribute to collective solutions. In Kula Samaki, one village in Loiyangalani, community members have taken the critical step of drilling boreholes to secure fresh water access for their daily needs, establishing a reliable tap water system that now serves each household. This water infrastructure initiative demonstrates the communities' systematic approach to climate resilience.

These community-driven interventions represent efforts to build adaptive capacity for future environmental challenges while preserving traditional fishing-based livelihoods. Through these self-directed efforts, the El Molo and Turkana communities are actively building their capacity to withstand future environmental challenges while maintaining their traditional fishing livelihoods.

18 Fredrick M. Wanyama, *"Kenya's Lamu Port Was Meant to Deliver Great Things – but as the Story of Local Fishermen Shows, It Hasn't," The Conversation*, August 16, 2022, https://theconversation.com/kenyas-lamu-port-was-meant-to-deliver-great-things-but-as-the-story-of-local-fishermen-shows-it-hasnt-189258.

19 Kenya Human Rights Commission (KHRC), *Forgotten in the Scramble for Lamu: A Position Paper in the Case of the Aweer and the Fisherfolk*, December 2023,https://khrc.or.ke/wp-content/uploads/2023/12/Forgotten-in-the-Scramble-for-Lamu-A-Position-Paper-in-the-Case-of-the-Aweer-and-the-Fisherfolk.pdf.

20 Participatory climate risk assessments include methods such as community mapping, historical timelines, seasonal calendars, hazard ranking, and vulnerability analysis. Local climate action plans outline targeted responses to climate-induced challenges—such as rising lake levels and declining fish income—by identifying priority issues, responsible parties, required resources, and clear timelines. This structured approach enables coordinated interventions, including home relocation, fisher training, and alternative livelihood support, based on community needs and capacities.

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