

REPUBLIC OF KENYA

MINISTRY OF ENVIRONMENT, CLIMATE CHANGE AND FORESTRY

State Department for Environment & Climate Change

Office of the Principal Secretary

Kenya's request for technical assistance, to Santiago Network on Loss and Damage on

Comprehensive Assessment of Economic and Non-Economic Loss and Damage associated with Climate Change Across All Sectors in Kenya from 2015 to 2025

and

Projection of Loss and Damages up to 2035

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Basic information

Name of the country: Kenya

Title of request for technical assistance:

Comprehensive Assessment of Economic and Non-Economic Loss and Damage associated with Climate Change across all sectors in Kenya from 2015 to 2025 and Projection of Loss and Damages up to 2035

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Need for financial support from the Santiago network:

☑ technical assistance with financial support from the Santiago network

- **Explanation:** The funding needed to address loss and damage in Kenyan communities is acute and unmet, and humanitarian action alone is an inadequate and unsustainable response. **Kenya, as a country on the front lines of the climate crisis, has increasingly less resources to adequately respond to climate impacts**. **Rising global average temperatures associated with greenhouse gas forcing are causing frequent extreme weather patterns resulting in climate disasters across various regions in Kenya, where prolonged droughts and floods are common**. This request seeks financial support to ensure a robust and comprehensive assessment, through among others

stakeholders' participation, different climate scenario development and modelling and consultation.

- **Objective and scope Objective:** This request for technical assistance aims to **comprehensively assess and quantify the economic and non-economic impacts of climate-induced loss and damage across all sectors in Kenya from 2015 to 2025 and projection of Loss and Damages up to 2035**. This aligns with the Santiago network's scope of provision of technical assistance, which includes averting, minimizing, and addressing loss and damage associated with the adverse effects of climate change, with a focus on areas such as non-economic losses, comprehensive risk management, human mobility, slow-onset events, and extreme weather events. **This assessment will provide crucial empirical evidence, which has been lacking in many previous explanations of climate-induced changes**. Its important to note that this will be the first time that this assessment would have been done. The assessment will identify, quantify, and document the impacts to inform national policy, planning, and investment strategies/interventions for averting, minimizing, and addressing future loss and damage.
- **Geographical scope:** ☑ National: This assessment will cover all sectors at national and sub national levels, drawing on specific regional and local impacts detailed in the context statement.
- **Timeline for technical assistance delivery:** The expected timeline for this comprehensive assessment is approximately 3-8 months, covering the period of impacts from 2015 to 2025 and appropriate projections.

Request for technical assistance

Context and problem statement:

Kenya faces multiple severe impacts of climate change, including recurrent floods, prolonged droughts, landslides, **rising lake waters, and locust infestations among others**. The country recently experienced the **worst drought in 40 years**, this is further compounded by the fact that more than 80% of Kenya is drylands, making it highly vulnerable to drought. **These climate impacts have led to significant displacement, death, and cultural and economic losses,** forcing communities **to abandon** historical livelihoods such as fishing, farming, and pastoralism.

Upsurge in water levels of the Rift Valley Lakes is one of the most recent and impactful climate extremes witnessed along the lakes and rivers in Kenya. In Kenya, this gradual rise has reached unprecedented heights, claiming vast **portions of**

land, livelihoods disruption and causing significant property damage, which has been a matter of public concern. **Many community members have been forced to abandon their homes, businesses and tourist sites, including the renowned hot water springs and geysers of Lake Bogoria, which have been submerged**. Rising water levels in the lakes, particularly in the Rift Valley, have caused permanent displacement and submerged homes, graves, and critical infrastructure. For example, **Lake Baringo has doubled in size over the past decade**, submerging villages and affecting over 3,000 households. The **El Molo community in Turkana** now relies on boats for children to access school due to the rise in Lake Turkana's water levels, posing financial and safety challenges. Similarly, the Indigenous **Ilchamus residents on Kokwa Island in Lake Baringo** are trapped, experiencing both drought and flooding, with limited economic means or transport, leading to **women being forced to give birth on wooden boats** while enroute to mainland hospitals. The **Endorois community displaced** by rising waters in Lake Bogoria has seen rising poverty levels driving social ills like prostitution, early marriages, gender-based violence, among others.

Overall, more than 75,000 households were displaced, and over 379,000 people are at risk due to rising lake waters. Submerged infrastructure has led to electricity outages, water shortages and destruction of roads leading to increased cost of goods, school dropout and even deaths due to reduced access to hospitals and other essential services due to cut off of roads. Further, this has led to **litigations against government**, **decline in tourism income**, economic loss of hotels and government offices, and increased risk of water-borne diseases and respiratory conditions due to dampness and cold. **Six healthcare facilities have been submerged in Lake Baringo, and the only dispensary on Kokwa Island is submerged**. Increased attacks from aquatic animals such as crocodiles, hippos, and snakes has become a major concern to communities leaving along the areas.

Beyond the lakes, Kenya experienced a series of extreme weather events in **2023**, including **prolonged droughts** and severe flooding, which had widespread impacts. The beginning of 2023 was marked by ongoing drought conditions, a result of **five consecutive failed rainy seasons since November 2020 leading to the worst drought in 40 years**. The protracted 2021-2022 drought left over 6 million people food insecure and caused significant livestock losses (estimated at $1 billion USD from 2.5 million livestock lost during the drought) hence totally destroying livelihoods for millions. The drought severely affected water availability, agriculture, and livestock, leading to food insecurity and economic hardship for millions. This situation exacerbated the humanitarian crisis even as the country faced new challenges.

As the year progressed, **2023 was globally the warmest year on record, with Kenya experiencing above-normal temperatures across most regions**. This devastating drought was immediately followed by destructive floods. The **March-April-May (MAM) 2024 floods alone resulted in 315 deaths, more than 188 injuries, and displaced over 293,200 people**. These floods compounded the effects of previous extreme weather events ie drought, including the **October-November-December (OND) 2023 floods, which caused over 400 deaths, over than 200 injuries, and impacted approximately 695,255 people across 38 counties**. The OND 2023 season was characterized by **enhanced rainfall due to prevailing El Niño conditions and a positive Indian Ocean Dipole (IOD)**.

These events have had widespread socioeconomic impacts, acerbated by communities facing one extreme event after another without really having time to recover from the previous extreme events. Critical infrastructure, including roads, bridges, and energy systems, has been damaged or disrupted. The **energy sector experienced a significant decline in hydropower generation in the 2022/2023 financial year, contributing only 19.33% compared to 34.22% in 2020/2021**. Health concerns include outbreaks of **cholera, which affected 27 counties in 2023, and increased vector-borne diseases due to contaminated and stagnant water sources**.

While recent assessments like the Kenya Floods Recovery Needs Assessment (KF-RNA 2024) have quantified damage and recovery needs for specific events, they highlighted challenges in accurately estimating economic loss due to lack of established systems for capturing relevant data. **Furthermore, losses within the informal economy, which are likely significant, were not calculated, and quantifying non-economic losses remains a key challenge**. A comprehensive, **long-term assessment** of both economic and non-economic loss and damage from 2015 to 2025 across all sectors is critically needed to understand the **cumulative and cascading impacts of climate change on Kenya's development and human well-being**. The primary need is for loss and damage assessments and the establishment of loss and damage databases, including data management and disaggregation of data. The lack of comprehensive data hinders effective policy development, adaptation planning, and the mobilization of appropriate loss and damage finance.

Therefore this assessment will help to overcome this barrier of **fragmented or absent** data on the **full economic and non-economic costs** of climate change impacts, which is **crucial for advocating** for and accessing necessary funding and support from the Fund for Responding to Loss and Damage and other financial mechanisms.

Past and ongoing efforts to address the problem, synergies and complementarities:

The Government of Kenya, supported by the United Nations and other partners, conducted the Kenya **Floods Recovery Needs Assessment** (KF-RNA) for the March-May 2024 floods using the globally established Post-Disaster Needs Assessment (PDNA) methodology. This assessment evaluated damage, loss, and recovery needs across social (Housing, Health, Education), infrastructure (WASH, Transport), productive (Agriculture), and cross-cutting (Environment, Disaster Risk Reduction) sectors. The KF-RNA estimated total damage at **USD 783.37 million and total recovery needs at USD 977.98 million for the MAM 2024 floods alone**. However, funding to address loss and damage remains acute and unmet, and local **communities struggle to access support**, often relying on **charitable contributions** from "well-wishers". Humanitarian action alone is deemed inadequate and inappropriate as a means of redress.

The Ministry of Environment and Forestry, in collaboration with UNDP, published a "Scoping Report" in 2021 specifically on the Rising Water Levels in Kenya's Rift Valley Lakes, Turkwel Gorge Dam and Lake Victoria. This report established causes, socio-economic impacts, and recommended interventions. The **Scoping Report involved a Multi-Agency Technical Team , covering all affected lakes, and notably captured the voices and psycho-social impacts on affected communities**. It was a comprehensive exercise involving numerous government ministries, state departments, and county governments. The report identified among others the **hydro-meteorological factors due to climate change and increased siltation from land use changes due to impact of climate change, as influencing the phenomenon**.

The KF-RNA process identified significant data gaps and challenges in comprehensively assessing economic losses, especially beyond direct physical damage, and the difficulty in quantifying non-economic losses. This request builds on these findings by seeking to develop and implement a robust methodology for assessing long-term (2015-2025) and comprehensive economic and non-economic loss and damage, addressing the identified data and methodological gaps. The National Climate Change Action Plan and joint government-UNDP reports address aspects of climate change and displacement. Local communities have also tried to adapt, for instance, by considering a switching livelihood sources from pastoralism to farming in Baringo.

This request for technical assistance will build on existing national policies and reports by providing a detailed, systematic, and comprehensive assessment that goes beyond general observations to quantify the economic and capture the qualitative aspects of non-economic losses. It will complement ongoing efforts by providing robust data necessary

for future climate planning, Loss and Damage policies interventions, actions to Minimize avert and address Loss and Damages and inform national loss and damage financing priorities. Among other synergies include informing national policy revisions, guiding investment in resilient infrastructure, among others . The assessment will also consider the workstreams of the Executive Committee of the Warsaw International Mechanism (WIM) on enhancing in-country support on addressing loss and Damages.

Objective of technical assistance and expected results:

The overall objective of this technical assistance is to provide the Government of Kenya with a **comprehensive**, **robust assessment and quantifiable** economic and non-economic loss and damage across all sectors for the period 2015-2025 and projection of loss and damages for various scenarios up to 2035.

Intended results and activities include:

- **Development of a robust methodology for assessing both economic and non-economic loss and damage** across diverse sectors (e.g., agriculture, livestock, water, tourism, settlement, health, infrastructure, culture, biodiversity), types of impacts (e.g., extreme weather events, slow-onset events) gender and county vulnerability. This methodology will leverage insights from the KMD's findings on the strong correlation between **increased rainfall and high lake levels, influenced by climatic drivers such as the Indian Ocean Dipole (IOD)**.
- **Data collection and management systems:** Establish efficient systems for granular data collection, disaggregation, and management related to climate impacts, damages, and losses across all sectors (e.g., agriculture, housing, health, education, transport, WASH, environment).
- **Comprehensive assessment report and video documentary:** Produce a detailed report quantifying economic and non-economic losses, identifying major impacted sectors, regions (county), and vulnerable populations (e.g., Indigenous communities, women, children, displaced persons).
- **Analysis of human impacts:** Evaluate the repercussions of climate impacts on among others living conditions, health, education, livelihoods, food security, gender equality, and social inclusion for affected populations.
- **Future projections of loss and damage to 2035:** This include projection on LD from various scenarios (SSP that is used by IPCC 6AR). **These projections**

will consider anticipated climate patterns for 2024 and beyond, including higher temperatures, erratic rainfall, socio economic impacts and potential shifts in ENSO (El Niño Southern Oscillation) and IOD phases. For example, **Lake Baringo levels are predicted to rise sharply within the study data periods, while Lake Naivasha is expected to see substantial increases**.

- **Policy and planning recommendations:** Provide actionable recommendations for preparing loss and damage strategies and action plan, and development plans for the Country.
- **Special report of economic and non economic impact of rising lakes to women, elderly and children across all rising lakes**.

Capacity Building: Enhance national and local capacities for ongoing loss and damage assessment, data analysis, and the integration of these findings into climate resilience and sustainable development planning. This technical assistance will directly address the identified problem by providing evidence-based data crucial for policy formulation, resource mobilization, and advocating for justice for climate-impacted communities. Specialized services and skills required include climate science expertise, socio-economic impact assessment, scenario development and modelling, attribution scientists, data management and analysis, human rights and cultural impact assessment, and community engagement facilitation.

Explanation if the request requires an urgent response:

While the ongoing and intensifying impacts of climate change in Kenya necessitate urgent action, this specific request is very urgent due to increased economic and non-economic loss currently being experienced in the country, for a systematic preparedness and response on existing and projected loss and Damages. Therefore, **it is an emergency response request, and a crucial step for comprehensive long-term planning and resilience building for vulnerable communities to prevent further high magnitude incidences of loss of life and properties**. Additionally, its urgent and emergency due to **pending community litigation towards Government on loss and damages associated with rising lakes**. This is further underscored by the **simmering legal challenges identified in the 2021 Scoping Report due to the loss of approximately 1106 Km² of land around the lakes, including areas with legal title deeds**.

Country-driven and inclusiveness

Development of the request:

This request has been developed through a country-driven and inclusive process, drawing on the experiences and expressed needs of climate-impacted populations across Kenya and informed by the Government of Kenya's ongoing efforts to address climate impacts and assess their consequences. It is informed by research and interviews conducted in October 2022 with **85 climate-impacted and displaced persons in Kenya, encompassing communities affected by floods, drought, and other climate phenomena**. Specific attention has been paid to the needs of vulnerable people, Indigenous Peoples, and local communities, including children, youth, and women, as highlighted. Examples include the **Indigenous and marginalized Ilchamus, Endorois, and El Molo communities who have experienced significant cultural, economic, and human rights losses**. No **specific OBNE** or **member of the Santiago network** was involved in the development of this request, ensuring it reflects direct in-country needs.

The recent Kenya Floods Recovery Needs Assessment (KF-RNA 2024), with involvement from key ministries and departments, demonstrated a collaborative approach involving **18 UN Agencies, Funds and Programmes, the African Development Bank, Save the Children, and the Kenya Red Cross Society**. Data collection for the KF-RNA was aggregated from **24 of the most affected counties, reflecting subnational representation**. The KF-RNA included a Human Impact Assessment (HIA) that focused on critical social indicators such as living conditions, food security, livelihoods, gender equality, and social inclusion, thereby considering the needs of vulnerable people and communities. **The insights gained from the KF-RNA, including challenges in data collection for losses and non-economic impacts, directly inform the rationale for this broader assessment**. This ensures that the technical assistance will be demand-driven and take into account the needs of vulnerable populations, including women, children, and Indigenous communities who are disproportionately affected by climate impacts.

Involvement of liaison to the Santiago network, where identified:

This request has been developed by the Climate Change Directorate, State Department for Environment and Climate Change under the Ministry of Environment, Climate Change and Forestry in consultation with Santiago Liaison Officer who is also the National Contact Point for Loss and Damage and internal coordination team from various climate change units. The liaison and Contact Point ensured the technical request aligns with National priorities as outlined in the NDC.

Alignment with national priorities on loss and damage:

This request for technical assistance is directly aligned with Kenya's long-term development blueprint, Kenya Vision 2030, which emphasizes sustainable development and enhancing resilience against natural hazards. It also harmonizes with the **Fourth Medium-Term Plan (MTP IV) 2023-2027 and the current government manifesto of Bottom-Up Economic Transformation Agenda (BETA)**, which prioritize inclusive growth across key sectors such as agriculture, infrastructure, health, and natural resource management all of which are significantly impacted by climate change in Kenya. It aligns with and will provide critical data for informing and strengthening the Nationally Determined Contributions (NDCs) and National Climate Change Action Plan which are key planning, mainstreaming and reporting instruments. By comprehensively assessing losses and damages across all sectors, the technical assistance will contribute to achieving national goals related to climate resilience, climate mobility, food/nutrition security, climate security, and sustainable development, supporting the government's efforts to address the widespread climate impacts it is currently facing now and into the future.

By providing robust data on loss and damage, it will enable more informed policy decisions, better targeting of resources, and more effective implementation of strategies to mitigate future impacts and address current losses.

A comprehensive assessment of loss and damage from 2015-2025 will provide critical data and insights to inform:

- **Resource mobilization and improve Production:** Support for various value chains, input subsidies where applicable, contributing to economic resilience and financing request for LD interventions for the Country. Financial support to vulnerable communities and areas of further investment by various stakeholders.
- **Targeted intervention towards vulnerable communities** among them PWDs, women, elderly, indigenous, youth and children.
- **Infrastructure:** Guide the reconstruction, relocation and climate proofing of roads, bridges, settlements, public amenities (schools, hospitals, among others) and WASH systems to withstand future climate shocks and minimize, avert and address the infrastructure gap. This aligns with recommendations from the 2021 Scoping Report, which included **rehabilitating and relocating damaged infrastructure such as water supplies, health centres, and roads**.
- **Social Sector:** Enhance universal health coverage and social protection programs by addressing climate-induced health risks and supporting vulnerable groups.

- **Environment, Water and Natural Resources:** Inform sustainable resource management, reforestation, and building resilience in arid and semi-arid lands (ASALs), which cover more than 80% of Kenya. This also aligns with the 2021 Scoping Report's recommendations for **flood control and conservation practices in catchment areas, including green infrastructure and tree planting, to reduce soil erosion and increase groundwater recharge**.
- **Institutional strengthening:** Strengthen institutional governance, coordination structures, and policy and action plan frameworks for averting, minimizing and addressing loss and damage reduction and climate change adaptation.

This assessment will directly support the development and implementation of an effective national loss and damage associated with climate change action plan and other policies, which are essential for Kenya which is highly vulnerable to climate impacts. **The 2021 Scoping Report also emphasized the need for a National Lake Basins Management Strategy and Climate Resilient County Spatial Plans to sustainably manage water resources and guide development in anticipation of future challenges**.

Inclusiveness and leaving no one behind: The needs of vulnerable populations are central to this request. Climate change disproportionately affects marginalized communities in Kenya, including **Indigenous Ilchamus, Endorois, and El Molo communities, as well as nomadic Turkana pastoralists, fisher folks and residents of informal settlements like Kibera**.

The request is inherently inclusive, focusing on comprehensive assessment across all sectors, with particular emphasis on impacts on **vulnerable populations, Indigenous Peoples, and local communities**, including their economic, social, and cultural losses. The assessment will explicitly capture the disproportionate impacts on **women and girls (e.g., forced births on boats, exposure to gender-based violence while fetching water, lack of economic opportunities), children (e.g., impact on education, malnutrition), and ethnically marginalized groups (e.g., Ilchamus, Endorois, El Molo)** who have borne historical injustices and current climate brunt.

The assessment will consider:

- **Displaced populations:** More than **75,000 households (over 379,000 people) were at risk from rising lake waters in 2021**, **293,205 people were displaced by the MAM 2024 floods and those most affected by droughts**. The assessment will document the impacts on their living conditions, access to services, and the specific challenges of immobility due to poverty.

- **Women, Girls and Children:** The request will focus on understanding gender-specific impacts, such as increased gender-based violence in informal settlements, lack of economic opportunities for women due to loss of livelihoods, children foregoing school due to climate risks, and heightened risks for pregnant women (e.g., forced to give birth, mortality rates etc).
- **Livelihood-dependent communities:** Assessment will cover impacts on traditional livelihoods (fishing, farming, pastoralism) and the compounded insecurity faced by agro-pastoralist communities.
- **Health vulnerabilities:** Document the increase in emerging diseases, malnutrition, and limited access to healthcare facilities, particularly affecting children and marginalized groups.
- **Non-economic losses (NELD):** The assessment will highlight NELDs such as **loss of life, inundated burial sites, illness outbreaks, and the broader social and cultural disruptions that are difficult to quantify monetarily but are profoundly felt by communities**. The **destruction of rich biodiversity areas, including wildlife sanctuaries, and increased human-wildlife conflicts due to habitat loss and displacement** also represent significant non-economic losses.

The technical assistance is expected to generate significant co-benefits beyond just data collection:

- **Social benefits:** By identifying specific vulnerabilities, it can guide among others targeted support, reduce health risks (water-borne diseases, respiratory conditions), and improve access to essential services.
- **Cultural benefits:** Documenting non-economic losses, such as submerged graves and abandoned ancestral lands, acknowledges the profound cultural impacts and can inform culturally appropriate responses.
- **Economic benefits:** A clearer picture of economic losses can facilitate access to appropriate financing to minimize, avert or address/recovery, potentially reducing poverty and creating new livelihood opportunities where traditional ones are lost.

By focusing on these disproportionate impacts, the technical assistance aims to generate disaggregated data and insights that promote equitable recovery and ensure that recovery efforts are both effective and equitable, contributing to the principle of "leaving no one behind".

Expected impact of technical assistance

Capacity development and retention:

This technical assistance will significantly contribute to building and retaining in-country capacities for loss and damage assessment, data management, and evidence-based policy formulation. The KF-RNA highlighted that the ability to provide accurate cost estimates for damage, loss, and recovery needs was heavily influenced by the sector's capacity to gather detailed information, with some sectors struggling in this regard. This request aims to address these identified capacity gaps.

The technical assistance will involve:

- **Training and knowledge transfer:** Equipping national and sub-national government agencies, and local community organizations with the methodologies and tools for conducting comprehensive loss and damage assessments, including the valuation of non-economic losses.
- **Development of standardized protocols:** Establishing clear definitions for infrastructure typologies, damage levels, and unit costs for repair/rebuilding, ensuring future assessments are more harmonized and accurate.
- **Establishment of data systems:** Supporting the development of robust tracking tool for loss and damage associated with climate change, across all sectors.
- **Development of national plans:** Ensuring the findings and methodologies are institutionalized within national LD plans, and other development frameworks, promoting long-term sustainability and multiplier impact.
- **Community engagement:** Empowering local communities to communicate loss and damage impacts in their own terms and participate in identifying priority actions, funding needs and interventions strategies.

Further information related to the request Relevant background documents:

- Climate-Impacted Loss and Damage in Kenya (Case Study Submission to the UN Transitional Committee on Loss and Damage, October 2022 research).
- Kenya Floods Recovery Needs Assessment KF-RNA 2024 (DRAFT Final Report, 19 September 2024).
- **Rising Water Levels in Kenya's Rift Valley Lakes, Turkwel Gorge Dam and Lake Victoria: A Scoping Report (Republic of Kenya and UN Development Programme, 2021)**.

- **Assessment of Rising Water Levels of Rift Valley Lakes in Kenya: The Role of Meteorological Factors (Muita R et al., 2021)**.
- **State of the Climate in Kenya 2023 (KMD, 2024)**.
- **State of the Climate Kenya, 2022 (KMD, 2022)**.

Dr. Eng. Festus K. Ng'eno

PRINCIPAL SECRETARY

Government of Kenya Date: 15 September, 2025