



RAPID CLIMATE RISK ASSESSMENT (RCRA) FOR URBAN ADAPTATION AND RESILIENCE

Kisumu City, Kenya

INTRODUCTION

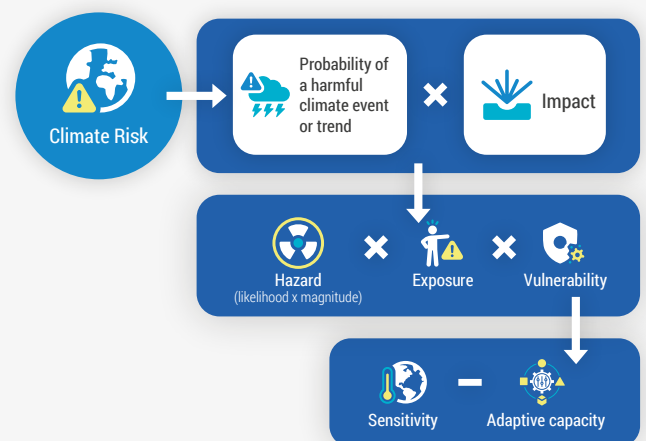
Climate change hazards, including droughts and floods, present formidable challenges for Kisumu City residents, resulting in the loss of lives and livelihoods. The situation, according to the results of a Rapid Climate Risk Assessment undertaken (RCRA) by the Global Center on Adaptation, is getting worse. However, the RCRA identified adaptation actions for the city that are well within reach, simple, and affordable.

CLIMATE CHANGE RISKS

Kisumu's main natural hazards are flooding, extreme temperatures, and drought. Shoreline floods stem from a rise in Lake Victoria's level, while riverine floods occur along the main rivers that drain through the city into the lake. Inland floods are mainly caused by Kisumu's topography, especially its location on a natural floodplain (part of the Kano floodplains). Flash floods occur in the central business district as well as areas such as Kanyakwar and Bandari.

The risks associated with flooding include: loss of lives and livelihoods; displacement of families; spread of waterborne diseases (cholera) and vector-borne diseases (malaria); destruction of infrastructure; and food scarcity. Extreme temperatures cause heat stress, which comes with several health risks, leading to higher mortality. It also constrains labor productivity and creates discomfort for residents, leading to increased demand for air conditioning, thus increasing energy demand.

What is climate risk?



Risk results from the interaction of climate hazards, exposure over time, and vulnerability (of the affected system)



Building Resilience in Kisumu City
Adapted from Groupe Huit (2022)

Main Risks



Droughts increase the risk of crop failure, water scarcity, food insecurity, loss of livelihoods, destruction of wetlands, low productivity, and death of livestock.

VULNERABILITY

The impact of these hazards is aggravated by a high poverty rate (43% of the population lived on less than one dollar per day, according to a report done in 2007 by the Kenya National Bureau of Statistics). The





rate is higher in informal settlements, where 60% of the residents have poor access to services. Limited physical and financial access to health facilities worsens the effects of water and vector-borne diseases and other illnesses.



Vegetation cover (especially around the Riat and Kajulu hills) and wetlands are threatened by rapid urbanization and droughts, floods, and landslides. This reduces their ability to regulate climate.

ADAPTATION ACTIONS

The RCRA shows Kisumu is well-positioned to deal with climate change in terms of planning, policy, and legislative framework. There is, however, an urgent need to institutionalize the adoption and implementation of the relevant instruments.

Specifically, the following adaptation actions were identified for Kisumu:

-  Sustainable solid waste management interventions to reduce flooding incidences
-  Urban planning that is responsive to climate change
-  Improve water resource management, including wetlands conservation and equitable water supply
-  Develop and implement a natural resources strategy focused on nature-based solutions to flooding, drought, and extreme temperatures

-  Create a framework for all disaster risk management activities and set up a coordination unit
-  Effective drainage system management, in line with the city's Storm Water Drainage Master Plan, to reduce or eliminate the risks associated with flooding
-  Support agricultural transformation to ensure that practices are resilient, including transition to more resilient rainfed farming
-  Improve the climate policy framework to ensure it addresses Kisumu's specific needs

