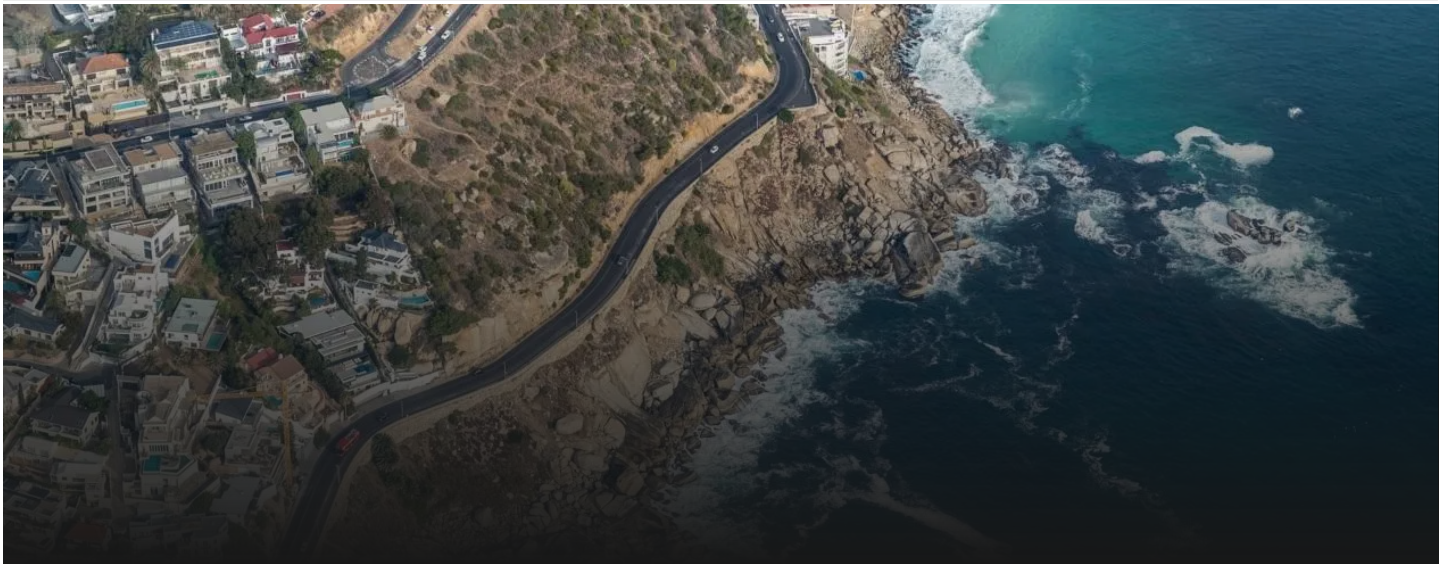


Olasunkanmi Habeeb Okunola May 9th, 2022

How policy can address frequent flooding in African coastal cities

Estimated reading time: 5 minutes

Climate change has exacerbated the risk of flooding in African coastal cities. For many countries, the cost of dealing with flood damage is a significant share of national GDP, which restrains investment into other development goals. With the frequency of major flooding events set to increase, Olasunkanmi Habeeb Okunola outlines the framework for a government policy response.

In April 2022, days of heavy rain triggered floods and mudslides across KwaZulu-Natal province of South Africa, causing widespread damage, especially around the port city of Durban. Available reports show that more than 435 deaths were recorded with about 2,000 houses and 4,000 "informal" homes or shacks damaged. The heavy rainfall also led to devastating direct and indirect impacts on critical infrastructure. More than 200 schools and major roads were affected, numerous areas suffered from water and electricity outages, cell phone towers became out of service, and warehouses were

looted. The South Africa Weather Service also predicted heavier rains in the province from April to July 2022, further compounding the frequent flooding threatening the region.

Flood is a yearly phenomenon in the KwaZulu Natal region, with significant social and economic impacts. In fact, similar occurrence was reported in 2019 with about 60 people killed and more than 1,000 people displaced in the city. Particularly worrisome is the frequency and intensity of similar flood occurrences along the African coastline over the past 30 years, generating a unique set of development challenges. For instance, relative to 1970-79, the number of floods in coastal cities of sub-Saharan African countries rose nearly tenfold by 2010-19.

In recent years, research has shown that decades of fossil fuel-burning and deforestation, as well as poor drainage systems and badly constructed houses in low-lying areas, increase the risk of flooding in African coastal cities. These areas in Africa, like elsewhere in the world, tend to be more densely populated with a high concentration of residential, industrial and commercial facilities, which make them exposed to a variety of natural and potentially damaging events. For instance, a report indicated that damage from the recent KwaZulu Natal flood was made worse by the government's failure to maintain drainage infrastructure, control population growth and prepare sufficiently for such extreme events. Additionally, economic activities in these coastal cities such as brick making, sand mining and wetland encroachment often contribute to flood vulnerability.

Policy recommendations

Beyond physical damage, the harsh consequences of frequent erosion and flooding are very costly for African coastal cities. For example, in Mozambique, floods in 2013 were estimated to cost over US$500m, nearly 9% of the country's GDP, a country considered to be one of the poorest in the world. It was also reported that the 2017 floods in coastal zones of Benin, Côte d'Ivoire, Senegal and Togo cost about $3.8 billion, or 5.3% of the four countries' GDP. Similarly, the damage caused by 2017 flood in Durban was estimated at 50 billion Rand (US$3.2b). These figures are significant, especially when

considering that this money could have been invested in other developmental goals. Given the rapid pace of population growth and climate risks in these areas, the need to build resilient coastal cities is more urgent than ever.

What then should be the policy response? Any solutions for frequent flood events in African coastal cities lies in embracing well-designed adaptation and mitigation strategies that involve a range of stakeholders.

Collaborating across sectors: National governments must collaborate with different levels of government and other stakeholders to foster collaboration across sectors, addressing the immediate challenge of flood risks and increasing awareness. Building trust and ownership can improve coordination of disaster management across government agencies, helping to manage conflicts that come from trade-offs and raise awareness on water risks. Moreover, flood governance in Africa needs to pay more attention to unheard voices, emerging actors in the water sector and non-water sector actors such as women, youths and indigenous people to ensure constructive and nondiscriminatory engagement.

Effective land-use planning: The adoption and implementation of structural measures, such as the demolition of buildings along flood plains and enforcing standards and codes, can play a strategic role in the reduction of potential flood damage. This can be achieved through the creation of a flood risk map to guide building standards and encourage a responsible use of space.

Investment in critical infrastructure: As a result of continuous increases in the built-up surface area and number of informal settlements in low-lying coastal regions, the existing infrastructure cannot cope with the volume of water run-off. This is evident in the recent Durban flooding that submerged many coastal areas in the city. This necessitates the need for government in these countries to invest in critical infrastructure, such as roads and drainage systems, for effective flood risk reduction.

Adoption of nature-based solutions: Nature-based solutions, such as the protection and restoration of wetlands and tree planting, should be part of broader flood resilience pathways, complementing measures such as land use planning and built infrastructure. This will help to reduce the intensity and likelihood of destructive flood events and ensure river flows are more stable

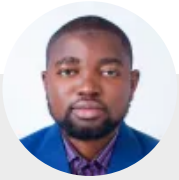
across seasons. This can only be achieved, however, through multi-level and collaborative governance.

Intensifying level of flood awareness: The intensification of public information campaigns on flood risk in print, electronic media and through community-based organisations would encourage a culture of participation in flood preparedness, mitigation and recovery among citizens.

Finally, the implementation of these policy recommendations will help transform African coastal cities into smart, resilient and sustainable cities. As the effects of climate change intensify, and urban areas become increasingly integral to livelihoods, these are necessary measures to ensure the United Nations Sustainable Development Goals 9 and 11 with regards to urban development are met.

Photo by Kym Ellis on Unsplash.

About the author



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