

RESILIENCE



Resilient Infrastructure, Resilient Africa: A Continental Opportunity

Africa is urbanizing at an unprecedented pace. The OECD estimates that by 2050, the continents urban population will double to 1.4 billion, and two-thirds of Africans will live in cities. This growing urban population will need new and enhanced transport links, power grids, communication networks, water supply and sanitation services, and schools and hospitals.



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In parallel, the continent is also facing rising risks from climate and geophysical hazards. From the Sahel to the Sahara, and from the Great Lakes to the Indian Ocean, floods, droughts, cyclones, coastal erosion, and landslides are becoming more frequent and more severe. When a road is flooded, children are unable to get to school, food supplies are disrupted and hospitals become inaccessible - putting at risk both lives and livelihoods. The Global Infrastructure Risk Model and Resilience Index estimates that the Annual Average Loss (AAL) of infrastructure at a global scale is in the range of \$732–845 billion, which represents up to 14 percent of the global GDP growth in 2021-22.

It also estimates that the AAL of infrastructure in Africa is up to \$12.75 billion - a minor share of the global AAL - since most of the infrastructure that will be needed by 2050 is yet to be built. At the same time, climate risks are growing across Africa, for example, in Sub-Saharan Africa risks from flooding, cyclonic winds, storm surge, and rainfall-induced landslides may rise by up to 24 percent under high-emissions scenarios. This highlights the opportunity to construct infrastructure that is resilient to climate and geophysical disasters.

Resilience That Delivers Dividends

Africa's infrastructure investment needs are substantial, estimated at \$130–\$170 billion annually by the African Development Bank. Significant investments are being made - roads, ports, power grids, and water systems are expanding rapidly to meet the demands of a rapidly growing and urbanising continent – but more is needed.

Countries need to mobilize resources in a fiscally prudent manner, ensuring debt sustainability while also paving the way for infrastructure services that are reliable and last longer. By building disaster resilient infrastructure, we can realize what is called a resilience dividend – a return that includes avoided losses, reduced service disruption, economic and social benefits, environmental benefits, and measurable returns. According to the World Bank, every dollar invested in resilient infrastructure can yield a return of four dollars. CDRI's operating premise is that resilient infrastructure will also be bankable infrastructure, enabling private investments to flourish.

For African nations facing both climate hazards and fiscal

constraints, like much of the rest of the world, this makes a compelling case for smart, risk-informed development.

Driving Innovation, Investment, and Inclusion

Resilience is a driver of futuristic innovation and inclusive economic transformation. Across Africa, opportunities are emerging in climate-smart data systems, early warning technologies, resilient building materials, nature-based infrastructure, and community-driven service delivery models. These are sectors where African startups, SMEs, and public-private partnerships can thrive.

As Africa starts to scale up infrastructure investments, making resilience a core part of projects is both fiscally responsible and strategically smart. Focus on resilience should start with upstream risk assessments and run all the way through all aspects of the infrastructure project cycle, covering technical, financial, procurement, safeguards, and operations and maintenance dimensions.

South Africa's G20 presidency in 2025, the first held by an African nation, has been an opportunity to position disaster resilient infrastructure at the heart of the continent's development agenda. With the African Union now a permanent member of the G20, and Egypt, Nigeria, and Algeria participating as invited countries—alongside South Africa, they account for nearly half of Africa's GDP—this presidency reflects the continent's growing ambition and influence.

Resilient Infrastructure - Resilient Africa - Locally Led, Regionally Grounded

In 2025, the Coalition for Disaster Resilient Infrastructure (CDRI) launched a programme specifically designed to support African countries in rapidly scaling the development and retrofitting of resilient infrastructure.

CDRI's mission is to ensure that infrastructure systems—especially in climate-vulnerable and rapidly developing regions—are designed not just to function, but to withstand future risks. This is achieved through targeted grants to support innovation that makes resilience scalable and investable, spurring context-specific research through fellowships, and training the next generation of infrastructure leaders. As a global coalition of countries, multilateral development banks and organizations, we help governments, technical institutions, and development partners turn ambition into action through shared learning, risk-informed planning, and coordinated investment strategies.

CDRI's new Programme, 'Resilient Infrastructure: Resilient Africa' has been designed to support countries to mainstream climate and geophysical disaster risk into infrastructure planning and design and will help unlock innovative financing mechanisms—such as resilience-linked bonds, insurance pools, and public-private models—for projects in key sectors like transport, energy, telecommunications and water.

The continent's diversity calls for context-specific, locally led solutions. In Madagascar, for example, CDRI worked with national authorities, regional institutions, and local experts to co-develop a Resilient Infrastructure Roadmap. This roadmap combines hazard mapping, institutional diagnostics, and stakeholder consultations to build a tailored strategy focused on priority sectors.

CDRI's Fellowship Programme supports the development of innovative local solutions across its Member Countries. In Africa, CDRI supports research such as flood management using urban greenery in Ghana, nature-based coastal resilience in Mauritius, and inclusive risk reduction strategies in vulnerable communities in Madagascar, through five fellowships across three countries (Ghana, Mauritius and Madagascar) since the launch in 2021.

With over 60 percent of Africa's population under the age of 25, CDRI is committed to supporting the development of the next generation of infrastructure professionals through training, knowledge and leadership exchange. The Infrastructure Resilience Academic Exchange (IRAX) connects academics and practitioners with peers globally to co-develop curricula on infrastructure resilience.

A Continent Leading Change

Africa is already home to some pioneering models of climate-smart infrastructure. Across the continent, governments, cities, and communities are already innovating—whether through local adaptation plans as in Accra, green bonds of Cape Town, or Dakar's PROGEP project that uses integrated risk management tools.

CDRI will complement and amplify these efforts, working alongside our 48 Member Countries, the African Union Commission, and regional actors to connect resilience ambitions with technical, financial, and policy support. With risk informed choices and collaborative leadership, the continent can set a global benchmark for infrastructure that is resilient, climate-smart, and built to last. ●