

OPEN CITIES AFRICA

Engaging local communities to develop open risk data

AT A GLANCE

Countries Cameroon, Democratic Republic of Congo, Ghana, Liberia, Madagascar, Niger, Republic of Congo, Senegal, Seychelles, Tanzania, Uganda

Risks Increasingly frequent and intense floods, erosion, landslides, and storm surges

Area of Engagement Promoting open access to risk information; building resilience at community level

By using the Open Cities participatory mapping methodology, collaborative teams in Africa translate hazard and exposure data into meaningful action.

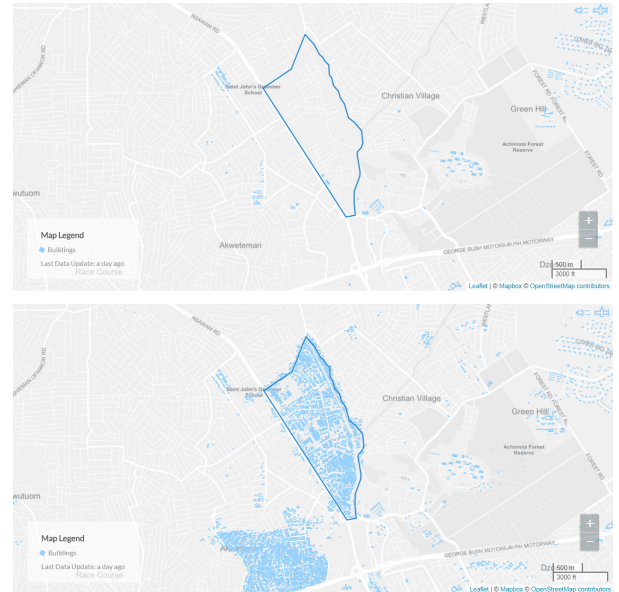
UNMAPPED COMMUNITIES FACE INCREASING HAZARD

Cities across Africa are growing denser and more spread out. Africa's urban areas average 20 percent more fragmentation than in Latin America or Asia. Some of Africa's largest cities are at as fast as a 4 percent rate of annual growth, with urban populations expected to double in the next 20 years. And in many cases, poor and displaced communities are growing in ways that make them more vulnerable to hazard: settling into floodplains, wetlands, and other at-risk areas.

Protecting residents from hazard has become more difficult for urban planners and community leaders who lack critical information on who and what is at risk. Managing urban growth in a way that fosters cities' resilience to natural hazards and the impacts of climate change becomes an ever-greater challenge.

Addressing this challenge is often contingent on local capacities and networks to maintain and utilize risk information, enabling policy environments that support effective data management and sharing, and targeted tools that can help translate data into meaningful action. Innovative, open, and dynamic data collection and mapping processes can support solutions for the management of urban growth and disaster risk.

Changes in mapped areas in OpenStreetMap for Accra, Ghana, from January 2018 to 2019



Images courtesy of OpenDRI and OSM

BUILDING CAPACITY THROUGH MAPPING

Open Cities Africa – a regional endeavor led by the Global Facility for Disaster Reduction and Recovery (GFDRR)- has been carried out in 12 cities of Sub-Saharan Africa to engage local government, civil society, and the private sector to develop the information infrastructures necessary to meet today's urban resilience challenges. The program provides funding, training, technical support, and mentorship in creating and sharing open spatial data on disaster risk.

Open Cities Africa builds a cross-continental community of practice. The program gathers delegates from African cities to participate in regional workshops, and an online course platform of over 100 members

Open Cities Africa is supported by the Africa Disaster Risk Financing (ADRF) Initiative, part of the European Union (EU) - Africa, Caribbean and Pacific (ACP) cooperation program Building Disaster Resilience in Sub-Saharan Africa. It is also supported by the ACP-EU Natural Disaster Risk Reduction Program (NDRR), an initiative of the ACP Group of States, funded by the EU, and managed by GFDRR and the World Bank. Support to select cities also comes from the Climate Risk and Early Warning Systems Initiative (CREWS), Belgium Development Cooperation, and City Coastal Resilience in Africa (CityCORE).

brings city teams together for in-depth trainings and webinars facilitated by private sector experts. Community members join mapping experts for field surveying and focus groups to gather rich firsthand knowledge of vulnerable sites. Local university students gain hands-on training in innovative data collection applications for digital cartography including street view, phone applications, drones, satellite data, and machine learning.

Data collected is used in government and World Bank operations to support evidence-driven urban resilience interventions, including risk financing, urban upgrading, and early warning systems. To assist key stakeholders in better understanding and using this risk information, teams of regional and local NGOs, governments, and universities design user-centered products and tools, e.g. visualization tools, paper and digital atlases, and mobile applications.

LESSONS LEARNED

A participatory framework uncovers opportunities for collaboration, insight, and growth

Government and university stakeholders participating in regional and online workshops were the project's biggest advocates. Early collaboration in risk information assessments uncovered government data that might otherwise have laid underutilized and permitted a more efficient data collection effort supported by government buy-in. Meanwhile, partnership with universities and local technical communities established new relationships with local startups.

Data collection methodologies must be designed with users and impact in mind

Early and continuous collaboration with government and key stakeholders proved crucial to designing a robust data collection approach. Through user-centered tool design, teams were able to gather clear, actionable insights into their data users' core needs and technical capacities. In some cities, a publicly-accessible data portal provides easy access to technical users, while in other cities a paper atlas offers rapid insights to government and community organizations alike.



Nearly
500
people trained
in digital cartography

EASY-TO-USE AND ACCESSIBLE MAP DATA

Since spring 2018, 12 city teams have collected geospatial data on more than half a million buildings and other features, mapped over 30 thousand kilometers of road, and captured hundreds of square kilometers of drone imagery. Teams have designed user-centered products for understanding and using risk data, including web applications, geodatabases, and paper atlases.

LOCAL NETWORKS ESTABLISHED AND CULTIVATED

Tremendous energy has formed among diverse stakeholders of governments, universities, and technical communities. The Pointe-Noire OpenStreetMap community in Republic of Congo went from no local contributors in 2018 to over 50 people half a year later looking to sustain the effort, organize new events and learn skills.

INFORMING ACCURATE AND EQUITABLE DECISION- MAKING

In Pointe-Noire, Republic of Congo, the City and consulting firms are using data collected by neighborhood leaders, local government, students, experts, and the World Bank to implement urban upgrading. Open Cities maps are now used by the Monrovia City Council in Liberia for improving connectivity and locating garbage collection points. In Niamey, Niger aerial images and the assets database are being used to model flood risk and develop early warning systems.

"This project is taking an innovative approach to ensure slum dwellers will have access to our own information to help us drive and dictate our development that will benefit every resident."

-- Mr. Bestman Toe, President of the Liberia Slum Dwellers Association.