

Developing Disaster Risk Management Approaches for Climate Risks in Ghana



AT A GLANCE

Name of Project

Developing Disaster Risk Management Approaches for Climate Risks in Ghana

Duration

01.01.2018 – 30.09.2021

Focus

Greater Accra Metropolitan Area (GAMA), Ghana

Target Group

Public assets under the control of assemblies in Ghana.

Funds available

The project activities are jointly funded by the Public- Private Partnership program (develoPPP.de) of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and Allianz Climate Solutions GmbH / Allianz SE— Reinsurance (Allianz).

The project is jointly implemented by ...

GIZ and Allianz with help of several local partners.

The overall aim of the project is ...

to prepare the ground for implementing risk transfer solutions within an integrated flood risk management approach for assemblies in GAMA, Ghana.

On behalf of



BACKGROUND

The Greater Accra Metropolitan Area (GAMA) suffers from rain-related floods almost every year. This development is likely the result of several factors, including a rapid expansion of sealed-off surface, unplanned urbanization, weak infrastructure, inefficient waste collection and disposal system, as well as a changing climate with more intense rainfall events compared with earlier decades. GAMA is the economic hub of Ghana and is made of 29 metropolitan, municipal and district assemblies with an estimated 5.1 million inhabitants – making it the seventh-largest metropolitan area in Africa¹.

The severe flood event of 2015 served as a wake-up call to many stakeholders. It was reported as among the ten deadliest disasters worldwide in 2015, affected 52,622 people with 150 deaths recorded. Damage to infrastructure totaled US\$55 million, and rebuilding costs were estimated at US\$105 million². The disaster has already led to a variety of activities that should lead to better flood risk management. So far, these activities have focused on data collection and analysis, infrastructure improvements and capacity building. Risk transfer, as a component of an Integrated Disaster Risk Management (IDRM)³ approach had not yet been looked at. Since extreme weather events cannot be totally avoided, some residual risks will remain whatever preventive measures are applied.

Assemblies in GAMA face significant challenges to finance reconstruction work after floods. Chronic cash constraints mean that reconstruction of non-critical infrastructure is often delayed or not undertaken at all, which negatively affects the living conditions and the economy of the affected areas. Therefore, a risk transfer solution as part of an IDRM could help to speed up reconstruction through the swift pay-outs after an event.

OUR APPROACH

An Integrated Disaster Risk Management (IDRM) can improve the resilience of societies and promote sustainable development. IDRM improves resilience through a cycle of risk analysis, prevention and mitigation, preparedness, and risk transfer solutions. In practice, these steps can overlap and merge. For example, risk transfer solutions such as insurance can be used to connect these steps. Insurance can improve post-disaster damage and loss situations by providing timely financial resources, directly to the affected. It can provide a buffering capacity and prevent knock-on effects after an event to stop further losses. Furthermore, insurance can incentivize risk reduction through prevention measures. At the same time, risk transfer solutions are not a stand-alone remedy to manage climate risks – they need to be part of a holistic IDRM.

¹ City Population. Retrieved, 15 March 2018, from: <http://www.citypopulation.de/world/Agglomerations.html>

² World Bank (2017). Enhancing Urban Resilience in the Greater Accra Metropolitan Area. Retrieved from: <https://openknowledge.worldbank.org/handle/10986/27516>

³ GIZ/MCII. IDRM/ICRM Model. Retrieved from: <https://climate-insurance.org/projects/advancing-climate-risk-insurance-plus/>



While DRM as well as standalone risk transfer solutions have been significantly advanced on the macro and micro levels, the meso-level has so far been neglected. Also, sector-specific applications such as Urban Resilience have not drawn a significant attention, although cities tend to be the backbone of many developing economies. Cities such as Accra are becoming more vulnerable to the impact of climate change due to their high population density, associated extensive infrastructure development and complex inter-dependent systems. Much of the existing infrastructure is not well – if at all – adapted to current climate risks and are poorly placed to deal with future climate risks. Since cities play a paramount role in a country’s resilience against extreme weather events, an improved IDRM and the closure of their “protection gaps” are much needed. Therefore, the project brings those shortcomings together and develops and aligns risk transfer solutions on different levels with DRM for a pilot metropolitan area: thus, creating an IDRM for Urban Resilience.

The IDRM under this project is structured into six components:

1. Evaluate historical loss data and asset registry

Collect data on public infrastructure and values in order to fill the gaps in the asset registry, as well as assess the relevant historic flood loss damages and clarify ownership and responsibility for maintaining and financing the reconstruction of public infrastructure.

2. Enhance technical capacities of data providers

Provide technical capacity and support the data providers with digital tools and content to provide high quality hazard data such as rainfall amounts and runoff volumes in a consistent manner and make this available not only to the authorities but also the citizens of ACCRA.

3. Analyze risk

Evaluate available data on hazards, exposure and vulnerability and provide relevant models. Create or update existing flood maps and vulnerability curves for the participating assemblies.

4. Review existing DRM measures

Review plans and tools, including prevention, preparedness and response and identify key prevention measures through a cost-benefit analysis – also on individual infrastructure level.

5. Define IDRM action plan

Elaborate an improved IDRM concept with the assemblies and other stakeholders (e.g. NADMO) and improve their contingency plans in a participative way. Agree on prevention plan and update the assembly development plans. Identify funding sources for the planned measures.

6. Design risk transfer solutions

Analyze different, innovative options of risk transfer solutions based on the existing data and design a suitable one according to the preferences of the assembly.

CHALLENGES

- **Lack of historic losses and hazard data** and many **gaps in the registry of assets**: The available hazard data and sources are not disaggregated and do not allow for granular modelling and reliable monitoring of rainfall and flood events.
- **Lack of systematic risk mitigation**: A holistic IDRM approach for cities has never been implemented before. Based on the conceptual work on an integrated climate risk management approach for urban resilience of the ACRI+⁴ project, this project pioneers practical solutions.
- **Lack of risk awareness**: No robust understanding of climate change and their options for adaptation and (financial & flood) risk management strategies.

OPPORTUNITIES

- Keen **interest and commitment of key stakeholders**, with an increasing awareness that a fresh approach to flood risk management is needed.
- The Ghanaian Government is preparing to buy **sovereign risk transfer solutions against drought from the ARC**, exposing various government entities to the concept of risk transfer.
- Support from **Allianz Ghana** and close cooperation with **Allianz SE Reinsurance**.
- Builds on the preliminary works of the **Advancing Climate Risk Insurance Plus (ACRI+) project** by GIZ and Munich Climate Insurance Initiative (MCII).

EXPECTED OUTCOMES

- **Understand and quantify the flood risks** in the participating assemblies. Meteorological, geographical and financial data is analysed and improved.
- **Reduce the risk and improve the risk management** of all stakeholders involved by encouraging cost-effective investments in risk reduction measures.
- **Develop insurance solutions that allow assemblies to transfer their residual risk** to the insurance sector, thereby providing financial stability to the stakeholders and a greater freedom of action when a catastrophe strikes.
- Further proof of the potential of **leverage and synergy effects of insurance products** as part of an IDRM.
- Understand the complexity and develop first **best practices for urban resilience**; for an effective IDRM concept for cities.

⁴ GIZ/MCII. Advancing Climate Risk Insurance Plus (ACRI+). Retrieved from: <https://climate-insurance.org/projects/advancing-climate-risk-insurance-plus/>



WHY IS CLIMATE RISK INSURANCE RELEVANT FOR CITIES?

Extreme weather events can erode decades of economic progress in developing and emerging economies within a short time of occurrence. Currently, weather-related disasters force an estimated 26 million people into poverty each year worldwide. The impact of disasters on well-being is equivalent to a global annual loss of about \$520 billion.

Climate change is exacerbating this situation. Extreme weather events are becoming increasingly common and their impact is intensifying due to urbanization and other socio-economic developments. Moreover, developing countries suffer disproportionately from disaster losses, because of weak infrastructure and insufficient resources to assess and manage these risks. Furthermore, local authorities typically take an ex-post approach to disaster management, i.e. concentrated on emergency relief efforts and reconstruction of critical infrastructure after an extreme weather event. Chronic cash constraints mean that reconstruction of non-critical infrastructure is often delayed or not undertaken at all.

Increasingly, cities are becoming vulnerable to the impacts of extreme weather events due to their high population density, associated extensive infrastructure development and complex interdependent systems. For example, despite the Greater Accra Metropolitan Area (GAMA) occupying less than 1.4% of Ghana's total land area, it is inhabited by more than 16% of Ghana's population and contributes 25% of the national Gross Domestic Product (GDP). Despite its economic importance, GAMA's infrastructure is not well adapted to current climate risks and poorly placed to deal with expected future climate risks. Drainage management in GAMA, for instance, is spread across several agencies, leading to weak coordination. Also, GAMA's reactive approach to shocks means many municipalities do not have contingency plans or budgets, resulting in delays in reconstructing damaged infrastructure. Insurance solutions can help the municipalities to build their financial resilience to shocks by making their emergency funding and reconstruction resources more reliable.

IMPRINT

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For more information please refer to the factsheet “Developing risk management approaches for climate risks”.

