



## CFF IMPACT BRIEF | DAR ES SALAAM

## Effective Flood Protection and Community-Based Waste Management in Dar es Salaam

The CFF supported Dar es Salaam to reduce its vulnerability to flooding along the Msimbazi River. Climate change increases the frequency and intensity of flood events, while increased waste in streams and limited capacities for collection and disposal exacerbate flood risks. These risks are especially high for lower-income and vulnerable communities in the flood plains.

The project builds on the World Bank's Transformative Urban Resilience Program (TURP) and focused on two pillars: flood-risk management and community-based solid waste management. The flood mitigation strategy aimed to remove bottlenecks in a catchment in the short-term and integrated multi-sectoral measures including spatial planning and re-greening of the catchment in the long-term.



**Managing flooding and solid waste in the Msimbazi River improves local health, enhances climate resilience and reduces GHG emissions, while playing a vital role in improving the economic situation of local communities.**

"My colleagues and I learned a lot about climate change, climate finance and their interlinkages to other topics. The gained knowledge makes it possible to address complex challenges better through comprehensive approaches instead of many single projects. However, without political support, it is not possible to get the buy-in for a complex project. CFF has helped us in getting the support and continues to do so."

### JUMA HAULE

Climate Change Focal Person, Dpt. of Environment,  
Dpt. of Health and Waste Management Dpt.,  
Dar es Salaam City Council



## Project Profile



### PROJECT PARTNER:

**Ilala City Council (former Dar es Salaam City Council DCC)**  
**Ubungu, Kinondoni, Temeke and Kigamboni Municipalities**



### PROJECT SCALE:

**~11 km of the Msimbazi River**



### FINANCE LEVERAGED:

- USD 80 million for short-term infrastructure measures
- USD 1,9 billion for long-term greening and resettlement measures from 2021-2050
- USD 50,000 for community-based waste management



### FINANCING SOLUTION:

A grant or loan from international finance institutions is proposed to finance the construction of flood protection measures, while a start-up grant will finance the CAPEX for implementation of the sustainable community-based solid waste model, designed to be financially viable in the long run. The initial capital will be required to set up the system for training and equipment.

# A Flagship Project Integrating Flood Management and Urban Planning for Holistic and Sustainable Waterway Management

By combining both short-term flood mitigation and long-term planning measures, the approach is both ecologically and economically viable



**REDUCED FLOOD RISK AND INCREASED RESILIENCE FOR 125,000 residents**



## REDUCTION IN FLOOD-RELATED DAMAGES

**Reduced direct damage of up to USD 650 million (RCP 8.5 in 2050)**

**Reduced indirect damage of up to USD 125 million (RCP 8.5 in 2050)**

**Improved living conditions for about 20,000 households**

## Highlights

The long-term strategy of the feasibility study follows an ecologically and economically viable approach taking into consideration sustainable concepts such as 'sponge city'.

Even though the actual project area is defined as the middle section of the river, a holistic planning approach for the city has been developed to address the problem of flooding sustainably throughout the city.

In addition to increasing resilience to floods in the city, improved solid waste management approaches will reduce GHG emissions by reducing open waste burning and improving air quality in the project area.

The draft Climate Action Plan for Dar es Salaam indicated that about 40% of the GHG emission reduction within the city can be achieved through measures to improve solid waste disposal.

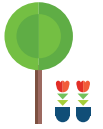
## Project Outcomes

- Increased resilience against flooding
- A financially sustainable community-based waste collection and treatment system
- Increased resilience for low-income communities along the river
- Reductions in GHG emissions by diverting waste from landfills and reducing open waste burning
- Improved air quality as a result of reduced waste burning



# Protecting Riverine Communities and their Most Vulnerable Citizens from the Effects of Climate Change

The project provides safety against flood events caused by heavy, short-term rainfall and helps to restore waste-blocked storm water and drainage infrastructure



**CFF support entailed the preparation of technical studies for flood protection measures** and developing a community-based waste management approach, aiming to improve the city's resilience to the impacts of climate change.



**The CFF provided a series of participatory design sessions (Charettes)** involving experts within the city to jointly develop possible mitigation measures. These workshops built capacities by introducing integrated planning tools that can be used for future projects.



Social factors such as gender, age and economic status of those most affected by floods and involved in waste collection were defining in the preparation of the project.



A report on the future impact of floods in East Africa outlined Dar es Salaam's experience addressing the underlying causes of flooding and making an argument for integrated adaptation planning.



**The project has forged partnerships with the Dar es Salaam City Council, municipalities, civil society organisations, academia and the private sector.** In addition, the project held exchanges with the World Bank as the project builds on its work in the lower Msimbazi River.



"I like the way our CFF colleagues have involved us from the beginning. As stakeholders, we were able to bring in our perspective, to propose ways to move forward and which areas to concentrate on. This was quite different to other previous projects I have worked with and helped us keep an ear to the ground. It allowed us to tailor our data gathering for the solid waste study in an efficient way, which was adapted to the local context.

"Furthermore, being confronted with the experiences of external experts and being able to learn from it has opened my eyes. It has put me in a new position to understand our own challenges much better."

**EZRA GUYA**  
Municipal Environmental Management Officer,  
Ubungu Municipal Council



"Compared to other projects, the cooperation with CFF has created more knowledge within our own staff and department, allowing us to use it in other projects as well. Through the CFF, we learned to write project proposals of better quality, which not only addressed our needs, but also spoke to financing partners' priorities. CFF served as a facilitator to understand investors' priorities, match our own proposals with their ideas, and therefore manage to create viable and bankable project proposals."

**JUMA HAULE**  
Climate Change Focal Person  
Dpt. of Environment  
Dpt. of Health and Waste Management Dpt.  
Dar es Salaam City Council





## KEY CHALLENGES

- The global COVID-19 pandemic constrained the project's participatory approach and the execution of various CFF activities. Even though hybrid formats were used to cushion the situation, it delayed the completion of technical studies.

## LESSONS LEARNED

- There is a divide between local and the priorities of financial institutions. Bridging this gap allows the implementation of comprehensive and locally tailored projects with substantial funding.
- Building a holistic understanding of the project context and sector in the city administration is crucial to allow connections across different projects and to overcome the current silos of project preparation in cities.
- Key to the CFF's approach is a focus on building capacities in partner cities to prepare finance-ready projects independently in the future. Consequently, the cooperation with the CFF necessitates a balance between short-term yields versus long-term outcomes.
- As climate adaptation involves a complex set of factors, various considerations need to be made in the development of measures to reduce the long-term risks of flooding. Addressing this complexity of urban climate adaptation measures and developing an accessible and well-structured case is key to stakeholder buy-in and sustainable river management.

## BEST PRACTICES

- Building on existing structures, such as project implementation units, and aligning with ongoing projects supports holistic urban development and encourages cross-departmental collaboration across various actors. In this case, the project built on existing structures established by the World Bank and further strengthened them.
- In order to address the complex factors affecting urban flooding, the project not only studies the river itself, but included reinforcing factors in the project, such as waste management at the project site.

## OUTLOOK

- For the stormwater management component, a social and environmental safeguard study, a detailed technical design, a legal and institutional study and a financing and funding assessment need to be developed from 2022 onwards. Construction can start immediately afterwards. The waste management component will not need any additional preparatory work but could be rolled out in 2022.

