

INTRODUCTION

Small and Medium Enterprises (SMEs) are the backbone of the economy in India, as they constitute most businesses and contribute significantly to employment generation and supporting livelihoods. However, every year SMEs are severely affected by recurring heavy rainfalls and flooding, causing extensive damage to buildings and other physical structures, and loss of business. Many SMEs lack adequate insurance protection, and have a lower technical and financial capacity to respond to climate and disaster risks. This means that SMEs are disproportionately affected by the negative impacts of climate change. With limited flood management services and inadequate infrastructure provided by the municipal authorities, SMEs are implementing their own temporary measures for flood protection. These are often ineffective during heavy rains and create risks of maladaptation. As climate change is expected to worsen the risk of flash floods with changes in intensity, frequency and duration of rainfall, SMEs need long-term solutions to build adaptive capacity and resilience.

OBJECTIVE

Against this background, the objective of this ADMIRE project was to enable SMEs located in targeted industrial estates to participate in the planning, designing, financing and implementing of flood risk mitigation measures. Based on analysis, and participatory processes, an innovative and sustainable approach for engaging SMEs in industrial estates was developed in close collaboration with SMEs. It consists of a step-by-step operational and financial framework to enable SMEs to identify and invest in adaptation measures, to 'climate proof' their business to increase their climate resilience.

RESULTS AND NEXT STEPS

The first key result was a detailed baseline study of the current vulnerability context and land-use of the case industrial estates; a type of information and data that did not previously exist for Mumbai. The study thus contributed with valuable and essential data on flood exposure, risk perceptions, existing coping and adaptation measures etc. Based on this data an operational and financial framework was developed in close collaboration with SME actors in flood affected industrial estates (e.g. estate cooperative managers) to guide their adaptation decisions. It proposed a step-wise approach to identify current risks and costs of past flood incidents, factoring context-specific needs and vulnerabilities. The framework also proposes measures to address it, and allows for the identification of different financing options.

A central finding is that although there are limited direct short term financial incentives for SMEs to invest in adaptation measures, the cost of inaction is substantial in the long term, when the costs of indirect impacts are taken into account. There is thus a clear case for applying a longer timeframe to SMEs' flood risk assessments and for them to invest in adaptation measures. The estimated through the proposed framework can provide a convincing argument to prioritize the implementation of flood resilience measures. The approach and framework developed are expected to provide a structured entry-point to create greater awareness of the business case for engagement in flood resilience and an understanding of the processes needed to initiate adaptation initiatives from a business perspective.

Based on the experience from this pilot project, UDP is implementing a similar initiative in Sri Lanka, in collaboration with the Asian Disaster Preparedness Center, the Ceylon Chamber of Commerce and MPEnsystems. The project aims to further develop these approaches and models into actual hands-on tools that SMEs can use in the garment industry to climate proof their businesses and thereby increase their long-term resilience.

IMPACT HIGHLIGHTS

| | Beneficiaries | Investment | Actors |
|---------------------------|---------------|------------------------|---|
| For the industrial estate | 259 SMEs | 200,000 USD until 2041 | 4 integral partners, 267 total actors engaged |

The numbers above are only for the industrial estate in question. There are hundreds of industrial estates only in Mumbai, which could benefit from a similar model.

SUSTAINABLE DEVELOPMENT BENEFITS



Decreasing negative health impacts from disasters for employees and communities



Increasing SME productivity and enhancing climate resilience



Developing innovative approaches for enhancing the climate resilience of vulnerable SMEs



Contributing to urban resilience through enhanced SME adaptation investments

THE BUSINESS CASE FOR SME ADAPTATION ACTION

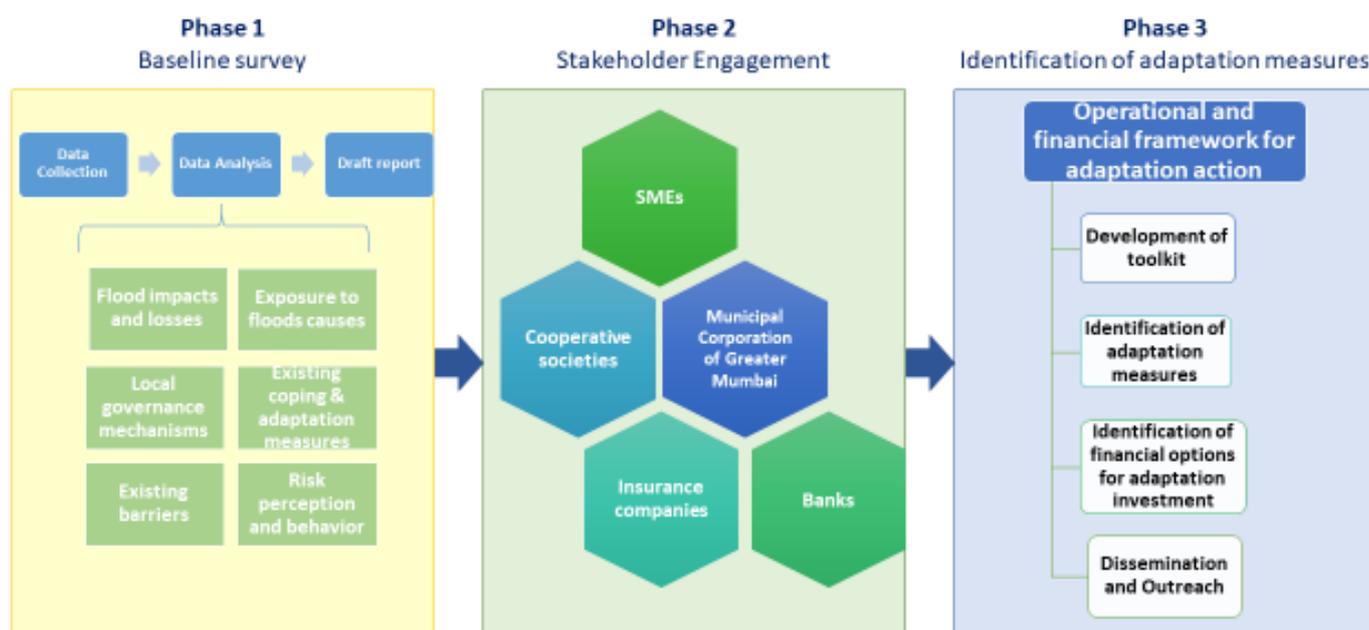
For SME owners and cooperative managers to consider the potential of flood risk management, they need to be aware of the costs and benefits of investing in adaptation measures and what specific options are available to them. This project demonstrates the need to encourage private sector participation in adaptation efforts, also in the case of smaller actors such as SMEs, which is a group of businesses that has up until now received limited attention when it comes to climate adaptation and resilience. The project identified a number of structural and non-structural adaptation measures such as surface drainage and storm water drains, dewatering ring wells, early warning system, solid waste management and emergency planning. Investments in these adaptation measures were found to be profitable in themselves, given their prospects for reducing the costs of disaster impacts in the long-term. Findings from the project demonstrated that adaptation investments are profitable for SMEs and expected to generate net economic benefits after a 7-year payback period, with increasing benefits over time. Calculations made for one of the estates showed that for every USD invested, one saved an average 2.07 USD from avoided costs.

Although profitability of adaptation investments will depend on context specific parameters, in terms of flood exposure, impacts and vulnerability, the project has shown that irrespective of their size, there is a strong case for private sector actors to design, finance and implement suitable adaptation measures to build their long-term flood resilience. It was found that it makes business sense for SMEs to participate collaboratively in this effort, given the benefits that would accrue from the short- to the long-term. Although every context and sector is different, the findings provide a case example for other industrial estates and SMEs to follow and there is thus great potential to adopt this approach and replicate it for different end-users and in different contexts, as is currently done in Sri Lanka. This approach provides a

unique opportunity to identify locally designed solutions for local problems, rather than relying on a top-down approach where government and other entities prescribe solutions that may not be appropriate to the context and setting of the local users. The results from this project thus provide an opportunity for further work on developing and adapting frameworks to assess adaptation costs, benefits and suitable measures, which support risk reduction actions by small firms in diverse geographical contexts and for different types of disasters.

PROJECT INTERVENTION

Over a two-year period, the ADMIRE project targeted approximately 259 SMEs in two industrial estates in Mumbai, including manufacturing businesses engaged in engineering works, metal works, chemicals and paper products and printing, service centers, warehouses and businesses engaged in garment exports, interior designing, food products and transport services. A dedicated team worked with SMEs and SME representatives (cooperatives in industrial estates) to understand their flood exposure, vulnerability and risk perception.



Phase 1 - In the first phase of the project, a baseline survey was conducted in a selected case site of Mumbai (L ward) to understand the typical flood impacts and related loss and damage experienced by SMEs, as well as their current coping and adaptation measures. The L ward in Mumbai is representative for most urban areas in the city and affected by chronic floods every year during the monsoon season. Questionnaire-based surveys were conducted among SMEs to gather data on exposure to recurrent floods, impacts of floods and associated costs. The survey also examined SMEs' current coping and adaptation measures and their effectiveness in reducing flood impacts were assessed. Moreover, data on local governance mechanisms, existing barriers to adaptation engagement, and risk perception and behavior was collected through interviews and observations.

Phase 2 - In parallel with the baseline survey, relevant stakeholders, such as representatives of industrial estates and SMEs, municipal authorities responsible for disaster management (MCGM) and financial institutions were engaged through consultations and workshops. The engagement and coordination of all key stakeholder groups was essential to create awareness of the relevance of climate adaptation for businesses, make room for feedback on project activities and processes and securing buy-in for the project.

Phase 3 - Based on the outcomes of Phase 1 and 2, a step-by-step operational and financial framework to facilitate implementation of adaptation measures was developed, in close collaboration with beneficiary SMEs. This was supported by the creation of a web-based toolkit to help SMEs identify, finance and implement sustainable adaptation measures adapted to their specific context.

RESOURCES

- [Admire India Baseline report](#): Small and medium size enterprises flood impacts baseline survey - L Ward, Mumbai
- [Admire India Cost-Benefit Analysis report](#): Cost-benefit analysis of adaptation Investments for Flood Risk Management for Industrial Estates in Mumbai
- [Admire India Final project report](#)

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