

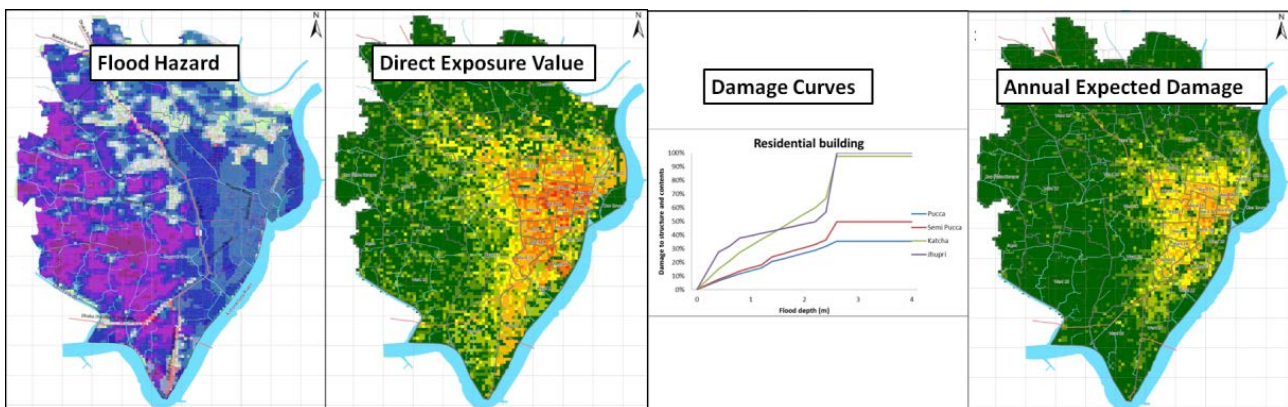
Vulnerability Analysis and Feasibility Study for the city of Barisal

Climate adaptation investments in the Bangladesh Delta

Barisal City Corporation is situated in the Bangladesh delta and prone to several hazards like cyclones, river flood and pluvial flooding. Due to climate change and economic growth, flood risks are projected to increase. This project assessed these risks, identified climate adaptation measures and developed investment packages based on technical, institutional and economic analyses.

Within the project we prepared flood maps, asset maps and asset vulnerability functions through hydraulic modelling and extensive data collection. The ECA (Economics of Climate Adaptation)-tool was applied to calculate current and future flood and cyclone risks for several climate and socio-economic scenario's, representing a baseline hazard vulnerability. These risks were quantified for 30 asset categories, +7000 locations (100x100 m scale), three time horizons and three scenarios.

drainage system, Infiltration and storage measures, Deepening and widening of channels, combined with re-greening and beautification and Cyclone shelters. The non-structural measures include Urban planning and law-enforcement, Solid waste management and awareness campaigns (to keep the drainage system clean), flood-resilient crops and Building codes. All measures are elaborated upon in terms of institutional capacity, O&M and maintenance costs.



In close collaboration with region stakeholders, the baseline vulnerability analysis and a multi-criteria analysis were used to identify, elaborate and shortlist appropriate climate adaptation measures. The shortlisted climate adaption measures were assessed on costs and benefits and the best measures were selected and further developed in feasibility studies and institutional analyses.¹

The structural measures have been designed up to a conceptual design level. The assessed measures include Dikes with erosion protection, Gates, Improved

Overall, the project provided the ground work for a climate adaption strategy for Barisal City Corporation. More importantly, it produced concrete investment packages, implementation plans and logframes to pave the way for the public authorities, the KfW Development Bank (the client) and other donors to invest in climate-proofing the region.

More information



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¹ Ecorys was the lead partner of a consortium with Witteveen+Bos, Twynstra Gudde, Swiss RE and PMTC Bangladesh