

»» Project Information

Adaptation – Bangladesh

The Economics of Climate Adaptation

Bangladesh is one of the countries most affected by climate change in the world. Natural disasters endanger the lives of thousands of people and impair the country's development. Bangladesh's cities are especially at risk. This is where the population increases much faster than the Asian average. This trend further aggravates the negative effects of climate change, as it overburdens the infrastructure in many cities. At the same time, Bangladesh depends on the economic performances of its cities. A new method, called Economics of Climate Adaptation (ECA), could provide assistance to crisis-ridden countries such as Bangladesh. The instrument facilitates the analysis of climate-related risks at the local level. It provides decision-makers with data needed to develop inexpensive adaptation and prevention strategies with regard to climate change.

Context

Bangladesh is a high-risk country for natural disasters and the sixth most vulnerable country to floods in the world. While the north of the country suffers from recurrent drought periods, the south-west is particularly affected by regularly occurring floods due to strong rainfall, storm surges and cyclones. In addition to natural disasters and the rise in sea levels, the intrusion of seawater causes an increase in the salinity of groundwater reserves.

All of these issues are amplified by climate change. The low-lying coastal regions in south-western Bangladesh are particularly vulnerable and extreme weather events force people from the rural areas to seek refuge in nearby cities. For lack of financial resources, many of the refugees end up in urban slums, where they continue to be exposed to the impact of climate change.

Barisal, the second largest coastal city in the south-east of the country, grew rapidly in the last decades (7.7 % per year) and along with the city, its slums grew also. According to estimates, 110,000 people live in these slums today. In order to create more living space, ponds and canals in Barisal were filled and subsequently used for housing and as rubbish dumps. This has serious consequences in the coastal region of Bangladesh, as there are not enough drainage options. In monsoon season or during storm surges, the slums of Barisal are already the first areas to be flooded. Floods due to cyclones or wind damages pose additional risks

Project name	Climate change-adapted urban development in Bangladesh
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Country/Region	Bangladesh
Lead executing agency	Ministry for Local Government, Rural Development and Cooperatives (MLGRD&C), Barisal city cooperation





Cottage built in a canal of Barisal. Source: KfW / Dr. Silke Paulwitz

to the population. The city administration has no implementation strategies and financial means to provide and maintain the required infrastructure.

Nevertheless, cities exhibit enormous growth and development potential for Bangladesh. Although only around one third of the population lives in the cities, they generate around 60 % of the gross domestic product, according to the World Bank. At the same time, Barisal has been identified as one of the three most vulnerable cities in the country. The share of the poor population in the city is above the country average at nearly 40 %.

Project approach

Economics of Climate Adaptation (ECA) is a new method, used by the Swiss reinsurance company Swiss Re. It can be used to calculate the damages resulting from climate change in the coming decades, taking into account economic and demographic development. It allows risk analyses to be carried out in cities such as Barisal that serve as a basis for the identification of climate-adapted urban planning measures. Based on a cost-benefit analysis, potential costs are compared to preventable damages. It also takes into account further aspects such as the poverty relevance. Only then will a decision be taken on the exact design of the measures and future investments. The measures are to be implemented as part of the urban climate adaptation strategy in KfW projects and are therefore in line with existing adaptation strategies. This means, for example, that the integration into the country's early warning systems must be possible. Social participation also plays a key role in these projects. This is to be reinforced, for ex-

ample, by involving the affected population in the planning and implementation process.

Impact

This type of urban development improves the response to increasing climate change. The projects are to benefit in particular the poor and vulnerable parts of the population. Climate-adapted urban development helps increase resilience against the impact of climate change. Better municipal services and infrastructure adapted to climate change serve to lower the risks for the poor population. Drainage and flood protection systems can help mitigate Barisal's main problem by reducing the flood period to only a few days. Streets and schools would then be usable for much longer and parts of the city with a weak infrastructure, such as the slums of Barisal, would be less vulnerable.

This would entail fewer disturbances of economic activities, poor people would generally be able to cope better with the impact of climate change and to protect themselves better against its consequences.



Contact

KfW Group
Business area: KfW Development Bank
Urban Development and Mobility South Asia
Palmengartenstrasse 5-9
60325 Frankfurt am Main, Germany
Telephone 069 7431 - 4458
silke.paulwitz@kfw.de

KfW Office Dhaka
Road 90, House 10/C
Gulshan 2
Dhaka 1212
Bangladesh
kfw.dhaka@kfw.de