

CLIMATE CHANGE AND SEA WATER RISING: CHALLENGES FOR COASTAL HABITANTS IN BANGLADESH

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Bangladesh is a low-lying deltaic area consisting of three mighty rivers; the Ganges, Brahmaputra, and Meghna and southern part is Bay of Bengal. 170 million people live in low-lying deltaic area in which 35.5 million people live in coastal area. Twelve districts, that meet the sea or lower estuary, are fallen on the “exposed coastal zone” among the 64 districts of Bangladesh, where the sea-level rise could affect the entire population (nearly 29% of total population). Bangladesh is mostly affected by the severe impacts of floods, cyclone, and salinity of backwater flow from Bay of Bengal because of the meteorological and topographical conditions of Bangladesh which is synergized with its high population density and inadequate infrastructure system. The degree of “vulnerability” is very high in this region due to impacts of climate change and it makes the population susceptible to adverse health impacts, which threatens the development achievements. This study determines the potential impacts of a sea-level rise, cyclone, and affect of salinity for the existing population and infrastructure, especially for the people who are living in coastal areas. The following major impacts are identified and predicted for 1m sea level rise; (a) Area Inundation 18% of the total areas were inundated including the number of cities and towns with a major port area (b) Population Displacement: nearly 12% of the population could be displaced by inundation. (c) Ecosystem destruction such world largest mangrove area, Sundarbans (d) Agricultural Losses: Over 1.2 million ha of breadbasket land, producing 16% of the country's rice, could be lost due to inundation. These effects result not only from gradual changes in sea level and temperature but also from increased regional climate variability and extreme events, including more intense floods, droughts and storms. Above mentioned areas and vulnerabilities are identified by using GIS techniques.