



Case Study

African cities at risk



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Alexandria, Egypt
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ALEXANDRIA (Egypt): An assessment of the vulnerability of the most important economic and historic centre along the Mediterranean coast (the cities of Alexandria, Rosetta and Port Said) suggests that, with a sea-level rise of 50 cm, more than 2 million people would have to abandon their homes, 214,000 jobs would be lost, and the cost in lost property value and tourism income would be over US \$35 billion, which does not include the immeasurable loss of world famous historic, cultural and archaeological sites.

LAGOS (Nigeria): Lagos, with a total population of nearly 10 million inhabitants, lacks adequate infrastructure to cope with flooding. "Normal" rainfall brings flooding to many areas of the city, largely as a result of inadequacies in sewers, drains and wastewater management. Any increase in the intensity of storms and storm surges is likely to increase such problems, as much of the land in and around Lagos is less than 2 meters above sea level. Many low-income settlements are built in areas at high risk of flooding (many on stilts), largely because safer sites are too expensive.



BANJUL (Gambia): Most of Banjul is less than 1 metre above sea level. Flooding is common after heavy rains in the city in settlements established on reclaimed land in dried-up valleys, and in settlements close to mangrove swamps and wetlands. Problems with flooding are likely to intensify under a warmer climate with an increase in the strength and frequency of tropical storms.

ABIDJAN (Côte d'Ivoire): Although some important areas of Abidjan lie on a plateau and may escape the direct effects of sea-level rise, major economic centres, including the nation's largest port and much of the international airport, are on land less than 1 meter above sea level. A sea-level rise in Abidjan is likely to inundate 562 square kilometers along the coastline of the Abidjan region, as lowland marshes and lagoons dominate the coastal zone. Average retreat will vary from 36 to 62 meters.

MOMBASA (Kenya): Mombasa is Kenya's second-largest city, with a population of more than 800,000 and is the largest sea port in East Africa, serving many countries in the region. An estimated 17 per cent of Mombasa's area (4,600 hectares) could be submerged by a sea-level rise of 0.3 meters, with a larger area rendered uninhabitable or unusable for agriculture because of waterlogging and salt stress. Sandy beaches, historic and cultural monuments, and several hotels, industries and port facilities would also be negatively affected. Mombasa already has a history of disasters related to climate extremes, including floods that have caused serious damage and loss of life nearly every year.

BAMENDA (Cameroon): Approximately 20 per cent of Bamenda's 250,000 residents live on floodplains and roughly 7 per cent live in informal settlements on steep slopes. Land clearance for settlement and for quarrying and sand mining, along with other land-use changes caused by urban expansion, have further created serious problems of soil erosion. Soil that is washed down the hills blocks drainage channels and changes peak water flows. Degradation of the land has exacerbated problems with floods.

Source: Satterthwaite, et al., 2007.