


Chapter 3


Impacts of Climate Change on Coastal Communities

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ABSTRACT

Earth and coastal ecosystems are not static, and they usually respond to environmental changes, mostly anthropogenic and climatic. Here, the authors described natural values, coastal landforms, and types of infrastructure that are most likely to be affected by climate change (CC) and provide information for assessing inundation, erosion, and recession risks for a chosen location. In this chapter, the authors focused on the land uses, the vulnerability of coastal infrastructure, and argued for effective linkages between CC issues and development planning. They also recommended the incorporation of CC impact and risk assessment into long-term national development strategies. Policies will be presented to implement these recommendations for adaptation to climate variability and global CC. The authors

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provide general recommendations and identify challenges for the incorporation of climate change impacts and risk assessment into long-term land-use national development plans and strategies. Overall, this chapter provides an overview of the implications for CC to coastal management.

INTRODUCTION

Nearly 1.2 billion of people in the world (23% world's people) live with 100 km of the coastal areas and by 2030 (Small & Nicholls, 2003) it will be at 50%. These people are unprotected to definite hazard such as hurricanes, tsunamis, coastal flooding and transmission of marine related infection diseases (Adger et al., 2005). Currently, an estimated report says, about ten million of world people facing coastal flood every year because of storm landfall typhoons and surge and near future 50 million could be at risk by 2080 due to climate change and growing population masses (Nicholls, 2004). The climate change has occurred to changes in flooding, temperature and precipitation that make more vulnerable to the people of coastal areas. Additionally, the rise in sea level and wave heights will also affect the lives of coastal people. Both straight impact (frequent storm surges and faster coastal erosion) and secondary effects (loss of coastal resources such as aquaculture and loss of critical physical infrastructure, along with decays in associated ecological, economic, subsistence and cultural values) will have socio-economic and physical impacts on coastal societies. At present the coastal societies already face a numerous difficult problems that make challenging for the policy of climate change. In demographic viewpoint, the current people of coastal societies are becoming gradually elder that results of high numbers of internal migration of elderly people with youth out migration (Ali *et al.*, 2016). In financial standpoint, the coastal people is constantly considered by high average unemployment rates, vulnerable financial conditions, including low incomes and stress on services throughout the months of summer due to tourism. Many regions of the coastal zones like England, are facing severe level of multiple deprivation like high levels of deficit related to remunerations, education, employment, skills and training. This might be due to lot of issues, comprising the reliance of naturally poor-skilled, less wages in industrial sectors for example which are related to tourism, that often also need part time and seasonal employees. Seasonal of works also creates it challenging for personnel to development in terms of educations or profession development, as each term of employment may be with a dissimilar company (Hossain *et al.*, 2016). The physical segregation of numerous seaside peoples can also frequently act as a barrier to financial progress. High levels

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