

Impact of Sea Level Rise on Urban Coastal Communities: Lessons from India

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Abstract:

Vulnerability of coastal areas to climate change is an important issue, which has gained attention recently. Coastal areas face multiple risks and stresses related to climate change and variability (IPCC 2007a). Impacts of sea level rise are expected to have predominantly adverse effects on natural and human systems. Coastal communities are highly vulnerable to climate change impacts, mainly because of three main reasons, high resource dependency, high exposure and limited adaptive capacity. This raises concerns about coastal community's sustainability. India has a 7,517 km long coastline with many low-lying and densely populated areas with nearly 260 million people living within 50 km of the seacoast. These highly vulnerable areas house a network of infrastructures. It is highly pertinent to start climate adaptive infrastructure and services, given the climate sensitive nature of the existing infrastructure systems in the coastal area. It could be maintained and managed in such a way that it is prepared to withstand sea level changes impacts.

This paper discusses on approaches that can increase resilience of infrastructure and the services in coastal urban areas of developing nations. It also highlights the Identification of vulnerable hot spots in the coastal areas, recommendations for climate proofing infrastructure and services and methodology for vulnerability assessment of coastal communities to climate variability and sea-level changes. It also recommends appropriate policy and institutional reform, capacity building and improved knowledge management towards increasing the resilience and adaptive capacity of these coastal communities to current and future sea level changes.

Key Words: Climate Change, Sea Level Changes, Coastal Communities, Vulnerability Mapping, Climate Adaptive Infrastructure