Impact of climate change on mangroves ecosystem in South Asia

The mangroves forest spread on 14,653,000 ha along the coastal line of the seas and oceans of the world (FAO 2003). Mangrove ecosystem is well known for its global environmental and socio-economic value. For centuries, mangroves have contributed significantly to the socio-economic lives of coastal communities.

Beside the threats of over exploitation and negligence of mangrove ecosystem, climate change is posing a serious challenge not only to ecological biodiversity itself but also to its managers, dependent communities and biodiversity. Climate change components that affect mangrove ecosystems include change in sea level, hydrology (tidal and fresh water flows within mangroves), high water events, storms, precipitation, temperature, atmospheric CO$_2$ concentration, ocean circulation patterns, health and functionally linked neighboring ecosystems, as well as human responses to climate change. This in turn can increase the threat to human safety due to the settlements’ loss of protection from coastal hazards such as erosion, flooding, storm waves and surges and tsunami (Kathiresan and Rajendran 2005; Dahdouh-Guebas et al. 2005).

Urgent action is necessary to prevent climate change driven damage to mangroves coastal lines throughout the world as in South Asia. There is a sizeable mangrove forest along the South Asian coasts that is vulnerable to climate change as few decades ago the Indus delta mangroves were regarded as the fifth largest mangrove forest of the world, with a cover of about 350,000 hectares, but now their cover has drastically reduced to about 78,000 hectares (Saifullah 2008). Similar trend is also found in other South Asian countries like India, Sri Lanka, Bangladesh, etc.

The panel on impacts of climate change on mangroves ecosystem in South Asia will focus on case studies from South Asia deliberating on the following questions:
1. What are the important climatic and hydrological factors and how projected climate change scenarios will impact the mangrove ecosystem of South Asia?
2. What are the factors, indicators and interactions that render socioeconomic conditions of mangroves associated communities vulnerable to climate change?
3. What will be the adaptation strategies for policy and institutional arrangements that can offset the adverse impacts of climate change on mangroves ecosystem in South Asia?

References


Note: The Panel is a part of an ongoing project of SDPI, GCISC, IWM and IUCN. Researchers who are a part of this project, are already nominated as speakers, therefore, no further entries are being entertained for this session. Thank you
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