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### Appraisal of the erosion status in the eastern coastal region of India

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#### ABSTRACT

Keeping in view the ecological importance of coastal ecosystem, an appraisal was carried out to explore the existing characteristic features, problems and status of erosion and its remedial measures for the conservation and management of valuable coastal resources in respect of three states *i.e.* West Bengal, Odisha and Andhra Pradesh in the east coast. It is reported that 8.94 Mha area is under coastal belts in these three states. The inherent problems associated with this ecosystem are high population growth, over exploitation of natural resources, water logging, flood, cyclones, drought and salinity due to regular intrusion of sea water through tidal effects, congestion of drainage, water erosion, sand dunes, wind erosion etc. Odisha coast alone accounts for 40% of the total disturbance that affected East Coast of India. In West Bengal, coastal area of Sundarban is affected due to soil acidity problems and about 0.65 Mha land is facing salinity problem. Similarly, in Odisha, 0.4 Mha is affected by salinity problem spreading over four coastal districts of Odisha. The potential soil loss reported for Andhra Pradesh, Odisha and West Bengal are 407, 144 and 17 and annual  $EI_{30}$  of 400 – 600, 600 – 800 and 600 – 800 MJ.mm. ha<sup>-1</sup>. h<sup>-1</sup>, respectively. Major portion of the coastal areas of West Bengal, Odisha and Andhra Pradesh falls in soil loss category of < 5 t ha<sup>-1</sup> yr<sup>-1</sup>. The extent of diminishing mangrove cover reported for Odisha, West Bengal and Andhra Pradesh are 221, 2152 and 353 km<sup>2</sup>, respectively. It has been reported that due to one meter rise in sea water level, the area inundated and population affected in Odisha, West Bengal and Andhra Pradesh coasts shall be 0.81% and 1.76%, 1.88% and 2.35% and 0.19% and 0.93%, respectively. While discussing about the various inherent problems, adoption of suitable conservation measures is inevitable for the protection and management of this vulnerable ecosystem.

##### Key words:

Coastal ecosystem,

Conservation measures,

Erosion Index,

Erosion Response Units (ERUs)