

Study of Coastal Shelterbelt plantation in cyclone mitigation in the Coastal regions of Orissa

Investigators: **Patnaik, S. and V.K. Sinha**

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India is one of the most disaster prone countries in the world. In the last few decades the subcontinent has experienced many events such as floods, drought, cyclone, landslides and earthquakes that have turned into disasters. The frequent disasters are recurrent phenomena in the country and they have caused loss of lives and eroded developmental gains.

In India, cyclones occur frequently on both the coasts (the west coast Arabian Sea and east coast Bay of Bengal). The states most exposed to cyclone-related hazards, including strong winds, floods and storm surges, are West Bengal, Orissa, Andhra Pradesh and Tamil Nadu along the Bay of Bengal. Along the Arabian Sea on the west coast, the Gujarat and Maharashtra coasts are more vulnerable compared to the southern part. The eastern coastline is more prone to cyclones as around 80 per cent of the total cyclones generated in the region hit there.

The adverse impact of the super cyclone of October 29, 1999 in the coastal districts of Orissa caused severe damage to the life and property. The cyclone ravaged 14 coastal districts, killed more than 8,000 persons and 4,50,000 cattle, destroyed 2 million houses. Several studies in Orissa suggest that in coming years, the extreme weather events like flood, drought and cyclone will cause major economic loss and destruction of life. The losses due to these disasters could be minimized if the value of disaster risk management in reducing the impact of natural disasters could be recognized. After the super cyclone, several measures have been taken to approach to disaster management by increasing investment in risk reduction and mitigation measures rather than concentrating on post-disaster response (relief and reconstruction).

Apart from the various cyclone mitigation measures, the need to take up shelterbelt plantation was given one of the priorities. The MOEF, GOI under the scheme of Integrated Afforestation and Eco-development Project Scheme (IAEPS), had taken up afforestation activity in the coastal area with suitable tree species to form a shelterbelt along the coast line to mitigate the impact of strong cyclonic winds and thus checking soil erosion and inward sand drift. The Govt. of Orissa along with NGOs and civil societies too

Indian Institute of Forest Management, Bhopal

have taken several initiatives for cyclone mitigation in the state. One of the initiatives has been shelterbelt plantation in the coastal areas.

The study was conducted in Jagatsinghpur district of Orissa. The district was severely affected by the cyclone and coastal shelter belt plantation was being raised as green barricade in these areas to mitigate the impact of cyclonic wind.

The study looked at the people's perception towards coastal shelterbelt plantation in mitigating cyclone in the coastal district of Orissa and assessed the various benefits from the coastal shelterbelt plantation. The study also examined the potential institutional linkages between several agencies and at the end, provides a strategy for public participation in ensuring sustainability of the coastal shelter belt plantation.