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Investigations on coastal environment and fisheries infrastructure in Jaffna Peninsula

A H R Ratnasooriya

Department of Civil Engineering, University of Moratuwa, Moratuwa

Prior to the conflict that prevailed in the North and East, the northern Jaffna Peninsula had been one of the most productive fishing regions in the country. Its contribution to the national fish production had declined since the mid1980s due to the disruptions caused to the fisheries activities by the conflict. The fishery infrastructure facilities in the region are in a dilapidated state, due to damage caused by the conflict and years of neglect, and are in need of restoration and development.

The Jaffna Peninsula is relatively sheltered from the Southwest monsoon and the nearshore wave climate in the region is mainly influenced by the less severe Northeast monsoon. Apart from the coastline along the northern and eastern sides of the Jaffna Peninsula and the northern coastline of the Karainagar Island, other coastal areas on the western side of the Peninsula are relatively sheltered from the northeast monsoon due to the shallow depths and protection provided by land masses. Many of the fishery infrastructure facilities in the area are in the form of open jetties/piers, mainly without breakwater protection. Rehabilitation of these would be a significant initial step in improving mooring facilities for smaller boats. The possibility also exists for a fishery harbour facility for the use of larger fishing craft which may also require dredging of access channels for the operation of such boats. The coastal region along the northern side of the Peninsula is characterized by rocky/sandy beaches and limestone reefs located close and parallel to the coastline. The reef provides protection against coastal erosion due to wave action and naturally sheltered basins for the mooring of fishing vessels. Many such basins exist along the northern coastline. The improvement of fisheries infrastructure at landing sites for the operation of mainly the smaller fishing craft in the area along the northern coastline of the peninsula could generally be achieved by strengthening the natural protection provided by the reef formation. Raising the crest level of reef formation and strengthening of its seaward slope with the use of larger armor may be needed to provide effective protection. Deepening of access channels and the basins may also be required at some of the sites and, in such situations, due attention needs to be paid for possible adverse environmental issues associated with any dredging of reef formations. A possibility also exists for the use of excavated and cleared material for use in the strengthening of protection measures. The coastline in the eastern side of Jaffna Peninsula is directly exposed to the wave conditions during the Northeast monsoon period. A sandy, straight coastline exists in the area and the analysis of available information and community consultations revealed that there is a significant seasonal variation of the beach profile which indicates high levels of sediment transport. In view of such a dynamic nature of the coastline, construction of coastal structures is likely to cause coastal erosion/accretion issues and such constructions without extensive investigations and appropriate mitigation measures may cause severe adverse impacts.

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harsha610@gmail.com Tel: +94 776959165