

## Sethu project will not create geological imbalance

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Though environmentalists and activists of non-Governmental organisations express concern over the possible impact of the Sethusamudram Ship Canal Project (SCP) on the fragile ecosystem in the Gulf of Mannar (GoM), it will not create any major geological imbalance, according to N. Ramanujam, Professor and Head, Postgraduate Department of Geology and Research Centre, V.O.Chidambaram College, Tuticorin.

He told The Hindu here that analyses of the bathymetry of the multi-crore project show that dredging is to be carried out mainly in the Palk Strait and ``fortunately the valued environmental assets of the GoM Biosphere buffer zone is away from the proposed canal."

Tracing the geological history of the Palk Bay and GoM, he says that the two basins are part of the Cauvery Basin, formed during the separation of India and Antarctica in the Gondwana period. They were united till the emplacement of the magmatic plume from mantle and formed as a ridge. The development of this ridge below the sea has enhanced the coral growth in the form of a coral atoll around the intrusive body and acted as a ``sand trapper" forming the Rameswaram island.

Due to long shore currents on the southern side of the island, an elongated shoreline had formed eastward. This elongated sandy bar is continuous up to Dhanuskodi, and has developed a discontinuous chain of islands up to Talaimannar (Adam's Bridge), he said. Rameswaram and Adam's Bridge divides the entire basin.

According to him, sedimentation in Palk Bay is comparatively higher than the GoM due to restricted circulation of currents. Geological and remote sensing studies reveal that the Palk Bay has become a sink while the GoM has a deepwater environment. The longshore sediment transportation is also noticed between Rameswaram and Talaimannar.

Claiming that dredging of 300 m width and 12.8 m depth in the area will not create any geological imbalance, he says that the work along the access channel will produce sediment plume, which may pose risk to the coral reef.

But the impact of the turbid plumes of fine and clay materials from dredge-hopper overflow and spillage can be reduced in the bay through proper planning and safer dredging operation such as installing silt curtains, as successfully experimented in Australia.

He also underscores the need for safer disposal of the dredged material as dumping it in the sea is detrimental to the coral reef ecosystem and the benthic fauna and flora. The landmass from Mundamchatram to Dhanuskodi, which covers about 10 km length and 1.5 to 2 km width, which is less than the mean sea level will be the ideal location. Dumping and levelling the dredged material there will increase the land portion in Dhanuskodi, where rail and road connections were disrupted due to cyclonic storm in 1964.

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