Suitability of the coastal waters of Sri Lanka for offshore sand mining: a case study on environmental considerations

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Abstract In Sri Lanka, the total demand for sand is about 12,000,000 m^3 per year with a demand growth projected to increase by 10 % every year. However, Sri Lanka's construction industry seems to face a shortage of sand if offshore sand mining is not promoted as a viable alternative and over-exploitation of river sand may lead to more significant damage to rivers (which is presently a serious issue). This article discusses the suitability or otherwise of the unexplored south-eastern, east and north-western offshore areas for exploration and mining works. This study was conducted by consulting several government organizations and universities dealing with coastal resources management, literature reviews and Key Informants' Interviews held with Fisher Folk Societies and Divers' Organizations in the study areas. The east and north-western offshore locations are not ideal considering the bathymetry (most locations in the east coast have water depths >20 m, hence mining is not commercially viable; in the north-western offshore areas depth is <15 m; mining is prohibited in Sri Lanka at depths ≤15 m and <2 km offshore) and the occurrence of critical habitats. In the south-eastern offshore areas the complex wave climate resulting in significant coastal/shoreline stability variations is a concern and the sea is very deep (>20 m beyond 2 km offshore). Therefore, by considering the views expressed by the Divers' Organizations and Fisher Folk societies it would be ideal to undertake exploration studies in the offshore areas in the north-eastern stretch.

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