

Rapid Assessment of marine debris in the coastal waters of Kerala

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Marine debris are any manmade materials released into marine ecosystem as a result of various human activities and main sources include maritime and fishing activities, riverine inputs, storm water and urban run-off, tourism and beach activities, industrial and domestic sources and oil rigs. The debris also causes problems to fishermen as they get caught in their gear and causes damages

to it and also affects their work efficiency. Kerala is one of the most densely populated states in India and with a coastline of 590 km and 1.2 lakh marine fishermen families who depend on the sea for their livelihood it is imperative to assess the marine debris load of the coastal waters of Kerala.

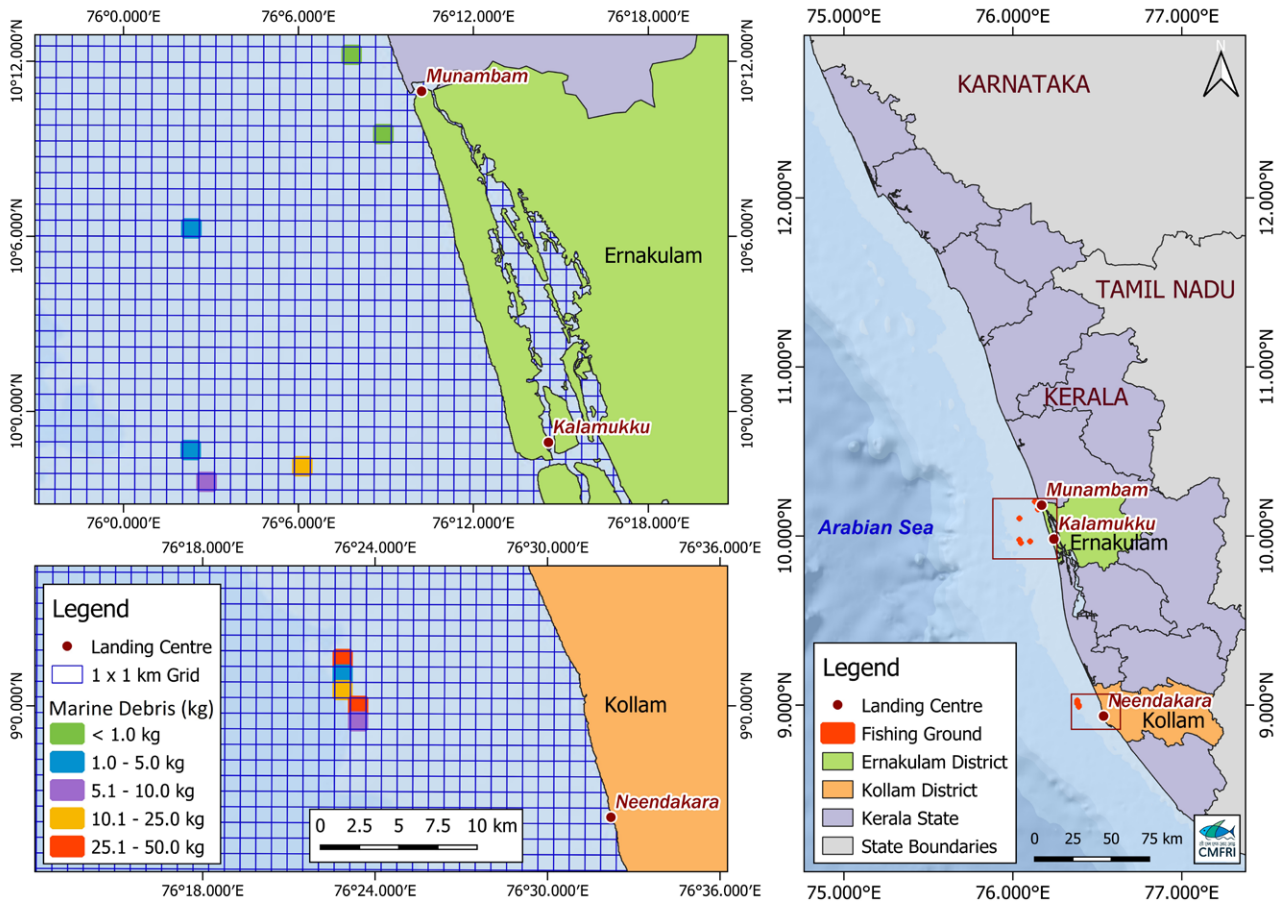


Fig. 1 Sampling locations and the quantity of marine debris obtained from the fishing grounds

A rapid assessment of the abundance of marine debris in the selected fishing grounds of Kerala coast was carried out through trawl fishery based surveys from three fisheries harbours; Vypin & Munambam in Ernakulam district and Shakhikulangara in Kollam district. The debris that were caught in the trawl net during the fishing operation were collected, sorted and classified according to UNEP guidelines (Cheshire *et al.*, 2009) followed by counting and weighing. Based on the direction, distance and depth of fishing operation from the landing centre, the approximate location of fishing operation and the area from where the debris were collected were identified and mapped. The map of coastal fishing grounds was prepared and divided into 1 km² grids. If the approximate location of the fishing activity falls in a grid, that grid was identified as the fishing ground for that particular fishing activity. The major contributor to marine debris in terms of numbers was plastic bags (PL07) followed by plastic bottles (PL02) and food containers. In terms of

weight, the plastic bags were followed by plastic sacks (PL24) and plastic bottles (PL02). Overall, it was observed that the plastics were the major constituents of marine debris, both in terms of number and weight. It could also be seen that the fishing grounds off Kollam area had highest quantity of debris (37.5 kg/km²) while that of Munambam reported the least quantity of debris (0.3 kg/km²) out of the sampling locations studied along the Kerala coast. The rapid assessment study indicates that the coastal waters of Kerala has substantial presence of marine debris and appropriate management measures should be initiated immediately while existing programmes like *Suchitwa Sagaram* Mission should be reinvigorated, to save the marine ecosystems.

Reference

Cheshire, A., *et al.*, (2009). UNEP/IOC Guidelines on Survey and Monitoring of Marine Litter. UNEP Regional Seas Reports and Studies, No. 186; IOCTechnical Series No. 83: xii + 120 pp.