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Water quality better after floods: Study

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Kochi: Kerala's water bodies which have been heavily contaminated due to dumping of various kinds of waste were cleansed during the flooding events which hit the state in 2018. It had a positive effect on the surface water quality in the water bodies, says a study conducted by the researchers of Kochi-headquartered Central marine fisheries research institute (CMFRI).

The devastating floods led to increased freshwater flow into the estuaries. The surface waters were sampled from ecosystems, viz. lower end of estuaries, intertidal waters of beaches, mudbank region and inshore waters, from some districts in the state.

"We conducted the water quality assessment during August-September 2018 in a few selected coastal marine ecosystems viz. lower end of estuaries, intertidal waters of beaches, mudbank region and inshore waters from Malappuram, Thrissur, Ernakulam, Alappuzha and Kollam," said D Prema, principal scientist, fishery environment management division (FEMD), CMFRI.

POSITIVE AFTER CALAMITY

- Total suspended solids (TSS) was higher in Ashtamudi lake but not so in Vembanad lake
- In both lakes, chlorophyll contents were higher compared to the pre-flood period
- Similar trend was seen for nutrients and chlorophyll in samples collected from the intertidal waters
- The mudbank region showed increased dissolved inorganic nitrogen, chlorophyll and TSS

The surface waters were sampled to analyze selected water quality indicators using standard protocols and analytical methods.

The results revealed that, in comparison to the pre-flood period, there was increased content of nutrients, especially the dissolved inorganic nitrogen (DIN) in the Vembanad and Ashtamudi lakes. The major share of DIN was from the content of total ammoniacal nitrogen. Total suspended solids (TSS) was higher in Ashtamudi but not so in Vembanad lake. In both the lakes, the chlorophyll content was higher compared to the pre-flood period.

Similar trends were seen for nutrients and chlorophyll in the samples collected from the intertidal waters. The mudbank region showed increased nutrients, chlorophyll and TSS. The nearshore regions off Kochi and off Neendakara also showed increased nutrients, chlorophyll and TSS.

Prema said that the study clearly indicated that the ecology of the estuary and coastal waters is impacted by floods which can affect the fishery resources and community strictures of these habitats. The researchers compared the findings with the existing data on water quality.

"This should indicate that there would have been changes in the biodiversity of the systems. Such increase in nutrients could have helped the phytoplanktons which are food for the organic life in the water bodies, including fishes," Prema added.