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ABSTRACT VOLUME



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Perspectives of cyclone ecology program for Indian estuaries in United Nation Decade of Ocean Science for Sustainable Development (2021-2030)

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Cyclones are increasing their intensities in recent decades; therefore, estuarine ecosystems of tropics are being regularly impacted. Indian estuaries are not institutionally monitored so assessments of the resilience and vulnerability of the estuarine communities are difficult. Cyclone ecology research for the Indian estuaries is in its infancy. Such a program has been established (from the time of cyclone Fani) considering the Ganges estuary as a model habitat and zooplankton as a model community. The programme has so far monitored the impacts of cyclone Fani (May 2019), BulBul (November 2019), Amphan (May 2020) and Yass (May 2021) on the zooplankton community following a before-after impact assessment design. Existing literature and the results revealed the short- to medium-term vulnerabilities of structure (abrupt changes of richness, abundance, dominance) of the zooplankton (e.g., copepods) community; however, the long-term changes of ecology, biodiversity and productivity remained unknown. Results further revealed that the severity of a cyclone has no direct correlation with the resilience/vulnerability of the zooplankton community of the Ganges estuary rather it is the distant to the landfall site and the floods associate with the cyclones are the drivers of the changes in community structure. This research programme is now endorsed by the IOC-UNESCO in the United Nation Decade of Ocean Science for Sustainable Development (2021-2030). Looking at the need of the state of West Bengal and the country, a program for Indian estuaries shall be built including various types of estuaries of the West Bengal and the east-west coasts of India considering an inter-disciplinary approach.