

"India's Carbon Emissions from Marine Sector Lower than Global Average," says CMFRI

CMFRI identified cyclone proneness, flood proneness, shoreline changes, heat waves, and sea level rise as major hazards that could endanger coastal lives in its efforts to assess climate change risks in the coastal region.



According to an ICAR-Central Marine Fisheries Research Institute (CMFRI) research study, carbon emissions from the Indian marine fisheries sector are much lower than the global level. CMFRI discovered that the harvest phase (active fishing) in the country used more than 90% of the fuel used in the sector, according to data presented at a review meeting of the fisheries component of the network research project under the National Innovations in Climate Resilient Agriculture (NICRA) of the Indian Council of Agricultural Research (ICAR).

The ICAR-CMFRI estimated in a study assessing the carbon footprint in India's marine fisheries that the sector emits 1.32 tonnes of CO₂ (carbon dioxide) to produce one tonne of fish, which is less than the global average of more than two tonnes for the same quantity. "This is an assessment of the greenhouse gas (GHG) emissions from total sector activities, from pre-harvesting to marketing, by converting it to CO₂ equivalent," CMFRI explained in a statement.

According to ICAR-CMFRI Director A Gopalakrishnan, the study was conducted from select fishing centres across all of the

country's maritime states, with fishing-related activities divided into three phases: pre-harvesting, harvesting, and post-harvesting. "The carbon emissions from the marine mechanised fisheries sector in the country are 16.3 percent lower than the global level," Gopalakrishnan said.

According to Grinson George, Principal Scientist at CMFRI, increased cyclone intensity, sea level rise, and warming of the Indian Ocean have all resulted in changes in marine ecosystems, including the depletion of some fish and the emergence of others. According to the release, the project's goal is to study the impact of climate change on agriculture, including crops, livestock, horticulture, and fisheries, as well as to develop and promote climate resilient technologies, thereby addressing vulnerable areas of the country.

The ICAR institute stated that work on a Coastal Climate Risk Atlas, which marks areas of risk including hazards and vulnerabilities in all Indian coastal districts, is currently underway. The CMFRI proposed developing climate-smart value chain critical points, policy advisory for seafood marketing, and a consumer education tool kit for emerging species in response to the disruption in the fish value chain caused by the climate crisis. The meeting was presided over by S K Chaudhari, ICAR's Deputy Director General (Natural Resources Management), who stated that rising temperatures and heat have a cascading effect on food-producing sectors, including fisheries. "Excessive pressure on groundwater is causing the presence of more salts on the ground surface," he said, adding that when studying the impact of climate change on the food sector, assessing ecological losses should also be taken into account. The Chairman of the NICRA Expert Committee, B Venkateswarlu, urged scientists to focus on technological innovations and contributions to policy interventions in the face of climate change. Innovative technologies, he said, would help fishermen maintain their livelihoods during cyclones, heavy rains, and other extreme weather conditions.

Principal Investigators of the NICRA project from ICAR-Central Institute of Brackishwater Aquaculture (CIBA), Chennai; ICAR-Central Inland Fisheries Research Institute (CIFRI), Barrackpore; ICAR-Directorate of Coldwater Fisheries Research (DCFR), Bhimtal; ICAR-National Bureau of Fish Genetic Resources (NBFGR), Lucknow; Tamil Nadu Dr J Jayalalithaa Fisheries University; and Bihar Animal Sciences University presented the status of their research works at the meeting. K K Vass, a member of the NICRA Expert Committee, V K Singh, Director of the Central Research Institute for Dryland Agriculture (CRIDA), and M Prabhakar, the NICRA's Principal Investigator, also spoke at the event.