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New Research Vessel for CMFRI-Silver Pompano

Central Marine Fisheries Research Institute (CMFRI), Kochi has recently procured a 19.75 m fisheries research vessel F.V. Silver Pompano as part of the National Initiative on Climate Resilient Agriculture (NICRA) project by Indian Council of Agricultural Research (ICAR). The vessel is used for carrying out fisheries related research in the territorial waters. The vessel was manufactured by Goa Shipyard Ltd at a cost of about Rs. 4.75 crores.

The vessel is fitted with a 4 stroke Volvo Penta make 500 hp @1800 rpm marine engine. The main deck of the vessel contains cabin for scientists and crew, wet laboratory, weather station, galley, mess room and toilet. The hydraulically operated trawl which consist of 1000 m long, 12 mm diameter steel wire rope on each drum with a speed of 0 to 40m/minute which draws hydraulic power from main engine.

The vessel shall be used for experimental trawl fishing – both bottom and mid-water trawling using Issac-Kid Mid-water Trawl system and collection of oceanographic parameters and marine samples from the sea. The vessel is equipped with underway CTD sampler, Doppler current meter, instruments for chlorophyll measurements, zooplankton, TSS and sediment sampling. The vessels is equipped with a laboratory for preliminary analysis and to fix the samples for further analysis. An automatic weather station to collect the atmospheric parameters like rainfall, humidity etc. The vessel is fitted with modern oceanographic equipment like underway CTD sampler, Doppler current profiler, Plankton net, sediment and benthic sampler etc. All equipped Life Saving Appliances (LSA) are installed in the vessel. Fire control equipments like fire extinguishers and hoses are also provided. Directorate General of Shipping approved Nautical, Radio and fish finding equipments are fitted in the vessel.

World's Oceans are currently affected by global warming with likely impacts in changes in ocean currents and winds, precipitation etc. Sea Surface Temperature (SST) has increased by 0.2 to 0.3oC along the Indian coast in the last 45 years. Global warming and consequent changes in climate patterns will have strong impact on fisheries with serious consequences on food and livelihood security of considerable section of the population. Climate change is likely to play a key role in the distribution, abundance and phenology of marine and freshwater fishes and assessing the impact is vital for developing strategies for climate change mitigation. Nevertheless, there exists opportunities to reduce the vulnerability of Indian marine fisheries to climate change by way of projections on fish distribution, abundance etc., thereby planning better management adaptations.

National Initiative on Climate Resilient Agriculture (NICRA) project was initiated by ICAR as a majorprogramme to enhance the resilience of Indian agriculture covering crops livestock and fisheries to climatic variability and climate change. The project was initiated with an outlay of Rs. 350 crores in the XI plan and continues in the XII plan. Central Marine Fisheries Research Institute (CMFRI) is one of the major institute in the strategic research component in the NICRA project and the nodal agency to carry out climate related impact studies on Indian fisheries. Warming of waters and sea level rise may severely impact the fishery comprising both the resource and its tappers. Therefore, it is pertinent to study and evaluate the shift in spawning season, strength and recruitment into fisheries, determine quantitative and qualitative food availability, especially to the spawners and juveniles and find relationships between climatic and oceanographic variables on distribution, spawning and food availability of Indian marine fishes. As part of the project, CMFRI, Kochi has procured this vessel.

The project on fisheries CMFRI is headed by Dr P.U Zacharia, Principal Scientist and Head of Demersal Fisheries Division and 44 scientists working at different centers of CMFRI are involved in the project in addition to 23 research scholars. The work involves finding the impact of climate change on the distribution, abundance, spawningbehaviour by selecting 10 species representing pelagic, Demersal, crustaceans, and molluscan species. Other aspects under study are assessing the vulnerability of coastal districts, estimating the emission from fishing and allied activities, identifying and developing hatchery technologies for climate resilient species for mariculture and developing and demonstrating technologies in estuarine and coastal areas.