

Marine environment along north Andhra Pradesh

Studies are being conducted on quantity and intensity of marine debris on the seafloor along the north Andhra Pradesh coast. Experimental fishing (trawling) is conducted along the north Andhra Pradesh coast using CMFRI's research vessel RV Cadalmin-1 and marine debris collected are studied and estimates made. The quantity of marine debris landed during experimental fishing has ranged from 0 to 10.7 kg per trip. The estimated annual average contribution of debris ranged from 5.8% to 7.3% of fish catch.

Economics of marine fishing in Andhra Pradesh

Studies on the economics of marine fishing in different marine fishing sectors of Andhra Pradesh are being studied at the centre. It was observed that in Andhra Pradesh, among the four motorized gears namely hook & line, discovala, gullavala and jagavala, the capital productivity (lowest operating ratio) was highest in case of discovala(0.56). Similarly among the four gears, the Gross Value Added as a percent of gross revenue at 87.03 per cent was highest in case of discovala. In the non-motorized sector, the capital productivity was highest in hook and line and the GVA as a percent of gross revenue was highest in case of hook and line fishing in Andhra Pradesh. In mechanized trawlers, the GVA as a percent of gross revenue was 65.60%.

Stakeholder workshops

The Centre conducts regular stakeholder workshops to disseminate the research findings to the fishing communities of the region as well as to obtain feedback and first-hand information on the challenges and constraints being encountered by the fishing communities. Awareness campaigns and capacity building programmes are also being organized regularly to enrich the knowledge and skills of fishers on responsible fishing practices and resource conservation to ensure sustainable fisheries.



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ASSESSMENT OF THE MARINE FISHERIES OF ANDHRA PRADESH



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Introduction

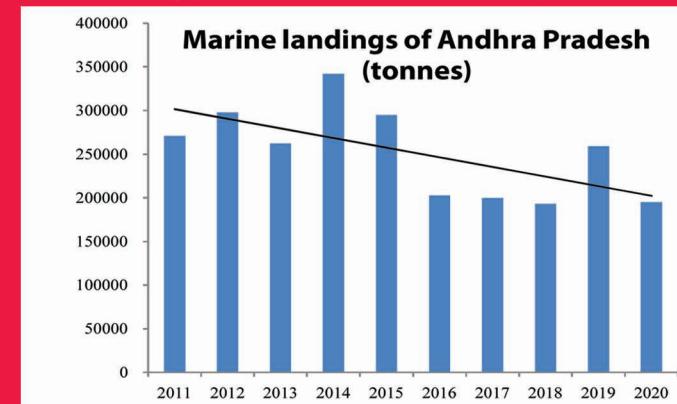
As per CMFRI's mandate of marine fishery resource assessment, Visakhapatnam Regional Centre of ICAR-CMFRI has been assigned with the responsibility to assess the marine fishery resources of Andhra Pradesh. The Regional Centre is involved in regular monitoring of marine landings, assessment of commercially important marine resources and development of management plans for the state's marine fisheries. The first phase of state-level monitoring ran from 2002-2007 when the state's major marine resources were appraised. During the second phase from 2007-2012 the Centre's work resulted in resource-wise management advisories for sustainable management of the marine resources of the state. The third phase (2012-2017) resulted in a policy guidance document to sustain the marine fisheries of Andhra Pradesh. Currently the fourth phase is in progress (2017-2024) with emphasis on studying the impacts of Covid-19 on marine fisheries of Andhra Pradesh in addition to regular resource monitoring studies.

Marine fisheries profile of Andhra Pradesh

The state of Andhra Pradesh has a coastline of 974 km covering nine coastal districts. The State is home to 1,50,868 active fishermen and 31,741 fishing crafts operating a number of gears like trawlnets, gillnets, seines and hooks and lines. Marine fish landings of the state fluctuated in past two decades with an average annual landing of 2.51 lakh tonnes, with maximum landings recorded in 2014 (3.42 lakh tonnes) and minimum in 2018 (1.93 lakh tonnes). The major groups contributing to the state's marine landings during 2012-2017 were pelagic fish (62.28%), demersal fish (23.12%), crustaceans (11.93%) and molluscs (1.16%). The dominant fishing gear during 2012-2017 was the trawl net (41.61% of landings), followed by seine nets (19.83%) and gillnets (15.87%).



However during this period, the catch rate of mechanized trawls fell from 29.3 kg/h in 2012 to 19.58 kg/h in 2016. The highest catch rate of trawls was in 2014 at 34.13 kg/h and the average for the time period was 27 kg/h. Among motorized fishing gears, the highest catch-per-unit-effort (CPUE) was for the seines (including ring seines) at 400 kg/unit. This was followed by gillnets at 51 kg/unit and hooks and lines at 49 kg/unit.



How are resources monitored and assessed?

There are 353 landing centres along the coast of Andhra Pradesh where fishermen land their catch. Most of the landing centres are regularly surveyed for data collection on marine landings using the "Stratified Multistage Random Sampling" design resulting in estimates of marine landings for the state. Major resources are studied in further detail for estimating Biological Reference Points (BRPs) from selected major fishing harbours and stocks are assessed using length-based fish stock assessment models. Assessment of fish stock status is carried out by first estimating the standing stock of fish in the sea and the maximum yield that can be obtained from a single fish in the fishery (gram body weight per recruit). The annual average landing of the fish species and the present yield per recruit is estimated and compared with the estimate of standing stock and maximum yield/recruit. Based on the status of stock, management advisories are issued for sustainable utilization of the resources.



What are the resources being monitored and assessed?

All marine resources landed at survey points are monitored but detailed studies are conducted for commercially important species only. In Andhra Pradesh, presently over 20 species are being monitored across 4 major resource groups. The pelagic resources being studied are the queenfish, wolf herring, half beak and full beaks and seerfish. The major demersal resources being studied are sharks, rays, snappers, threadfins, pompano and whiting (Sillago). Among crustaceans, shrimps, crabs and lobsters are being studied. Among molluscs, squids, cuttlefishes and octopus are being studied.

Status of major fish stocks of Andhra Pradesh

Assessment of 22 major marine species (8 pelagic, 7 demersal, 4 crustacean and 3 molluscan species) landed in Andhra Pradesh was carried out for the period 2012-2017. Of the 22 stocks assessed, 7 were optimally exploited and 15 were exploited beyond optimum levels. All pelagic, demersal and molluscan resources were under-exploited or optimally-exploited. Indian mackerel, skipjack tuna, threadfin bream, goatfish, croakers and squid were being optimally exploited in the state.

