STUDY NOTES · BASIC CONCEPT

All about INS Malvan : India's Submarine Hunter

Defence & Security

26 Jul 2022

What?

INS Malvan (P81) is an indigenously constructed Anti-Submarine Warfare Shallow Water Craft (ASW-SWC) of the Indian Navy. Commissioned at the Karwar Naval Base in Karnataka, it is the second of eight Mahe-class vessels designed specifically to hunt enemy submarines, track underwater targets, and secure coastal waters.

Key Capabilities & Role

Primary Mission: Designed to search, detect, and destroy hostile submarines in shallow coastal waters (littoral zones) where larger warships struggle to maneuver.

Secondary Roles: Mine-laying, search-and-rescue (SAR), and Low-Intensity Maritime Operations (LIMO).

Waterjet Propulsion: Rather than traditional propellers, it uses water-jet propulsion powered by three diesel engines. This creates lower underwater noise (making it harder for enemy submarines to detect), improves shallow-water maneuverability, and prevents propeller damage from seabed obstacles.

Technical Specifications

Parameter	Specification
Class	Mahe-class (ASW-SWC)
Builder	Cochin Shipyard Limited (CSL), Kochi
Indigenous Content	Over 80% (Aatmanirbhar Bharat initiative)
Length & Displacement	78 metres | ~1,100 tonnes
Top Speed & Range	25 knots (~46 km/h) | 1,800 nautical miles
Endurance & Crew	14 days | 57 personnel (7 officers, 50 sailors)

Weapons & Sensor Suite

Anti-Submarine Armament: Forward-mounted RBU-6000 anti-submarine rocket launcher, two triple 324 mm lightweight torpedo tubes (firing Advanced Light-Weight Torpedoes), and anti-submarine mine-laying rails.

Surface Defense: 30 mm main naval gun and two 12.7 mm stabilized remote-controlled guns.

Sensors & Decoys: DRDO-developed Abhay active hull-mounted sonar, low-frequency variable depth sonar (LFVDS), and Mahindra Integrated Anti-Submarine Warfare Defence Suite with torpedo decoys.

BECOME IAS
AI-Powered UPSC Preparation by ZINKPOT