INS Agray

Prelims: *Current events of national and international importance | Science & Technology*

Why in News?

The Indian Navy has received INS Agray, the fourth (ASW SWC), indigenously designed and built by GRSE, Kolkata.

- **Classification** – It is an ***Anti-Submarine Warfare Shallow Water Craft*** (ASW SWC).
- It is the 4th ship in the *08 x Anti-Submarine Warfare Shallow Water Craft (ASW SWC) Arnala-class.*
- **Objectives -** This vessel is specially designed for:
  - Anti-submarine warfare
  - Coastal surveillance
  - Mine detection and neutralization
- It will mainly operate in shallow coastal waters, where large warships face difficulty.
- **Historical Legacy –** Named after the erstwhile *INS Agray (1241 PE Class Patrol Vessel),* decommissioned in 2017.
- **Design & Construction** – Designed and constructed by ***Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.***
- Built in accordance with Indian Register of Shipping (IRS) classification rules.
- Over **80%** indigenous content, involving MSMEs and domestic industry.
- **Key Features**

1. **Waterjet Propulsion System -** Unlike traditional ships, it uses waterjet propulsion.
   - **Benefits**
     - Better manoeuvrability
     - Lower noise levels (important for stealth operations)

2. Low Acoustic Signature - The vessel produces less noise, making it harder

for submarines to detect. This is crucial for successful anti-submarine missions.

- **Powerful Anti-Submarine Warfare Capabilities**
- INS Agray is specially built to detect and neutralize underwater threats.
- It is equipped with:
  - Advanced SONAR systems (Sound Navigation and Ranging)
  - Indigenous rocket launchers
  - Lightweight torpedoes
- These systems help in
  - Detecting enemy submarines
  - Tracking underwater movement
  - Launching precise attacks
  - Designed for Complex Coastal Environments
- **Operational Roles**
  - **Anti-Submarine Warfare (ASW)** - Detection and engagement of submarines in shallow waters.
  - **Mine Warfare** - Capable of mine detection and neutralisation.
  - **Coastal Defence** - Surveillance and protection of littoral zones.
  - **Fleet Support -** Escort and protection in near-shore operations.
- **Strategic Significance –**
  - Strengthens maritime security in the Indian Ocean Region.
  - Reflects India’s self-reliance in warship design and construction.
  - Supports employment generation and expansion of the domestic defence ecosystem.

Reference

PIB | INS Agray

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