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At Sea: On India's Naval Indigenisation and the Limits of Project 17A

THE HINDU

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CURATED & WRITTEN BY

**Bharat Choudhary**

UPSC Educator & Content Creator

[linkedin.com/in/epicbharat](https://www.linkedin.com/in/epicbharat)

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At Sea: On India's Naval Indigenisation and the Limits of Project 17A

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EDITORIAL SUMMARY

The Hindu's editorial (May 6, 2026) marks the delivery of **INS Mahendragiri** — the sixth Project 17A Nilgiri-class stealth frigate — as a genuine milestone in India's naval self-reliance, while issuing a clear-eyed assessment of the **structural gaps** that remain. The editorial argues that **75% indigenous content by value** is praiseworthy but potentially misleading: the **critical 25% that is still imported** — particularly **marine gas turbines, specific sensors, and electronic warfare suites** — is precisely what determines a warship's combat effectiveness and strategic independence.

The piece warns that India's **dependence on imported gas turbines** (historically from Ukraine's Zorya-Mashproekt, now disrupted by the Russia-Ukraine war) is a strategic vulnerability that no percentage metric can mask. It calls for urgent, funded programmes for **indigenous marine gas turbine development** — a capability gap that other aspiring naval powers (South Korea, Japan) successfully closed over decades through patient investment.

KEY ARGUMENTS

Milestone — What Project 17A Achieved

Project 17A represents a generational improvement over the previous Shivalik class (Project 17):

PARAMETER	P17 (SHIVALIK)	P17A (NILGIRI/MAHENDRAGIRI)
Indigenous content	~30%	~75%
Steel	Foreign	DMR 249A (Indian, SAIL)
Missiles	Imported	BrahMos (India-Russia JV) + MRSAM (India-Israel)
Radar	Foreign	MFSTAR (co-developed)
Stealth	Basic	Advanced — reduced radar cross-section

Seven ships, two yards (MDSL Mumbai + GRSE Kolkata), designed by the **Warship Design Bureau** — a fully indigenous design-to-build chain is now operational.

The Gaps — What Remains Critical

GAP	DETAIL	STRATEGIC RISK
Marine gas turbines	India has no indigenous marine gas turbine production; previously sourced from Ukraine (Zorya-Mashproekt)	Ukraine war disrupted supply chains; P17A ships use GE's LM2500 (American) as fallback
Sensor dependencies	Some fire-control sensors and sonar systems still imported	Export controls by suppliers can compromise upgrades
Delivery delays	Original P17A delivery timelines slipped by 2–3 years per ship	Reduces effective fleet size during a critical strategic window
Submarine gap	P75I (conventional submarines with Air Independent Propulsion) faces long delays	India's undersea deterrent weakening relative to China and Pakistan

The LM2500 Question

The editorial notes that India's current gas turbine arrangement — using **GE's LM2500 turbines** (American) after the Ukraine supply disruption — represents a shift from one dependency to another. The Gas Turbine Research Establishment (GTRE), Bengaluru — which developed the Kaveri jet engine — must be tasked and funded for a **naval gas turbine derivative programme**.

UPSC RELEVANCE

PAPER	ANGLE
GS3 — Security	Naval indigenisation, Project 17A, defence manufacturing ecosystem
GS3 — Economy	Defence PLI, Make in India limitations, PSU shipbuilding
GS2 — IR	India-Ukraine disruption; GE technology (USA); defence supply chain geopolitics

Mains Keywords: Project 17A, INS Mahendragiri, marine gas turbine, LM2500, GTRE, Kaveri engine, MDSL, GRSE, Warship Design Bureau, DMR 249A, naval self-reliance, defence indigenisation gaps

Prelims Facts Corner

ITEM	FACT
INS Mahendragiri	6th P17A ship; MDSL Mumbai; April 30, 2026
P17A indigenous content	~75% by value
Marine gas turbine (foreign)	GE LM2500 (USA); previously Zorya-Mashproekt (Ukraine)
GTRE	Gas Turbine Research Establishment; Bengaluru; developed Kaveri jet engine
DMR 249A	Indigenously developed warship-grade steel; produced by SAIL
P17A builders	MDSL (4 ships) + GRSE Kolkata (3 ships)
Designer	Warship Design Bureau (Indian Navy)
P17A stealth features	Reduced radar cross-section hull; CODOG propulsion reduces acoustic signature

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[linkedin.com/in/epicbharat](https://www.linkedin.com/in/epicbharat)[Read Full Article on Ujyari →](#)<https://ujyari.com/editorials/2026/05/hindu-project-17a-naval-indigenisation-gaps/>

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