



DAILY CURRENT AFFAIRS 28-10-2024

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National Mission for Manuscripts (NMM)

Syllabus: GS-1; Art & Culture- Conservation, GS-2; Government policies

Context

- The Union Ministry of Culture is set to “revive and relaunch” the National Mission for Manuscripts (NMM) and is mulling the formation of an autonomous body to help preserve ancient texts in India.

Objectives

- **Documenting and Cataloguing Manuscripts:** Collect information and create a database of manuscripts across India.
- **Conservation and Preservation:** Physical preservation of manuscripts using advanced methods, training conservation professionals.
- **Digitalization:** Digitize manuscripts to prevent physical deterioration and improve accessibility.
- **Research and Scholarship:** Encourage research on manuscripts and facilitate the publishing of rare manuscripts.
- **Public Awareness:** Raise public awareness of India's manuscript heritage through exhibitions, seminars, and publications.

Key Components

- **Manuscript Resource Centers (MRCs):** These centers are established across the country to locate and document manuscripts.
- **Manuscript Conservation Centers (MCCs):** These centers focus on the preservation and conservation of manuscripts.
- **National Manuscripts Library:** A central digital repository for all manuscripts and their digitized versions.
- **Manuscript Catalogues:** NMM publishes descriptive catalogues, which provide an inventory of available manuscripts.

Significance

- **Preservation of Cultural Heritage:** Manuscripts provide insights into ancient knowledge systems, traditional practices, and history.
- **Academic and Research Value:** They serve as primary sources for research in history, literature, philosophy, science, and other fields.

- **Promotion of Regional Knowledge Systems:** The NMM helps in documenting manuscripts in regional languages, contributing to linguistic diversity and preservation.

Challenges

- **Deterioration Due to Age:** Many manuscripts are fragile due to age, exposure to environmental factors, and lack of care.
- **Limited Trained Manpower:** There is a shortage of skilled conservators and preservation experts.
- **Financial Constraints:** Preservation and digitization of a vast number of manuscripts require significant resources.

Right to Die with Dignity

Syllabus: GS-2; Judiciary

Context

- Recently, the Ministry of Health and Family Welfare released draft Guidelines for the Withdrawal of Life Support in Terminally Ill Patients to operationalise the Supreme Court's 2018 and 2023 orders on the right to die with dignity for all Indians.

Key Elements of the Draft Guidelines

- **Medical Boards:**
 - **Primary Medical Board** at the hospital level evaluates if further treatment is beneficial.
 - **Secondary Medical Board**, nominated by the district Chief Medical Officer, reviews the Primary Board's decision.
- **Legal Framework:**
 - Currently, India has no specific legislation for withholding or withdrawing life support, but the Supreme Court's rulings allow it under a regulated framework.
 - **Withholding/Withdrawing Life Support:** Refers to stopping medical interventions (like ventilators) when they no longer alleviate suffering or aid the patient's condition.

➤ **Patient Rights and Euthanasia:**

- Patients can refuse life support through informed consent or advance medical directives (living wills).
- **Living Will:** Specifies a person's treatment preferences if they lose decision-making capacity, with two surrogate decision-makers named.
- **Euthanasia:** Defined as intentional ending of life by a physician; different from withdrawal of life support, which merely allows natural disease progression without intervention.

➤ **Ethical and Legal Safeguards:**

- **Do-Not-Attempt-Resuscitation (DNAR):** Allows patients to refuse resuscitation, but treatment of underlying conditions continues.
- **Shared Decision-Making:** Requires agreement from the medical team and family/surrogate, promoting transparency and legal clarity.

What is the need?

- **Clarity on Patient Rights:** The Supreme Court's 2018 ruling recognized the right to die with dignity as a part of the right to life under Article 21 of the Indian Constitution. Guidelines help ensure that this right is uniformly applied across the country, enabling patients to make informed choices regarding end-of-life care.
- **Lack of Dedicated Legislation:** In India, no dedicated legislation exists to govern the withholding or withdrawal of life-sustaining treatments. Guidelines provide a structured framework to facilitate these decisions while preventing misuse, offering legal clarity to both medical professionals and patients' families.
- **Preventing Prolonged Suffering:** In terminally ill patients where medical interventions do not improve quality of life, unnecessary prolongation of suffering is common. Withholding or withdrawing life-sustaining treatment allows for palliative care, focusing on comfort rather than unnecessary interventions that may increase discomfort.
- **Support for Medical Practitioners:** Without a structured protocol, doctors may hesitate to withdraw life-sustaining support due to ethical and legal concerns. These guidelines offer doctors a systematic and legally safe process, preventing unregulated practices like discharges "against medical advice," which often leave patients without appropriate end-of-life care.
- **Reducing Emotional and Financial Strain on Families:** Families often face emotional and financial distress when a loved one is in a terminal condition, requiring extensive medical support. Guidelines help family members understand

the limitations of medical interventions, making the process more transparent and reducing the potential burden.

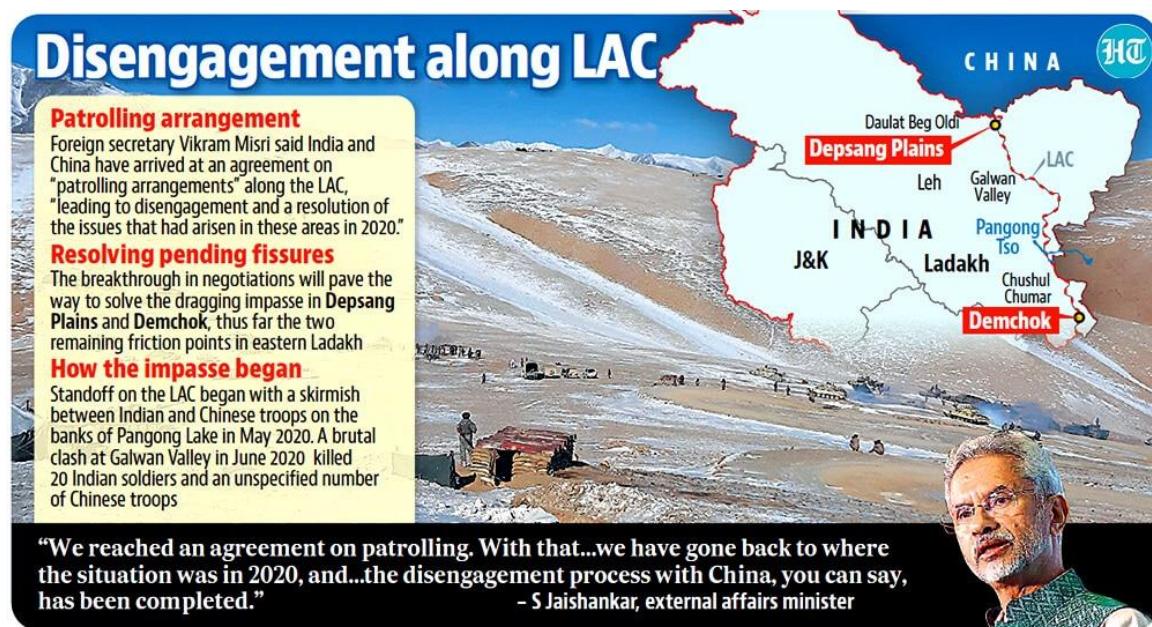
- **Ethical Decision-Making Framework:** By involving medical boards and surrogate decision-makers, the guidelines ensure decisions are made ethically, respecting patient autonomy and dignity without placing the burden solely on medical professionals or families.

India-China Patrolling Arrangement

Syllabus: GS-2; International Relations

Context

- Recently, Foreign Secretary Vikram Misri announced that an agreement had been reached with China on “patrolling arrangements” along the Line of Actual Control (LAC) in the India-China border areas, leading to “disengagement and a resolution of the issues that had arisen in these areas in 2020.”



Disengagement Process

- **Ongoing Disengagement:** Disengagement is actively taking place in **Depsang** and **Demchok** in eastern Ladakh. Both the Indian and Chinese armies are in the process

of dismantling all temporary and semi-permanent structures that were constructed since April 2020.

- **Completion Timeline:** The disengagement is expected to be finalized by **October 29, 2024**. Following this, patrolling in both areas is set to resume, with both sides coordinating to prevent face-offs.

Agreement Framework

- **Negotiation Levels:** The agreement was reached after extensive discussions at political, diplomatic, and military levels. A broad framework was established first at the diplomatic level, followed by a detailed technical agreement for ground implementation finalized between Corps Commanders on **October 21, 2024**.
- **Friction Points:** This agreement specifically addresses the last two remaining friction points (Depsang and Demchok). There are no changes in status at other friction points where buffer zones were established during previous disengagements from 2020 to 2022.

Military Build-Up and Historical Context

- **Chinese Build-Up:** Since April 2020, the Chinese People's Liberation Army (PLA) has significantly increased troop numbers and military infrastructure in eastern Ladakh. This includes fortified structures aimed at altering the status quo along the **3,488 km Line of Actual Control (LAC)**.
- **Past Clashes:** Historical skirmishes, including the **2020 Galwan Valley clash** and other confrontations, have highlighted ongoing tensions, leading to significant troop mobilizations by both countries.

Focus on Arunachal Pradesh

- **Yangtse Understanding:** An agreement has also been reached regarding **Yangtse** in Arunachal Pradesh, where Chinese patrols will continue as before, and their movement will not be obstructed. Yangtse, in the Tawang region, is a disputed area with a history of transgressions.
- **Recent Clashes:** The most recent incident occurred on **December 9, 2022**, when Indian soldiers clashed with the Chinese, marking the first significant clash since the **June 2020 Galwan** incident.

Future Path and Strategic Implications

- **Next Steps:** The completion of the disengagement process at five friction points was achieved in **September 2022**. The focus now shifts to de-escalation and de-

induction. New patrolling norms need to be established to remove buffer zones and resume patrolling as before.

- **Military Caution:** Army Chief General Upendra Dwivedi has emphasized the importance of restoring trust, suggesting that while buffer zones remain, efforts are being made to reassure both sides.
- **Patrolling Points (PPs):** India has **65 PPs** from Karakoram Pass to Chumur, of which **26 have seen diminished Indian presence** due to restrictions. This loss of patrolling has contributed to China's strategy of "Salami Slicing," altering ground realities incrementally.

Significance of Patrolling

- **Strategic Locations:** PPs are critical for maintaining India's presence and safeguarding strategic locations, especially in areas like the **Depsang plains**, which are vital for access to **Daulat Beg Oldie (DBO)** and the crucial **Darbuk-Skyok-DBO road**.
- **Cultural and Economic Implications:** The traditional grazing grounds in the region have cultural significance for the semi-nomadic **Rebos** community, and the restrictions imposed since 2014 have led to resentment.

Diplomatic Engagement

- **Bilateral Talks:** In meetings between Prime Minister **Narendra Modi** and Chinese President **Xi Jinping**, discussions regarding the boundary resolution mechanism have been emphasized, aiming to rejuvenate stalled diplomatic processes.

Conclusion

- The India-China Patrolling Arrangement and the ongoing disengagement signify a critical step towards managing border tensions and restoring a semblance of normalcy along the LAC. The developments in Depsang and Demchok, coupled with strategic military and diplomatic efforts, will shape future relations between the two nations.

Coking Coal

Syllabus: GS-3; Science & Technology

Context

- India's coking coal imports surge to six-year high

Key Characteristics of Coking Coal

- **High Carbon Content:** Coking coal has a high carbon content, typically above 60%, which is essential for producing coke.
- **Low Impurities:** It contains fewer impurities, like sulfur and phosphorus, which are detrimental to steel quality.
- **Coking Properties:** Coking coal has the unique ability to soften, liquefy, and resolidify when heated in the absence of air. This process, known as coking, forms porous, strong coke that can withstand the blast furnace environment in steelmaking.

Types of Coking Coal

- **Hard Coking Coal (HCC):** This is the most valuable type due to its high strength and stability in producing strong coke.
- **Semi-Hard and Semi-Soft Coking Coal:** These coals produce weaker coke and are typically blended with hard coking coal to achieve the desired coke quality.
- **Pulverized Coal Injection (PCI):** While not used directly for coking, PCI coal is used in the steelmaking process to reduce coke consumption by being injected into blast furnaces.

Coking Process

- **Coal Washing:** Before coking, coal is washed to remove impurities and improve the coke quality.
- **Carbonization:** Coking coal is heated in coke ovens at temperatures over 1,000°C, breaking down into coke and volatile compounds.
- **Coke Recovery:** The resulting coke is used in blast furnaces for iron and steel production. It provides both the carbon source needed to reduce iron ore to molten iron and serves as a fuel source.

Applications of Coking Coal

- **Steel Production:** Over 70% of global steel production relies on coking coal.

- **Chemical Industry:** The by-products of the coking process, like coal tar and ammonia, are valuable raw materials for chemicals, fertilizers, and other industrial processes.

Environmental Impact

Coking coal mining and processing have a significant environmental impact:

- **Carbon Emissions:** The coking process releases large amounts of CO₂, contributing to greenhouse gases.
- **Water and Land Pollution:** Coal washing and mining processes generate slurry and waste, leading to water and soil contamination.
- **Air Pollution:** The coking process emits particulates and harmful gases, affecting air quality around production facilities.

Global Reserves and Major Producers

- **Australia, USA, Canada, and Russia** are among the largest producers and exporters of coking coal.
- **India and China** are the top consumers, importing substantial amounts due to limited domestic coking coal reserves, particularly high-quality grades.

India's Coking Coal Reserves

- **Proportion of Total Coal Reserves:** India has a total coal reserve of approximately 344 billion tonnes, but only around 10-15% of this reserve is suitable for coking purposes.
- **Coking Coal Grade:** Most of India's coking coal is of medium to low quality, requiring blending with imported, higher-grade coking coal for steel production.

Major Coking Coal Reserve Areas

1. **Jharkhand:**
 - Jharkhand has the largest coking coal reserves in India, primarily in the Jharia coalfield, which holds more than 80% of the country's prime coking coal reserves.
 - Other significant deposits are found in the Bokaro and North Karanpura coalfields.
2. **Chhattisgarh:**
 - Chhattisgarh has substantial coking coal reserves, especially in the Korba and Mand-Raigarh coalfields.

- Although the quality is lower than that of Jharkhand's Jharia coal, it still contributes to the domestic supply.

3. **West Bengal:**

- West Bengal, particularly the Raniganj coalfield, holds some coking coal reserves, though they are not extensive.
- The coal here is often low in coking quality and primarily used as thermal coal or blended with imported coking coal.

4. **Madhya Pradesh:**

- Madhya Pradesh, particularly the Singrauli coalfield, has smaller quantities of coking coal but primarily produces non-coking (thermal) coal.

India's Coking Coal Production

- **Limited Reserves:** India has only around 10% of its coal reserves suitable for coking purposes, with most reserves being thermal coal.
- **Domestic Production:** India's coking coal production remains relatively low due to the quality and quantity limitations of its reserves. Most of the domestic coking coal is produced by government-owned entities like Coal India Limited (CIL) and Bharat Coking Coal Limited (BCCCL).
- **Annual Output:** In recent years, India's domestic coking coal production has hovered around 50-60 million tonnes per year, which only meets a fraction of the steel industry's demand.

Challenges with India's Coking Coal Reserves

- **Quality Issues:** Much of India's coking coal is low-grade and requires washing or blending with higher-quality imported coal to make it suitable for steel production.
- **Mine Fires:** The Jharia coalfield, India's most significant coking coal source, has extensive underground fires that have burned for decades, affecting both availability and quality.
- **Environmental and Mining Constraints:** Environmental regulations and the cost-intensive process of coking coal mining limit the rate at which reserves can be extracted.

Coking Coal Imports

- **Heavy Imports:** Due to insufficient domestic production, India is one of the world's largest importers of coking coal, primarily from Australia, Russia, the United States, and Canada.
- **Annual Import Volume:** India imports around 50-60 million tonnes of coking coal annually to meet demand in the steel sector.

- **Rising Costs:** The heavy reliance on imports subjects India to international market price fluctuations, impacting steel production costs and competitiveness.
- **Supply Diversification:** India has recently been exploring other sources, such as Russia and Indonesia, to reduce dependency on Australia and diversify its import sources.

Coking Coal Exports

- India does not export coking coal due to its high domestic demand and limited production. All domestically produced coking coal is typically used within the country's steel and related industries, and it still falls short of meeting the country's full requirements.

Government Initiatives

To reduce import dependency, the Indian government is:

- **Encouraging Domestic Production:** Through investments in Coal India Limited and private mining initiatives, there's a push to enhance coking coal production.
- **Exploring Coal Blending:** Efforts are being made to blend domestic coking coal with imported higher-grade coal to partially offset imports.
- **Strategic Partnerships:** India has signed agreements with Russia, Australia, and other nations to secure long-term coking coal supplies at competitive rates.

Periyar Tiger Reserve

Syllabus: GS-3; Biodiversity

Context

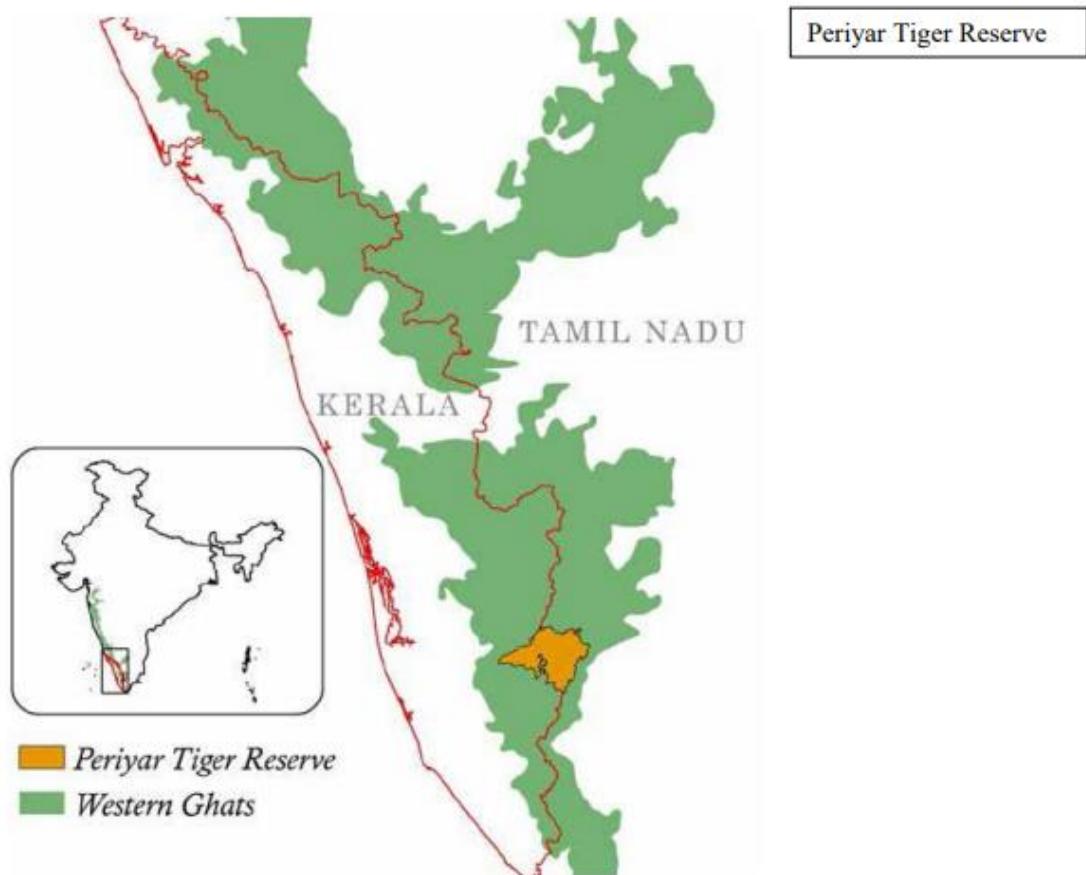
- Sabu Varghese aka Kunjumon-Periyar Tiger Reserve's reformed poacher gets conservation award.

About

Location and Geography

- **State:** Kerala, India
- **Area:** Approximately 925 sq km, with a core area of about 350 sq km.

➤ **Location in the Western Ghats:** Periyar lies in the southern region of the Western Ghats, covering the Cardamom and Pandalam hills.



Biodiversity

➤ **Flora:** Periyar has rich biodiversity, with various forest types including tropical evergreen, semi-evergreen, moist deciduous, and grasslands. Some of the endemic plant species include *Gluta travancorica*, *Litsaea wightiana*, and *Dipterocarpus indicus*.

➤ **Fauna:**

- **Tigers:** The reserve is famous for its tiger population and is part of Project Tiger. The 2018 Tiger Census estimated 30-35 tigers in Periyar.
- **Elephants:** It is also known for its large elephant population and is one of the important elephant habitats in India.
- **Other Species:** Leopards, gaur, sambhar, bison, wild boar, Malabar giant squirrel, lion-tailed macaque, and over 300 species of birds, including Malabar hornbills and kingfishers.

- **Endemic Species:** Hosts endemic species like the Nilgiri Langur and Travancore tortoise, making it a critical habitat for Western Ghats' biodiversity.

Conservation and Management

- **Project Tiger:** Declared as part of Project Tiger in 1978 to conserve the endangered Bengal tiger.
- **Periyar Foundation:** An eco-development initiative that encourages community participation in conservation efforts..

Rivers passing through

- The Periyar Tiger Reserve is home to several rivers and water bodies that play a crucial role in the ecosystem and support the diverse flora and fauna. Here are the key rivers associated with the Periyar Tiger Reserve:

1. Periyar River

- **Origin:** The Periyar River is the most significant river in the region, originating from the Western Ghats in Kerala.
- **Length:** Approximately 244 km long, it is one of the longest rivers in Kerala.
- **Importance:** The river flows through the reserve and provides essential water resources for the wildlife and vegetation in the area. It also supports the ecosystem of the Periyar Lake formed by the Mullaperiyar Dam.

2. Muthirapuzha River

- **Location:** This river flows into the Periyar River.
- **Significance:** The Muthirapuzha River is vital for the local hydrology and supports the biodiversity of the region.

3. Cheruthoni River

- A tributary of the Periyar River, it is known for its scenic beauty and contributes to the overall watershed of the area.

4. Shanthivka River

- This smaller river also feeds into the Periyar and contributes to the water levels in the reserve.

5. Kottamala River

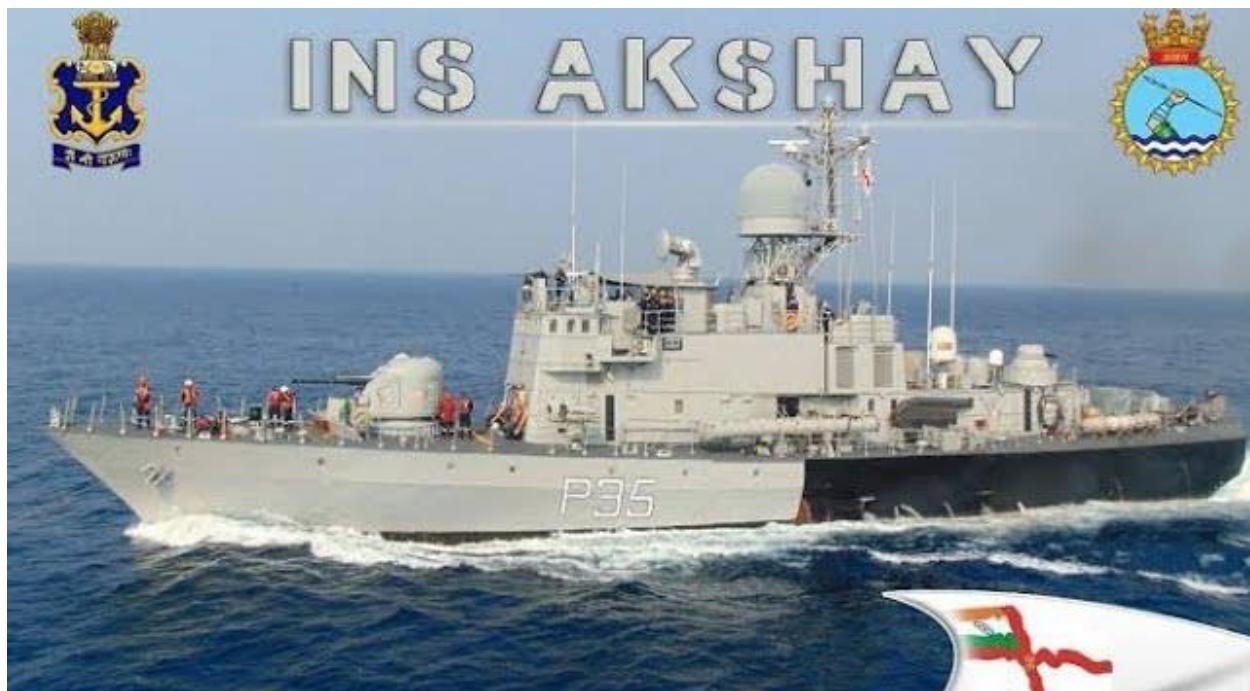
- Another tributary that contributes to the hydrology of the Periyar River system.

Abhay Anti-Submarine Warfare Ship

Syllabus: GS-3; Defence & Security

Context

- Navy Launches GRSE's Anti-Submarine Warfare Vessel 'Abhay'.



Key Features

- **Role:** Primarily anti-submarine warfare (ASW), with secondary capabilities for limited surface and anti-air warfare.
- **Speed & Agility:** Designed for high speed and maneuverability to track and target submarines effectively.
- **Weaponry:**
 - **Torpedo Tubes:** Equipped with torpedo tubes for engaging enemy submarines.
 - **Anti-Submarine Rockets:** RBU-6000 anti-submarine rocket launchers for effective close-range submarine engagement.

- **Surface-to-Air Missiles (SAMs):** Some versions are fitted with Strela SAMs for defense against aerial threats.
- **Sonar & Sensors:** Advanced sonar systems for submarine detection, with radars for surveillance and targeting.
- **Helicopter Compatibility:** Some *Abhay*-class ships can operate with a helicopter for extended ASW capabilities, enhancing detection and targeting range.

Operational History & Significance

- The *Abhay*-class ASW corvettes have played a critical role in the Indian Navy's anti-submarine defense along the Indian coastline, particularly in the Arabian Sea and Bay of Bengal.
- They have been instrumental in joint exercises with allied nations, which focus on enhancing anti-submarine warfare capabilities.
- These corvettes represent a shift towards indigenous defense manufacturing and serve as training vessels for newer ASW technology.

Strategic Importance

- **Coastal Security:** Essential for India's coastal defense strategy, especially considering regional maritime challenges.
- **Deterrence Capability:** The presence of ASW ships like the *Abhay* class acts as a deterrent against hostile submarines in India's exclusive economic zones (EEZ).
- **Modernization Drive:** While aging, the *Abhay*-class ships have paved the way for newer, more advanced ASW corvettes like the Kamorta-class in the Indian Navy, under the indigenous warship building program.