
Prelims Exam Topics

DR. SYAMA PRASAD MOOKERJEE

Context:

The Government of India is celebrating the 125th Birth Anniversary of Dr. Syama Prasad Mookerjee from 6th July 2025 to 6th July 2027, honouring his lasting impact on India's political, educational, and cultural fabric.

About Syama Prasad Mookerjee

- **Early Life**

- **Background:** Born on July 6, 1901, he was the son of the renowned jurist and academician Ashutosh Mookerjee.
- **Youngest Vice-Chancellor of CU:** A brilliant student of Presidency College and Lincoln's Inn, he became the youngest Vice-Chancellor of Calcutta University at the age of 33.

- **Political Career Before Independence**

- **Political Entry:** He was elected to the **Bengal Legislative Council** in 1929 and 1930, initially as a Congressman and later as an independent.
- **Hindu Mahasabha:** Officially joined the Hindu Mahasabha in Bengal in 1939, and became its working president in 1940.
- **Finance Minister of Bengal:** From 1941 to 1942, he served as Finance Minister in the Progressive Coalition government formed in opposition to the Muslim League.
- **Architect of West Bengal:** Strongly opposed the "United Bengal" plan and successfully campaigned for the partition of Bengal to ensure that a Hindu-majority West Bengal remained with India.

- **Political Career after Independence**

- **Union Minister:** Was the **Minister for Industry and Supply** in Jawaharlal Nehru's first post-independence cabinet.
- In April 1950, he resigned from the cabinet to protest the **Nehru-Liaquat Pact**, which he believed failed to protect Hindu minorities in East Pakistan (now Bangladesh).
- **Foundation of Jana Sangh:** In 1951, he founded the **Bharatiya Jana Sangh**, the predecessor to the modern-day BJP.

- **Opinion on special status of Jammu and Kashmir**

- **Opposition to Article 370:** Staunch critic of the special status granted to Jammu & Kashmir under Article 370.
- **Famous Slogan:** He adopted the slogan: "*Ek desh mein do vidhan, do pradhan aur do nishan nahi ho sakte*" (One country cannot have two constitutions, two Prime Ministers, and two flags).
- **The Praja Parishad Movement:** He supported the agitation by the Praja Parishad in Jammu for the complete integration of the state with India.
- **The 1953 Protest:** In May 1953, he attempted to enter Jammu & Kashmir without a permit, a symbolic act against the state's special restrictions. He was arrested upon crossing the Ravi River.
 - He died on June 23, 1953, while in detention in Srinagar.

TANDULWADI FORT

Context:

Six tourists were rescued after getting stranded while descending **Tandulwadi Fort** in **Maharashtra**.

About Tandulwadi Fort

- **Location:** Maharashtra
- **Nearby landmarks:** Saphale, Zanzorli Lake, and the Surya-Vaitarna river confluence.
- Contains **rock-cut water cisterns** and a **small central water pond**.
- History of Tandulwadi Fort
 - The fort's recorded history dates to the **15th century**, during the rule of **Jafar Khan** of the **Gujarat Sultanate**.
 - It served as a **watchtower** to monitor neighbouring forts and the **Arabian Sea**.
 - In **1454**, **Mahikavati (Mahim)** was captured by the **Sultan of Ahmedabad**, who appointed **Mallik Allauddin** as the fort's commander.
 - The **Portuguese** captured the fort in **1557** after establishing their base at **Vasai**.
 - The fort came under **Maratha** control in **1737** following the **Battle of Bassein**.

SEABUCKTHORN

Context:

Spiti's Seabuckthorn has received the **Geographical Indication (GI)** tag.

About Seabuckthorn

- A **hardy temperate shrub** found across **Europe and Asia**; in India, it grows in the **cold deserts of Ladakh and Spiti** above the tree line.
- Thrives in **dry, sandy habitats** and tolerates temperatures from **−43°C to 40°C**; requires **full sunlight** and is **salt tolerant**.
- Produces **orange-yellow berries** rich in **Vitamin C**, which remain on the plant even during **sub-zero winters**.
- Possesses **nitrogen-fixing roots**, improving **soil fertility**.
- Plays an important role in **soil erosion control, land reclamation, and wildlife habitat conservation**.

LAOKHOWA WILDLIFE SANCTUARY

Context:

A large-scale eviction drive is being carried out in **Laokhowa Wildlife Sanctuary** in **Assam** to remove encroachments.

About Laokhowa Wildlife Sanctuary

- **Location:** Assam, on the **southern bank of the Brahmaputra River**.
- **Flora:** The sanctuary supports a **diverse mix of alluvial grasslands, alluvial forests, moist deciduous forests, and tropical semi-evergreen forests**.
- **Fauna:** Home to the **Greater One-Horned Rhinoceros, Royal Bengal Tiger, Asian Elephant, and Wild Water Buffalo**.

DEFENCE ACQUISITION COUNCIL (DAC)

Context:

The **Defence Acquisition Council (DAC)** approved capital acquisition proposals for the procurement of several advanced weapon systems.

Key Weapon Systems Approved

- **AKASH TARANG:** An **Electronic Warfare (EW) system** for countering **Unmanned Aerial Vehicles (UAVs)** by **jamming GPS/GNSS signals and communication links**.
- **Medium Range Surface-to-Air Missile (MR-SAM):** Jointly developed by **DRDO and Israel Aerospace Industries (IAI)**; based on the **Barak-8** missile with a **range of over 70 km**.
- **Very Short Range Air Defence System (V-SHORADS):** An **indigenously developed Man-Portable Air Defence System (MANPADS)** designed to engage **low-altitude aerial threats** at short ranges.

About Defence Acquisition Council

- **Highest decision-making body** of the **Ministry of Defence** for **capital defence procurement**.
- Grants **Acceptance of Necessity (AoN)** and **in-principle approval** for capital acquisition proposals under the **Long-Term Integrated Perspective Plan (LTIPP)**.
- **Established: 2001**, following the **Group of Ministers'** recommendations after the **Kargil War (1999)**.
- **Chairperson: Defence Minister**.
- **Members: Chief of Defence Staff (CDS)** and the **Chiefs of the Army, Navy, and Air Force**.

SUB-ORBITAL LAUNCH VEHICLE FOR EXPERIMENT (SOLVE)

Context:

ISRO successfully conducted the **first ground test** of the **Sub-Orbital Launch Vehicle for Experiment (SOLVE)** solid motor.

About SOLVE

- A **sub-orbital test vehicle** developed to validate the **crew module deceleration and parachute system** for the **Gaganyaan Mission**.
- Carries the **Crew Module** to an altitude of **10–17 km**, where it separates from the launch vehicle.
- Uses a **series of 10 parachutes** to safely reduce the module's speed before **sea splashdown**.

Gaganyaan Mission

- **Gaganyaan** is **India's first human spaceflight mission**, led by ISRO.
- **Objective:** To send a **crew of three astronauts** to **Low Earth Orbit (LEO)** at an altitude of **400 km** for a **3-day mission** and safely recover them in **Indian sea waters**.
- **Launch Vehicle: Human-Rated LVM3 (HLVM3)**, equipped with a **Crew Escape System (CES)** for emergency evacuation during launch or ascent.
- **Orbital Module (OM):**
 - **Crew Module (CM):** Habitable module with **life support system, thermal protection, avionics, and re-entry capability**.
 - **Service Module (SM):** Provides **propulsion, power, thermal control, and avionics** while in orbit.

Human Space Flight Centre (HSFC)

- **Location: Bengaluru**.
- **Role:** Nodal centre for implementing the **Gaganyaan Programme**.

- Develops technologies related to **life support systems, crew safety, astronaut training, bioastronautics, and human-rating** of spacecraft.
- Also supports future missions involving **space stations, rendezvous and docking, and human missions to the Moon and Mars.**

SIRSA KINNOW

Context:

Sirsa Kinnow has been awarded the **Geographical Indication (GI)** tag, becoming **Haryana's first fruit** to receive this recognition.

About Sirsa Kinnow

- Characterized by **golden-orange skin, sweet-tart flavour, and high juice content.**
- Rich in **Vitamin C, calcium, potassium, and pectin.**
- The **peel contains essential oil** used in the **cosmetics industry.**
- Mainly cultivated in **Punjab, Haryana, Rajasthan, Himachal Pradesh, Madhya Pradesh, and Jammu & Kashmir.**
- Adapted to a **wide temperature range**, tolerating **0°C in winter** and **up to 40°C in summer.**

ARROW-3 MISSILE DEFENCE SYSTEM

Context:

Germany is expanding its missile defence network by establishing a **second Arrow-3 missile defence site** in **Bavaria**, complementing the existing system near **Berlin.**

About Arrow-3 Missile Defence System

- **Arrow-3** is an **exo-atmospheric anti-ballistic missile defence system** designed to intercept **long-range ballistic missiles** before they re-enter the Earth's atmosphere.
- Jointly developed by **Israel** and the **United States** as part of the **Arrow Weapon System (AWS)**.
 - The **AWS** is the world's first **operational national Anti-Tactical Ballistic Missile (ATBM)** defence system.
- Uses **two-stage solid-fuel interceptors** with an integrated **launcher, radar, and battle management system.**
- Can intercept missiles at altitudes of **up to 100 km** outside the atmosphere.
- Has an estimated **engagement range of up to 2,400 km.**
- Travels at **hypersonic speed (over Mach 5).**

- Equipped with **early-warning radar** capable of **long-range detection** and **simultaneous tracking of multiple targets**.
- Employs **hit-to-kill technology**, destroying incoming ballistic missiles through **direct kinetic impact**.

PANDAVANI FOLK TRADITION

Context:

Teejan Bai, the legendary **Pandavani** folk artist who transformed the tradition through her pioneering performances, **passed away at the age of 70**.

About Pandavani Folk Tradition

- **Pandavani** (meaning "**Songs and Stories of the Pandavas**") is a **folk storytelling and musical theatre tradition** based on episodes from the **Mahabharata**, with **Bhima** as the central character in many performances.
- **Region:** Predominantly performed in **Chhattisgarh**, and also popular in parts of **Madhya Pradesh, Odisha, and Andhra Pradesh**.
- Part of India's **oral storytelling tradition**, preserving epic narratives through music, narration, and dramatic performance.
- **Styles:**
 - **Vedamati:** Script-based and structured narration.
 - **Kapalik:** Improvisational style based on the performer's memory and creativity; popularized by **Teejan Bai**.
- **Performance Features:** The narrator uses an **Ektara/Tambura** as a symbolic prop and is accompanied by instruments such as **Harmonium, Tabla, Dholak, and Manjira**.

Mains Exam Topics

INDIA'S FISHERIES SECTOR

Context:

The Government's recent assessment, based on the **Central Marine Fisheries Research Institute (CMFRI)**, reports that **91.1%** of India's assessed marine fish stocks are sustainable.

Why is India's Fisheries Sector Important?

- **Ensuring Food and Nutritional Security:** Fisheries provide an affordable source of high-quality protein, essential fatty acids, vitamins, and micronutrients, strengthening dietary security and reducing malnutrition, particularly in coastal and rural communities.
- **Supporting Livelihoods and Inclusive Rural Development:** The sector sustains livelihoods across capture fisheries, aquaculture, processing, transportation, and marketing while creating employment opportunities for women, small fishers, and allied workers.
 - E.g. Fisheries support the livelihoods of nearly **3 crore** people, including members of **Fish Farmer Producer Organizations (FFPOs)**.
- **Contributing to Agricultural Growth:** As the fastest-growing allied agricultural sector, fisheries diversify rural incomes and strengthen India's agricultural economy.
 - E.g. The sector contributes about **7.43% of Agricultural Gross Value Added**, the highest among allied agricultural sectors.
- **Strengthening Export Competitiveness:** India is among the world's leading exporters of shrimp and marine products, generating foreign exchange earnings and integrating domestic producers into global seafood value chains.
 - E.g. Marine product exports earned approximately **₹62,408 crore** during **Financial Year 2024–25**.
- **Supporting Maritime Presence and Resource Stewardship:** Fishing communities maintain a continuous economic presence across India's coastal waters and **Exclusive Economic Zone**, contributing to marine resource utilisation and strengthening surveillance against **Illegal, Unreported and Unregulated (IUU)** fishing alongside maritime enforcement agencies.

What are the Key Challenges Before India's Fisheries Sector

- **Weak Scientific Assessment of Marine Fish Stocks:** India mainly relies on **landing (catch) data** instead of direct scientific assessments of fish stocks, which may not reflect the true condition of marine resources.

- **E.g.** The claim that **91.1%** of assessed marine fish stocks are sustainable is questioned because higher catches may result from **more fishing effort** (more boats, longer fishing hours, and better gear), even as **Catch Per Unit Effort (CPUE)** declines, indicating shrinking fish populations.
- **Technological Intensification and Ecosystem Degradation:** Advances in mechanised fishing, sonar, synthetic nets, and high-powered engines have significantly increased fishing capacity, while bottom trawling, mangrove loss, pollution, and reduced river nutrient flows have degraded breeding and nursery habitats.
 - **E.g.** India operates **over 64,000 mechanised fishing vessels**, and bottom trawling has caused extensive degradation of benthic ecosystems that support commercially important species.
- **Institutional Fragmentation and Weak Fisheries Governance:** Fragmented institutional responsibilities, weak scientific monitoring, inadequate enforcement of fishing regulations, and limited participation of fishing communities undermine sustainable fisheries management.
 - **E.g.** Restrictions on mechanised fishing within **5 nautical miles** remain weakly enforced due to limited surveillance and monitoring capacity.
- **Livelihood Trap and Resource Conflicts:** Declining fish stocks reduce fisher incomes, but limited alternative livelihoods compel fishing communities to intensify fishing effort, reinforcing overexploitation and creating a self-perpetuating cycle of resource depletion.
 - **E.g.** Competition over shrinking resources has intensified conflicts between mechanised and artisanal fishers and pushed trawlers into neighbouring waters such as the **Palk Bay**, leading to recurring India-Sri Lanka fishing disputes.
- **Limited Standalone Role of Deep-Sea Fishing:** While deep-sea fishing can improve utilisation of India's **Exclusive Economic Zone (EEZ)** and strengthen its presence against **Illegal, Unreported and Unregulated (IUU)** fishing, it cannot substitute for restoring degraded coastal ecosystems where the majority of fish production and livelihoods are concentrated.
 - **E.g.** **FAO** assessments indicate that deep-sea fisheries offer only limited additional production compared to the gains achievable through sustainable management of coastal fisheries.
- **Emerging Long-Term Pressures:** Climate change, ocean warming, marine heatwaves, and rising demand for fish protein are expected to further increase pressure on already stressed marine ecosystems.

- E.g. The FAO's **State of World Fisheries and Aquaculture** reports that nearly **90% of global marine fish stocks** are fully exploited, overfished, or depleted.

What Should be the Way Forward for Sustainable Development of India's Fisheries Sector?

- **Adopt an Ecosystem Approach to Fisheries Management:** Integrate **landing (catch) data** with **Catch Per Unit Effort (CPUE)**, ecosystem-based fish stock assessments, benthic habitat surveys, and real-time monitoring to enable evidence-based fisheries management.
 - E.g. Strengthen scientific assessments through the **Central Marine Fisheries Research Institute (CMFRI)** by combining ecological surveys with landing statistics for accurate stock estimation.
- **Restore Coastal and Marine Ecosystems:** Conserve mangroves, estuaries, coral reefs, and benthic habitats while reducing marine pollution and maintaining environmental river flows to rebuild fish breeding grounds and coastal productivity.
 - E.g. Strengthen habitat restoration through the **Integrated Coastal Zone Management (ICZM)** programme.
- **Strengthen Participatory Fisheries Governance:** Expand vessel registration, **Vessel Monitoring Systems (VMS)**, digital licensing, and surveillance while ensuring community participation, transparency, and shared ownership of fisheries data to improve compliance and trust.
 - E.g. Community-led fisheries management, supported by **Vessel Monitoring Systems (VMS)**, can protect traditional fishing rights while improving enforcement.
- **Support Fisheries-Based Livelihood Diversification:** Gradually rationalise excessive mechanised fishing capacity while providing transition finance, vessel buyback schemes, skill development, and livelihood opportunities that build on existing marine skills rather than requiring entirely new occupations.
 - E.g. Promote sustainable long-lining, mariculture, open-sea cage culture, fish processing, and value-added fisheries enterprises through fisher participation and targeted financial support.
- **Promote Sustainable Deep-Sea Fishing:** Deep-sea fishing should **support, not replace**, the restoration of coastal fisheries by focusing on sustainable fishing of species like **tuna** in India's **Exclusive Economic Zone (EEZ)** while improving cooperation to prevent **Illegal, Unreported and Unregulated (IUU)** fishing and cross-border conflicts.