

Factly Weekly

Compilation

2026

**For UPSC CSE Prelims
Exam**

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GI Tag Products from Jharkhand

News: Jharkhand's Bhagaiya silk, Kuchai silk, Munda jewellery, and bamboo craft products have received Geographical Indication (GI) tag recognition.

About GI Tag Products from Jharkhand

1. Bhagaiya Silk:

- **Identity:** Bhagaiya silk is a **hand-spun silk textile of Jharkhand**.
- **Community Association:** It is mainly woven by **Santhal tribal women**.
- **Uniqueness:** The silk is deeply rooted in indigenous craftsmanship and local knowledge systems and represents generations of traditional skills preserved within rural communities.

2. Kuchai Silk:

- **Identity:** Kuchai silk is a traditional tussar silk of Jharkhand.
- **Origin:** The silk tradition **originated in the village of Kuchai in Seraikela-Kharsawan** and later spread across Jharkhand.
- **Uniqueness:** It is produced through wild Tussar silk **cultivation using tussar silkworms reared on Asan and Arjun trees**.

3. Munda Jewellery:

- **Tribal Craftsmanship:** Munda jewellery is a distinctive artistic **tradition of the Munda tribal community**.
- **Uniqueness:** It is **characterised by unique geometric patterns, nature-inspired motifs**, and distinctive craftsmanship.

4. Jharkhand Bamboo Craft:

- **Local Resource:** The craft is made from locally available bamboo and produces utility and decorative items.
- **Community Association:** The craft is primarily practiced by indigenous tribes such as the Santhal, Ho, Gond, and Pahariya
- **Sustainable Livelihood:** It supports rural artisans and promotes bamboo-based entrepreneurship.

About GI Tag

- **Geographical Indication (GI) tag:** It is an official intellectual property sign used on products that have a specific geographical origin and possess qualities, characteristics, or a reputation linked to that place of origin.
- GI is governed under the Agreement on TRIPS at the World Trade Organisation (WTO).
- In India, GI registrations are governed by the **Geographical Indications of Goods (Registration and Protection) Act, 1999**.

Drop Shipping

News: Growing concerns over AI-created online storefronts and unverified sellers have brought renewed attention to drop shipping practices.

About Drop Shipping

Drop shipping is a retail model where sellers accept customer orders without storing the products they sell.

Working Mechanism:

- **Business Arrangement:** The seller enters into an agreement with a wholesaler, manufacturer, or another retailer for supplying the advertised products.
- **Customer Order Process:** Customers place orders through an online platform, after which the seller receives the order and sends a confirmation.

- **Transfer of Order:** The seller passes the customer's order details to the wholesaler, manufacturer, or retailer responsible for fulfillment.
- **Direct Delivery:** The supplier dispatches the product directly to the customer, who then receives the ordered item.

Key Features:

- **No Inventory Requirement:** The seller does not keep products in stock and purchases them only after receiving customer orders.
- **Intermediary Role:** A dropshipper acts as a link between consumers and suppliers by promoting and selling products.
- **Profit Through Pricing:** Since the dropshipper is a middleman, the product may be sold at a higher price, and the profit is retained by the seller.
- **Low Business Cost:** The model reduces expenses related to warehouse storage and unsold inventory and requires relatively low capital investment.

Major Concern:

- **Lack of Transparency:** Buyers may not check the actual origin of the product or reviews of the seller before making a purchase.
- **Misleading Online Presence:** Customers may pay to a seller whose business is only a webpage and who does not own any product inventory.

Xuanzang (Hiuen Tsang)-Chinese Buddhist monk and scholar

News: India and China are in talks to jointly nominate The Great Tang Records on the Western Regions, authored by Xuanzang (Hiuen Tsang), Chinese Buddhist monk and scholar, for recognition by UNESCO.

About Xuanzang (Hiuen Tsang)-Chinese Buddhist monk and scholar



Figure 1. Source: The Print

- Hiuen Tsang (Xuanzang) was a **Chinese traveller, scholar and Buddhist monk**.
- **His travel to India:** He travelled from China to India in the **7th century** to **study at the Nalanda University**, collect manuscripts of the true teachings of Buddha, and visit the sacred places associated with Buddha.
 - He studied under the famous scholar **Shilabhadra** at **Nalanda University** and learned subjects like **logic, grammar, philosophy, and Sanskrit**.
 - He spent 16-17 years on his entire journey across Central Asia and India.
- **Visited during the reign of:** He came during the **reign of King Harshavardhana (also known as King Harsha) of the Vardhana Dynasty**.
- **Literary contribution:** He authored **Great Tang Records on the Western Regions**, also known as **Si-Yu-Ki**. ("The Buddhist Records of the Western World"). He referred to Vadnagar, located in Gujarat, as "**Anandapura**" in his travelogue **Si-Yu-Ki**.
 - One of the most **influential scriptures** translated by Xuanzang was the **Heart Sutra (Prajñāpāramitāhṛdaya Sūtra)**. It is **widely recognised** for expressing the **Mahāyāna Buddhist teaching of emptiness**. It is also **regarded as a powerful protective talisman**.

- **Significance:**

- He gave a **detailed account of the kingdoms and towns he visited in India**, including the city of Kanauj, the capital of King Harsavardhana's empire.
- His **account is also exceptional because of his meticulous records of Buddhist sites** such as Bamiyan and Nalanda.
- His account provides **insight into the political, diplomatic and religious activities** undertaken by contemporary rulers in Central and South Asia.

Energy Storage Technologies

News: Defence Minister Rajnath Singh approved a 250 MW solar project with Battery Energy Storage System in Sitapur, Uttar Pradesh.

About Energy Storage Technologies

- **Energy storage technologies store excess renewable electricity and supply it later when demand rises** and power generation remains low.
- **Status of Energy Storage Capacity:**
 - **Global Leader:** China continues to dominate energy storage deployment, accounting for about 60% of new installations in 2025, followed by the United States at 16%.
 - **Major Technologies:** Globally, **Pumped Hydro Storage (PHS)** and **Battery Energy Storage Systems (BESS)** are the two most widely deployed electricity storage technologies.
 - **India's Current Capacity:** India has **approximately 7 GW of operational Pumped Storage Project (PSP) capacity** and **less than 1 GW of operational Battery Energy Storage System (BESS) capacity**.
 - **Future Target:** India has planned a total energy storage capacity of 174 GW, including **80 GW of BESS and 94 GW of Pumped Hydro Storage (PHS)**, to support 509 GW of solar capacity and 155 GW of wind capacity by 2036.
- **Types of Energy Storage Technology:**
 - **Pumped Hydro Storage (PHS):** This technology **uses surplus electricity to pump water from a lower reservoir to a higher reservoir**. When demand increases, the stored water is released through turbines to generate electricity.
 - **Battery Energy Storage System (BESS):** This technology **stores electricity chemically and releases it when required**. Lithium-ion batteries, especially Lithium Iron Phosphate (LFP) batteries, are widely used because of their high efficiency, lower costs, and long operational life.
 - **Concentrating Solar-Thermal Storage:** This technology **uses mirrors to focus sunlight onto a receiver**. The generated heat is stored using materials such as molten salt and later used to produce electricity.
 - **Compressed-Air Energy Storage:** This technology stores compressed air in underground caverns or tanks and releases it later to drive turbines for electricity generation.
 - **Flywheel and Gravity Energy Storage:** **Flywheel systems store electricity as rotational energy**, while **gravity systems store energy by lifting heavy weights** and generating electricity when the weights are lowered.
- **India's Initiatives:**
 - **Advanced Chemistry Cell (ACC) PLI Scheme:** This Rs.18,100 crore scheme **aims to establish 50 GWh of domestic battery manufacturing capacity**.

- **Viability Gap Funding (VGF) Scheme:** This scheme provides **financial support to improve the commercial viability of BESS projects.**
- **Energy Storage Obligations (ESO):** DISCOMs are required to **source a specified share of electricity from storage-backed systems, reaching 4% by 2030.**
- **Round-the-Clock (RTC) and FDRE Tenders:** Renewable energy agencies are **promoting contracts that require developers to integrate battery storage for reliable power supply.**
- **ISTS Charges Waiver:** The government has **waived inter-state transmission system (ISTS) charges for electricity used by energy storage systems,** making it cheaper to transport stored green energy across states.
- **Battery Storage Vision:** Under the India Battery Storage Vision 2047, **ministries are developing a policy framework to provide financial support and interest subventions** for long-duration energy storage technologies.

Padma Barrage

News: Bangladesh recently approved the construction of the Padma Barrage before the 1996 Ganga Water Sharing Treaty expires in December 2026.

About Padma Barrage

- **Location:** Padma Barrage is a major **river engineering project** proposed on the **Padma River**(the Bangladesh **stretch of the Ganga**) in **Bangladesh.**
- **Objective:** The project aims to **control the Padma River, reduce seasonal water scarcity, and address salinity intrusion** caused by reduced dry-season flows.
- **Timeline:** The project is expected to take around a decade to complete, with **Phase-1 planned from 2026 to 2033.**
- **Key Features:**
 - **Length:** The main barrage will be approximately **2.1 km long** and will include spillways, undersluices, navigation locks, fish passages, and embankments
 - **Hydropower Generation:** The barrage will have an embedded **hydropower plant with a generation capacity of 113 MW.**
 - **Coverage and Impact:** The project is projected to influence nearly **37% of Bangladesh's land area.**

India-Bangladesh Dimension:

- **Link with Farakka Barrage:** The project is closely linked to concerns over reduced dry-season flows in Bangladesh, which are often attributed to the operation of the Farakka Barrage. Consequently, the Padma Barrage has important implications for transboundary water management between India and Bangladesh.
- **Water Sharing Treaty:** The **1996 Ganga Water Sharing Treaty** between India and Bangladesh is scheduled to **expire in December 2026.**

About Farakka Barrage

- **Location:** It is located on the **Ganga River in the Murshidabad and Malda districts of West Bengal.**
- **Purpose:** It was constructed **to divert water into the Bhagirathi-Hooghly River system** and **maintain the navigability of Kolkata Port.**
- **Feeder Canal:** It has a feeder canal with a designed flow capacity of 40,000 cusecs.

International Day of Yoga 2026

News: Union AYUSH Minister Prataprao Jadhav announced that the main national event of International Day of Yoga 2026 will be held in Kolkata.

About International Day of Yoga 2026

- International Day of Yoga is a **global observance** that **promotes awareness about the benefits of yoga** for health and well-being.
- **Origin:** It **began in 2014** after the **United Nations General Assembly** unanimously adopted a resolution **declaring 21 June as the International Day of Yoga**.
 - The **first International Day of Yoga** was **observed worldwide on 21 June 2015**.
- **Edition (2026):** The year 2026 **marks the 12th edition of the International Day of Yoga**.
- **Host City: Kolkata** has been selected to host the main national celebrations of International Day of Yoga 2026.
- **Nodal Ministry:** The **Ministry of Ayush is the nodal ministry** for the International Day of Yoga.
- **Theme (2026):** The theme for International Day of Yoga 2026 is **“Yoga for Healthy Ageing.”**
- **Objectives:** The observance aims to **promote yoga as a means of achieving physical fitness, mental well-being, holistic health, and healthy ageing**.
- **Key Aspects of International Day of Yoga 2026:**
 - **Global Participation:** More than **210 Indian missions abroad** are **organizing Yoga Day** programmes at nearly 2,500 locations worldwide, reflecting growing global participation.
 - **Health and Wellness Focus:** The theme highlights the **role of yoga in helping people lead healthy, active, self-reliant, and mentally resilient lives as they age**.
 - **Nationwide Outreach:** The **Ministry of Culture is organizing special events at 100 iconic and heritage sites** to connect yoga traditions with India’s cultural legacy.

DengiAll Vaccine

News: Concerns have emerged over DengiAll after severe adverse events during Brazil’s Butantan-DV dengue vaccination campaign.

About DengiAll Vaccine

- **DengiAll:** It is **India’s indigenous tetravalent dengue vaccine** designed to **protect against all four dengue virus serotypes**.
- **Developed by:** DengiAll has been **developed by Panacea Biotec** in collaboration with the **Indian Council of Medical Research (ICMR)**.
- **Vaccine Type:** DengiAll is a **live-attenuated tetravalent dengue vaccine** that combines weakened forms of DENV-1, DENV-2, DENV-3, and DENV-4.
 - **Live-Attenuated Vaccines:** These **vaccines contain weakened forms of pathogens** that can trigger a strong and long-lasting immune response without causing illness in healthy individuals.
- **Current Status:** The **Phase 3 clinical trial of DengiAll was conducted in 2024** with more than 10,335 participants across 19 sites in 18 States and Union Territories.
- **Dosing:** DengiAll is a **two-dose vaccine** followed by **two years of medical follow-up**.
- **Efficiency:** Early Phase 1 and Phase 2 clinical trials demonstrated an **efficacy rate of 77% to 82%** and showed a **balanced antibody response against all four dengue virus serotypes**, indicating promising protection against dengue infection.

- **NIH-Based Technology:** It is derived from the TV003/TV005 strain originally developed by the U.S. National Institutes of Health (NIH).

About Dengue

- **Nature of Disease:** Dengue, also known as **break-bone fever**, is a **mosquito-borne viral infection**.
- **Occurrence:** It is more **common in tropical and subtropical regions**, especially in urban and semi-urban areas.
- **Transmission:** The disease spreads through the **bite of infected Aedes mosquitoes** carrying one of the four dengue virus serotypes.
- **Serotypes:** The **dengue virus has four serotypes**—DENV-1, DENV-2, DENV-3, and DENV-4—and **all four serotypes are known to circulate in India**.
- **Symptoms:** Common symptoms include high fever, headache, body aches, nausea, and rash, while severe cases may cause bleeding and breathing difficulties.
- **Treatment:** There is no specific medicine for dengue, and treatment mainly involves pain relief, rest, and adequate fluid intake.

The 52nd G7 Summit

News: Prime Minister Narendra Modi is participating in the ongoing 52nd G7 Summit in Evian, France, to discuss key global issues.

About The 52nd G7 Summit



Figure 2. Source- Indiastrategic

- The 52nd edition of the G7 Summit is being **held under the French G7 Presidency**
- **Host City & Country:** **Évian-les-Bains, France** is hosting the 52nd G7 Summit.
- **Duration:** The summit is being **held from 15 June to 17 June 2026**.
- **Theme:** The theme of the 52nd G7 summit is **“Working Together to Address Major International Challenges.”**
- **G7 Member Countries:** The G7 consists of **Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States**.
 - The **European Union** also **participates permanently in the forum**.
- **Guest Countries for 2026:** The invited guest countries for the 2026 summit are **India, China, South Korea, Kenya, and Brazil**.
- **Core Agenda:**
 - **Global Challenges:** Leaders are discussing major international challenges and rebuilding international solidarity.
 - **Geopolitical Issues:** The summit is focusing on the Middle East, Ukraine, regional conflicts, and global stability.
 - **Artificial Intelligence and Social Media:** Discussions are being held on security risks related to AI and social media.
 - **Cyber Security:** Leaders are examining ways to improve cyber security and protect children and democracies.

- **Global Imbalances and Crime:** The summit is addressing global imbalances, organized crime, and illicit flows.

About G7 Summit

- **Nature of the Forum:** The G7 is an **intergovernmental political and economic forum** that **brings together some of the world's most advanced industrialized economies** to discuss **major global issues**.
- **Origin:** The group **originated from an informal gathering of finance ministers and leaders in 1973** to coordinate responses to global oil shocks and economic challenges.
 - It later **evolved into a high-level international forum**.
- **Purpose:** The summit serves as a **platform for political and economic coordination** among member countries.
 - It helps **leaders discuss trade, security, economic issues, climate change, and other global challenges**.
- **Evolution:** The group **expanded into the G8 with the inclusion of Russia in 1998**.
 - It returned to the G7 format **in 2014 after Russia's participation was suspended**.

Ballistic Missile Defence (BMD) system

News: In a significant development, the Defence Research and Development Organisation (DRDO) successfully tested a Multi-layered Ballistic Missile Defence (BMD) capability.

About Ballistic Missile Defence (BMD) system



Source: India Today

- A **Ballistic Missile Defence (BMD) system** is an **advanced network of radars, command centres, and interceptor missiles** designed to detect, track, and neutralise incoming ballistic missiles.
- **Initiated in:** The BMD program was **launched in 1999** in the **aftermath of Pakistan's 1998 nuclear tests**.
- **Component:** It consists of several **launch vehicles, specialised long-range radars, Launch Control Centres (LCC), and the Mission Control Centre (MCC)**.
- **Features:**

- **Technology:** It relies on the indigenous **Long Range Tracking Radar (LRTR)**, which was developed **using technology derived from the Green Pine radar produced by Israel Aerospace Industries.**
- **Dual-Altitude Tiered Architecture:** It works on two levels:
 - **Endo-atmospheric** (within Earth's atmosphere) and e
 - **Exo-atmospheric** (the space stretching beyond Earth's atmosphere).
- **Three Phases:**
 - **Phase I:** It consists of the **Prithvi Defence Vehicle and Advanced Air Defence interceptors, which can engage targets at altitudes of approximately 100 kilometers (62 miles) and 25 kilometers (15.53 miles), respectively.**
 - **Phase II:** The Phase-II architecture significantly **expands the defensive envelope by targeting ballistic missiles within the 5,000-kilometre class**, including Intermediate-Range Ballistic Missiles and selected Intercontinental Ballistic Missile-level threat profiles.
 - The system **comprises two interceptors, AD-1 and AD-2** designed to engage ballistic missile threats in both the **endo-atmospheric and exo-atmospheric phases of flight.**
 - **AD-1 missile** is a **long-range interceptor missile** designed for both low exo-atmospheric and endo-atmospheric interception of long-range ballistic missiles as well as aircraft.
 - **AD-2 missile** is **capable of intercepting intermediate-range ballistic missiles (3000-5500 km).**
 - **Phase III:** Phase III will see the **development of two new interceptor missiles, which are internally called AD-AH and AD-AM.**
 - **AD-AH is designed to address the challenges of intercepting hypersonic glide vehicles (HGVs)**, which can maneuver unpredictably and alter their flight path during transit.
 - **AD-AM is optimized for countering hypersonic cruise missiles (HCMs)**, which sustain extremely high speeds while operating within the Earth's atmosphere.
- **Significance:**
 - It is designed to **intercept hypersonic weapons and maneuverable hypersonic glide vehicles** that can alter their trajectory during flight.
 - The system is also intended to counter missiles equipped with **Multiple Independently Targetable Re-entry Vehicle (MIRV) technology.**
 - By addressing MIRV threats, **the system can defend against attacks aimed at multiple targets spread across a wide geographical area** using a single missile launch.

Greater Hog Badger

News: The Kaziranga National Park and Tiger Reserve has released the first scientific assessment report on the greater hog badger.

About Greater Hog Badger



Aspects	Details
About	● The greater hog badger is a terrestrial mustelid. ● Globally, it has three living species: the greater hog badger, the northern hog badger (<i>Arctonyx albogularis</i>), and the Sumatran hog badger (<i>Arctonyx hoevenii</i>). The first two are found in India ● In Assamese, it is referred to as “Mati Gahori.”
Scientific name	Its scientific name is Arctonyx collaris .
Habitat	It prefers living in tropical evergreen forests, savannas, grasslands, shrubland, hills, and mountains .
Distribution	● It is native to Southeast Asia. ● Its geographic range stretches from Bangladesh and northeastern India eastward through Myanmar, Thailand, Laos (Lao PDR), and Vietnam. ○ They are found in the Terai of the Indian subcontinent, from the Yamuna River east, through the states of Haryana, Uttarakhand, Uttar Pradesh, Bihar, Assam and West Bengal.
Features	● It is one of the world’s largest terrestrial extant mustelids (by average body mass). ● It has medium-length brown hair, a stocky body, a white throat, two black stripes on an elongated white snout, and a pink, pig-like nose. ● The body weight is 7–14 kg. ● Its appearance generally resembles the European badger, but have a pronounced pig-like snout and larger claws on the front feet. ● Its tail has long white hairs, and its front feet have white claws.

Diet	It is omnivorous . Its diet consists of fruits, roots and small animals .
Behaviour	● It is a nocturnal and terrestrial mammal that is highly shy and typically lives a solitary life. ● It is territorial and uses scent markings on grass, rocks, and tree trunks to define its territory. ● It is skilled at digging and creating underground burrows for shelter and forage by excavating the soil in search of food.
Ecological Significance	● It is an ecologically important mesocarnivore. ● It contributes to ecosystem functioning through soil disturbance, nutrient redistribution, and the turnover of leaf litter during foraging activities. ● Its digging behaviour enhances soil aeration and may facilitate seed germination and microhabitat formation for invertebrates and small vertebrates.
Threat	Its global population is declining due to habitat loss and high levels of poaching .
Conservation status	● IUCN: Vulnerable ● Wildlife Protection Act of 1972: Schedule I

National Statistical Commission (NSC)

News: The Appointments Committee of the Cabinet (ACC) approved the appointment of the Chairperson and Members of the National Statistical Commission (NSC).

About National Statistical Commission (NSC)



Source – MoSPI

- **National Statistical Commission (NSC)** is an **autonomous advisory body** that serves as the **nodal agency for core statistical activities in India**.
- **Establishment:** India established the NSC in **2005** through a Resolution on the recommendations of the **Rangarajan Commission**.
- **Parent Ministry:** It functions under the **Ministry of Statistics and Programme Implementation (MoSPI)**.

- **Structure and Composition:**

- **Chairperson and Members:** The Commission consists of a **part-time Chairperson** and **four part-time Members** with specialization and experience in statistical fields.
- **Appointment:** The Chairperson and Members of the Commission are appointed with the **approval of the Appointments Committee of the Cabinet (ACC)**.
- **Current Appointments:** **Dr. Saibal Chattopadhyay has been appointed Chairperson**, while Prof. Shubhabrata Das, Shri Satyendra Bahadur Singh, and Dr. Madhavan Mukund have been appointed as Members.
- **Ex-officio Member:** The **CEO of NITI Aayog serves as a permanent**, ex-officio Member of the Commission.
- **Secretary:** The **Chief Statistician of India** serves as the Secretary of the Commission.

- **Key Functions:**

- **Policy Formulation:** The NSC evolves national policies, priorities, concepts, definitions, and methodologies relating to statistics.
- **Quality Standards:** The Commission **lays down national quality standards and recommends measures** for their effective implementation.
- **Statistical Coordination:** The NSC **promotes coordination** among Ministries, Departments, State Governments, and Union Territory Administrations.
- **Monitoring and Audit:** The Commission **reviews the statistical system and undertakes statistical audits** to ensure quality and integrity of statistical products.

WT-MARUT

News: Union Minister Pralhad Joshi launched the WT-MARUT Portal during the Global Wind Day 2026 National Conference in Goa.

About WT-MARUT



Source – PIB

- **WT-MARUT: Wind Turbine Materials and Resources Utility Tracker (WT-MARUT)** is India's first dedicated digital platform for managing and streamlining the wind energy supply chain.
- **Launched by:** The portal was launched by **Union Minister for New and Renewable Energy (MNRE)**
- **Developed by:** The portal was **developed jointly by the Ministry of New and Renewable Energy (MNRE)** and the **Indian Wind Turbine Manufacturers Association (IWTMA)**.

- **Objective:** The portal aims to strengthen the domestic wind manufacturing ecosystem, streamline the wind energy supply chain, improve transparency, support supplier access, and **promote India's clean energy transition**.
- **Key Features:**
 - **Supply Chain Visibility:** The portal is designed to **improve visibility across the wind energy supply chain** and strengthen **collaboration among stakeholders**.
 - **Domestic Sourcing Support:** The platform facilitates compliance with **domestic sourcing requirements under the Approved List of Models and Manufacturers (ALMM) framework**.
 - **Supplier Discovery and Qualification:** The portal helps users **identify and qualify suppliers** and **provides easier access to domestic suppliers**.
 - **Transparency and Export Readiness:** The platform improves **transparency in component sourcing**, enhances **data security**, and **supports export readiness** for the wind energy sector.

World Day to Combat Desertification and Drought

News: World Day to Combat Desertification and Drought was recently observed to raise awareness and promote action against desertification, land degradation and drought

About World Day to Combat Desertification and Drought



Source: United Nations

- World Day to Combat Desertification and Drought is **observed every year on 17 June** under the United Nations Convention to Combat Desertification (UNCCD).
- **Objective:** It is observed to spread awareness about international cooperation to combat desertification and the effects of drought.
 - It also **reminds people that desertification can be effectively tackled, solutions are possible and important** is participation and cooperation at all levels are important.
- **Theme for 2026:** The theme for this year is **“Rangelands: Recognise. Respect. “Restore”**.

- It calls for **greater recognition of the economic, ecological and cultural value of rangelands, respect for their traditional stewards and stronger investment** in restoring degraded rangelands.

About United Nations Convention to Combat Desertification (UNCCD)

- The United Nations Convention to Combat Desertification (UNCCD) is the **sole legally binding international agreement** linking environment and development to sustainable land management.
- **Establish year:** It was **established in 1994**.
- **Parties:** **197 countries and the European Union are now Parties to the Convention.**
 - **India signed the UNCCD in October 1994 and ratified it in December 1996. MoEF is the National Coordinating Agency** for the implementation of the UNCCD in the country.
- **Governing body:** The **Conference of the Parties (COP)**, which is the supreme governing body.
- **Purpose:** The Convention addresses **the arid, semi-arid and dry sub-humid areas**, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found.
 - Parties to the convention work together **to improve the living conditions for people in drylands, to maintain and restore land and soil productivity, and to mitigate the effects of drought.**
 - It **facilitates cooperation between developed and developing countries**, particularly around knowledge and technology transfer for sustainable land management.
- It collaborates closely with the other **two Rio Conventions- The Convention on Biological Diversity (CBD) and The United Nations Framework Convention on Climate Change (UNFCCC)**
- India, for the first time, hosted the **14th session of the Conference of the Parties (COP-14) of the United Nations Convention to Combat Desertification (UNCCD)** in September 2019.

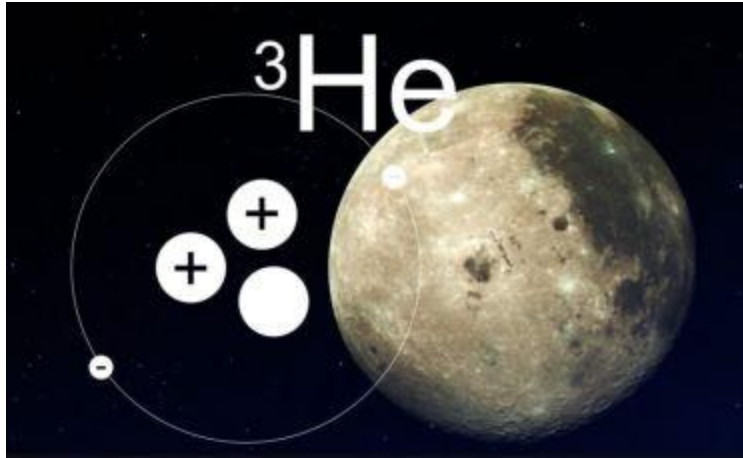
About Rangeland

- **Definition:** The UNCCD report defines **rangelands as natural or semi-natural ecosystems that are grazed by livestock or wild animals.**
- Rangelands contain vegetation **such as grasses, shrubs, bushes, open forests, and agroforestry systems (land which contains trees and crops or pastures).**
- **Current status of Rangeland:** Currently, rangelands **cover 80 million sq km of Earth's terrestrial surface area** (over half of Earth's land), and are **thus the largest land cover or land use type in the world.**
- **Role:**
 - They act as **carbon sinks (which absorb more carbon from the atmosphere than they release), storehouses of freshwater, and prevent desertification of land.**
 - Millions of people worldwide depend on rangelands for food security and livelihoods.
 - Rangelands generate **16% of global food production and 70% of feed for domesticated herbivores, most significantly in Africa and South America**
- **Status in India:** In India, rangelands occupy about 1.21 million sq km, from the Thar Desert to Himalayan meadows, as per the UNCCD report.

Helium-3

News: Growing demand for Helium-3 has increased interest in lunar mining and the extraction of the isotope from the Moon.

About Helium-3



Source – Gold Hydrogen

- **Helium-3** is a **rare isotope of helium** that is considered one of the most valuable substances found in nature.
- **Structure:** Helium-3 **possesses two protons and one neutron in its atomic nucleus**, which distinguishes it from Helium-4 that contains two neutrons.
- **Physical State:** Helium-3 is a **stable, non-radioactive, and chemically inert noble gas**.
 - It acts **as a fermionic superfluid at ultralow temperatures**.
- **Source & Distribution:**
 - **Scarcity on Earth:** Helium-3 is extremely rare on Earth. Most of the current Earthbound supply comes from the **decay of tritium in nuclear weapon stockpiles**.
 - **Lunar Distribution:** Helium-3 is **deposited on the Moon's surface by solar winds** and becomes **embedded in the lunar dust (regolith)**.
 - **Deep Earth Presence:** Small quantities of Helium-3 are **believed to escape from deep within the Earth's core**. Scientists have found **high levels of the isotope in ancient lava rocks**.
- **Terrestrial Scarcity:** Helium-3 is **extremely scarce on Earth**, and future demand may exceed current production capabilities as quantum computing becomes more widespread
- **Applications:**
 - **Quantum Computing:** Helium-3 is an indispensable component in **dilution refrigeration systems and helps achieve millikelvin temperatures** required for operating quantum processors.
 - **Radiation Detection and Security:** Helium-3 has an **exceptionally high absorption cross-section for thermal neutrons**, it acts as a highly efficient converter gas in neutron detectors.
 - These are heavily used in **border crossings and seaports to detect smuggled nuclear materials**.
 - **Medical Diagnostics:** Hyperpolarized Helium-3 is used in **advanced MRI imaging** and provides **detailed lung imaging for pulmonary diagnostics**.
 - **Nuclear Fusion:** Helium-3 is considered a **potential fuel for future nuclear fusion** and is being explored as a clean energy source.
 - **Scientific Research:** Helium-3 is used in **ultra-low-temperature physics, materials research, particle physics, and dark matter investigations**.

REWARD Program

News: The National Rainfed Area Authority (NRAA), knowledge partner to the Department of Land Resources, organised the second national consultation on draft watershed management guidelines under the World Bank-supported REWARD Programme.

About the REWARD Program



Source: ICAR-IISWC

- Rejuvenating Watersheds for Agricultural Resilience through Innovative Development (REWARD) program **is a Watershed development program.**
- **Nodal Ministry:** The nodal ministry for the Program is the **Ministry of Rural Development.**
 - It is being implemented by the **Department of Land Resources (DoLR)**, assisted by the **World Bank.**
- **Aim:** The program aims **to introduce modern watershed practices in the Department of Land Resources and in the States of Karnataka and Odisha.**
- **Objective:** Its objective is to **strengthen the capacities of National and State institutions** to adopt improved watershed management for increasing farmers' resilience and supporting value chains in selected watersheds of participating States.
- **Duration of the programme:** It is being **implemented from 2021 to 2026 in the States of Karnataka and Odisha.**
- **Key focus areas of REWARD:** The program focuses on **two important result areas:**
 - **Strengthen institutions and supportive policy** for watershed development
 - **Science-based watershed development** for climate resilience and enhanced livelihoods
- **Scope of program:** At the central level, the scope of the REWARD program **covers management, monitoring, communication and knowledge sharing** functions by DoLR.
- **Funding:** It works on a **financial instrument called "PforR" (Program for Results)**, which means the World Bank will reimburse the loan amount against the achievement of Disbursement Linked Indicators (DLIs).
 - The **funding pattern is 70:30, between the World Bank and the States, and it is 50:50 between the World Bank and the DoLR.**
- **Expected Outcomes:** It will help to **increase the farm productivity and income levels of the watershed community** through the application of modern and scientific practices in the field of watershed development.

High Energy Medical Cyclotron Project (HEMCP)

News: The Maharashtra Cabinet approved the establishment of the High Energy Medical Cyclotron Project (HEMCP) in Nagpur with a provision of ₹300 crore.

About High Energy Medical Cyclotron Project (HEMCP)



Source – Medical Buyer

- **High Energy Medical Cyclotron Project (HEMCP)** is a state-of-the-art nuclear medicine facility designed to **manufacture specialized short-lived medical radioisotopes for cancer diagnosis, treatment, and research.**
- **Location:** The project will be established at **Bhansoli (Kinhi)** in **Hingna Taluka, Nagpur, Maharashtra.**
- **Implementation Agency:** The project will be Managed through '**Mahacare**' (**Maharashtra Cancer Care, Research and Education Foundation**) via a **dedicated Special Purpose Vehicle (SPV)** under the **Companies Act, 2013.**
- **Working Mechanism:**
 - **Particle Acceleration:** The **cyclotron (special particle accelerator)** **accelerates charged subatomic particles** using **magnetic and radio-frequency electric fields** inside a vacuum chamber.
 - **Nuclear Transformation:** The accelerated particles bombard stable target materials and **transform them into short-lived radioactive isotopes.**
 - **Radiopharmaceutical Synthesis:** The radioisotopes are chemically bonded with biological molecules to produce **medical-grade radiopharmaceuticals for diagnostic and treatment purposes.**
- **Key Features:**
 - **Total Cost:** The estimated cost of the project is **₹300 crore.**
 - **Funding Model:** A **50:50 expenditure-sharing ratio** between the **Medical Education Department and the Industry Department.**
 - **Multi-State Service Coverage:** The facility will benefit patients within a 500-km radius across **Maharashtra, Madhya Pradesh, Chhattisgarh, Telangana, and Andhra Pradesh.**
 - **Institutional Integration:** The project will **support AIIMS Nagpur, the National Cancer Institute, and the Government Medical College,** strengthening regional cancer-care capacity.
- **Major Applications:**
 - **PET-CT Diagnostic Imaging:** The facility will produce **radioisotopes required for Positron Emission Tomography–Computed Tomography (PET-CT) scans** used in cancer diagnosis.
 - **Nuclear Medicine Therapies:** The project will **support the creation of radiopharmaceuticals for targeted treatment of tumors.**
 - **Cancer Research:** The facility will **support oncological research, clinical trials, and the development of new imaging tracers and cancer therapies.**

Tenth Schedule and Party Mergers

News: Twenty rebel TMC MPs claimed merger with NCPI and sought protection under the Tenth Schedule's merger exception.

About Tenth Schedule and Party Mergers



Source – LawBeats

- The **Tenth Schedule** was inserted by the **52nd Constitutional Amendment Act, 1985** to **prevent political defections and ensure stability** in the parliamentary system.
 - It provides for **disqualification of legislators who voluntarily give up party membership or defy the party whip**.
- **Merger Exception under the Tenth Schedule:** Paragraph 4 of the Tenth Schedule contains the merger provision.
 - It **allows legislators to retain their membership** of the House when a **valid party merger** takes place.
- **Conditions for Protection under the Merger Clause:**
 - **Two-Thirds Support Requirement:** Protection is available **only when not less than two-thirds of the members** of the legislature party agree to the merger.
 - **Original Political Party and Legislature Party:** The Tenth Schedule distinguishes between the **original political party, which sponsors candidates for elections**, and the **legislature party, which consists of its members in a House**.
 - This **distinction is important** because disputes over **mergers often involve the relationship between these two entities**.
 - **Protection to Both Groups:** Members who accept the merger and those who refuse it but function as a separate group are protected from disqualification.
 - **Only Available Exception:** The 91st Constitutional Amendment Act, 2003 **removed the earlier split provision**.
 - As a result, **merger under Paragraph 4 remains the only exception to disqualification under the Tenth Schedule**.
- **Interpretational Debate:** A key issue is **whether support from at least two-thirds of the legislature party is sufficient to claim the merger exception**, or whether the original political party must also formally merge with another political party.
- **Key Amendments :**
 - **52nd Constitutional Amendment Act, 1985:** Inserted the Tenth Schedule into the Constitution.
 - **91st Constitutional Amendment Act, 2003:** Deleted the Paragraph 3 split provision and retained only the merger provision under Paragraph 4.
- **Important Judicial Pronouncements:**

- **Kihoto Hollohan v. Zachillhu (1992):** The Supreme Court **upheld the constitutional validity of the Tenth Schedule** and held that the **Speaker's decision is subject to judicial review** on limited grounds.
- **Ravi S. Naik v. Union of India (1994):** The Supreme Court held that a **member may be considered to have voluntarily given up party membership** even **without a formal resignation** if such intention is evident from the member's conduct.
- **Subhash Desai Case (2023):** The Supreme Court held that the **political party and the legislature party are distinct entities**.
 - The Court also held that the **power to appoint the whip and leader belongs to the political party** and not merely to the faction that commands a majority in the House.
- **Deciding Authority:** The **Speaker or Chairman of the concerned House decides** whether a legislator should be **disqualified under the Tenth Schedule** and **whether a claimed merger qualifies for protection from disqualification**.
- **Judicial Review:** The Speaker's decision can be reviewed by courts on limited grounds such as **mala fide action, violation of natural justice, procedural irregularity, or error of law**.
 - **Courts generally do not intervene** before the Speaker has given a decision.

Whale Shark (Rhincodon typus)

News: In recent years, community-driven conservation efforts along India's west coast have helped reduce bycatch-related deaths of Whale Shark (Rhincodon typus), although several other threats continue to endanger the species.

About Whale Shark (Rhincodon typus)



Source: I Naturalist

Aspects	Details
About	● The Whale shark is a slow-moving, filter-feeding shark. ● They are the largest shark and the largest fish in the world. ● They're also often referred to as 'gentle giants' due to their size. ● They are the most massive living non-cetacean animal.

Scientific name	Their scientific name is Rhincodon typus .
Habitat	They live along coastlines and in open waters , where dense planktonic concentrations can be found.
Distribution	● They inhabit all tropical and warm temperate waters of the world, except for the Mediterranean. ● They are found in various regions such as the Indian Ocean, the Western and Central Pacific Ocean, and the Atlantic Ocean. ○ In India, whale sharks are found primarily along the western and eastern coastlines. ○ Their highest concentrations and largest known aggregations is off the coast of Gujarat (particularly the Saurashtra region).
Appearance	● They have a broad, flattened head with a large mouth and two small eyes located at the front corners. ● Size: They can grow to 18 meters. ● Weight: They weigh around 34 tones and may live for 100 years. ● The spiracles are located just behind the eyes. ● They have five large pairs of gills. ● Distinctive feature: Their skin is dark grey with a white belly marked with an arrangement of pale grey or white spots and stripes that is unique to each individual. ● Their mouths are located at the front of the head rather than on the underside of the head. ● Their mouths can be exceptionally wide and are located at the front of the head rather than on the underside of the head. ● Mouth can contain over 300 rows of tiny teeth and 20 filter pads, which it uses to filter feed. ● There have specialized flaps called velums inside the mouth which stop the backflow of water as the whale shark closes its mouth, helping retain captured food. ● They have two dorsal fins set relatively far back on the body, a pair of pectoral fins, a pair of pelvic fins, and a single medial anal fin.
Diet	● They are omnivores. ● They feed on plankton, including copepods, krill, chaetognaths, jellyfish, fish eggs, and small nektonic life, such as small squid or fish.

Behaviour	- They are migratory in nature. - They are generally solitary, but may sometimes form aggregations of 100 or more individuals. - They spend most of their daytime hours swimming at shallow depths, apparently feeding, sometimes right at the water surface.
Ecological Roles	It plays a role in maintaining the marine food chain by regulating plankton and small fish populations.
Threats	The species faces threats from ship collisions, fishing gear entanglement, climate change, offshore drilling, and habitat loss due to coastal development .
Conservation status	IUCN: Endangered Wildlife Protection Act 1972: Schedule I

Gulf of Kutch Marine Sanctuary

News: The Gujarat High Court has dismissed a long-standing petition by Tata Chemicals Ltd (TCL) and held it liable for extensive environmental damage to the Gulf of Kutch Marine Sanctuary.

About Gulf of Kutch Marine Sanctuary



Figure 1: The Gulf of Kutch Marine National Park and Sanctuary
(Source: Adapted from DOD-ICMAM Report, 2002)

Source: icsf

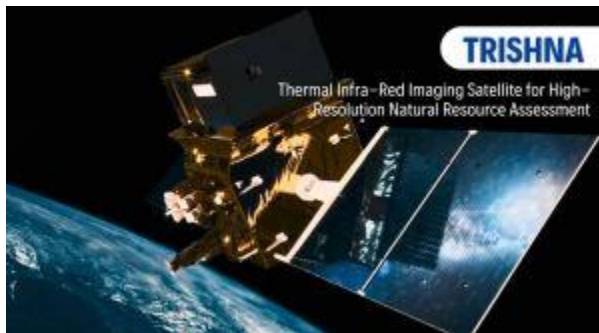
- **Location:** The Gulf of Kutch Marine Sanctuary is located on the **southern shoreline of the Gulf of Kutch**, along the Jamnagar coast, Gujarat.
 - The sanctuary area also **encompasses a national park** (Marine National Park).
- It is the **first protected marine area in India**.
- **Established in:** It was established in **1980**.
- **Area:** It covers **458 sq. km**, of which the **park covers 163 sq. km**.

- It covers **five islands and the intertidal zone** from Navlakhi to Okha.
- **Ecosystem:** It primarily protects **two major ecosystems – corals and mangroves**.
- **River associated:** Some of the major rivers, such as the **Ghi, Sinhan, and Sasoi Rivers**, flow through it.
- **Flora:** It contains **seven species of mangroves**, along with **120 species of algae** and several species of grasses, shrubs and herbs.
- **Fauna:**
 - The mangroves are breeding grounds for **colonies of near-threatened species of birds** such as the **Painted Stork, Darter and Black-necked Ibis**.
 - It is home to **more than 40 species of sponges, starfish, octopuses, puffer fish, and dolphins**.
 - Nearby beaches serve as **breeding grounds for the green sea turtle**, and is also home to the **rare and endangered sea cow, Dugongs**.
 - It is also home to the **Kharai camel**.

TRISHNA Mission

News: Prime Minister Narendra Modi announced that India and France will jointly launch the TRISHNA satellite next year for global water and food security.

About TRISHNA Mission



Source – ISRO

- **TRISHNA (Thermal Infra-Red Imaging Satellite for High-resolution Natural Resource Assessment)** is a **joint mission** of the Indian Space Research Organisation (**ISRO**) and the **French Space Agency CNES** for high-resolution **monitoring of Earth's surface temperature, vegetation health, and water cycle dynamics**.
- **Schedule:** It is scheduled to be **jointly launched by India and France in 2027**.
- **Objective:** The mission aims to **monitor Earth's surface temperature, energy and water budgets, vegetation health, and water cycle dynamics** to address **water and food security challenges** and support **efficient water resource management**.
- **Key Aspects:**
 - Orbit:** The satellite will operate in a **sun-synchronous orbit** at an **altitude of 761 km** with a **local time of 12:30 PM at the equator**.
 - Life Span:** The mission is designed for an **operational life of 5 years**.
 - Resolution:** The satellite will provide a **spatial resolution of 57 m** for **land and coastal areas** and **1 km** for **oceanic and polar regions**.
- **Key Payloads:**

Thermal Infra-Red (TIR): This CNES-provided payload has a **four-channel long-wave infrared imaging sensor** for high-resolution surface temperature and emissivity mapping.

VNIR-SWIR (Visible-Near Infra-Red-Short Wave Infra-Red): This ISRO-developed payload contains **seven spectral bands** and is **used to study how the Earth's surface reflects sunlight**.

- It helps generate important information on vegetation, land surface conditions, and radiation-related variables required for monitoring natural resources and the Earth's energy balance.
- **Global Contributions:** TRISHNA's data **will support global initiatives such as GEOGLAM for agricultural monitoring, the United Nations Sustainable Development Goals (SDGs), and Global Water Watch.**
 - The mission's outputs will **also serve as Essential Agricultural Variables (EAVs) and Essential Climate Variables (ECVs)** for the global community.

National Internet Exchange of India (NIXI) and Its Digital Portals

News: National Internet Exchange of India (NIXI) celebrated its 23rd Foundation Day and launched four new digital initiatives.

About National Internet Exchange of India (NIXI)



Source – ET

- **National Internet Exchange of India (NIXI)** is a **not-for-profit organization** that **strengthens India's Internet infrastructure** and **supports a secure, resilient, and inclusive Internet ecosystem**.
- **Established:** It was **established in 2003**.
- **Registered Under:** It is registered under **Section 8 of the Companies Act, 2013**.
- **Ministry Involved:** It functions under the aegis of the **Ministry of Electronics and Information Technology (MeitY)**.
- **Aim:** NIXI was set up to **facilitate the exchange of domestic Internet traffic within India**, improve service quality, reduce latency, and lower international bandwidth costs.
- **Key Features of National Internet Exchange of India (NIXI)**
 - **Internet Infrastructure Support:** NIXI facilitates the **efficient exchange of domestic Internet traffic among Internet Service Providers (ISPs), Content Delivery Networks (CDNs), and other entities**, which helps route Internet traffic within India more efficiently.

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- **Domain Management:** NIXI manages India's .IN and .भारत (.Bharat) country-code top-level domains and currently administers more than 39 lakh .IN domain names, supporting the growth of India's digital ecosystem.
- **Digital Inclusion:** NIXI supports domain registrations in 22 Indian languages and promotes Internet services across the country.
- **Technology Advancement:** It operates 79 Internet Exchange Points (IXPs) and has helped India achieve about 78.34% IPv6 adoption.

About NIXI Digital Portals

IX Portal	● The Internet Exchange (IX) Portal is designed to improve the operation and management of Internet exchanges across India. ● It helps Internet Service Providers (ISPs) and Content Delivery Networks (CDNs) route domestic Internet traffic more efficiently and enhances operational efficiency.
myIRINN Portal	● The my Indian Registry for Internet Names and Numbers (myIRINN) Portal is a secure platform for affiliates and members. ● It enables users to manage their Internet Protocol (IP) addresses and Autonomous System (AS) numbers through a dedicated dashboard.
.IN Auction Portal	● The .IN Auction Portal streamlines the auction, bidding, and acquisition process for premium and highly sought-after .in domain names. ● It also brings greater transparency to the country-code domain name market in India.
AI-Powered WHOIS Screening Platform	● The Artificial Intelligence (AI)-Powered WHOIS Screening Platform helps enhance domain name security and strengthens the detection of suspicious websites in the .in domain space. ● It serves as the official WHOIS search platform for domain registration details, ownership information, registrar details, and domain availability.

Smart Seed Coating Technology

News: ICAR-IIOR, Hyderabad, has developed a patented biopolymer-based Smart Seed Coating Technology to improve seed quality and climate resilience.

About Smart Seed Coating Technology



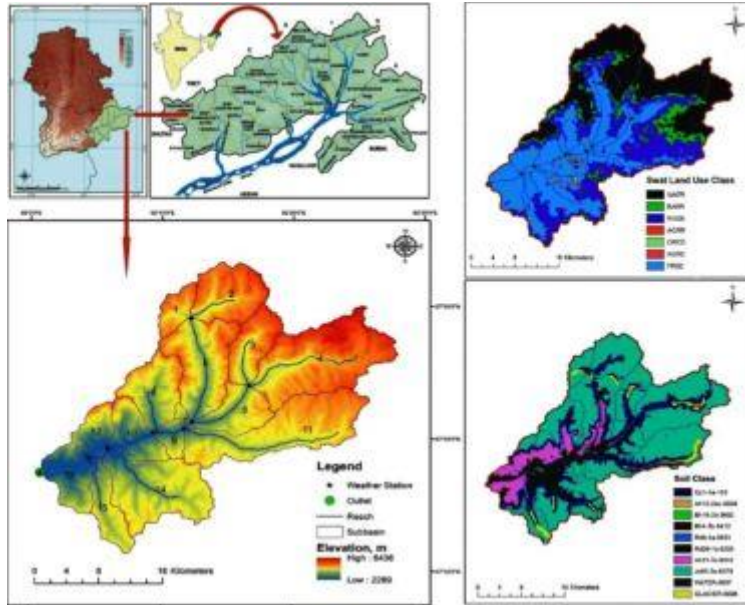
Source – Businessline

- **Smart Seed Coating Technology** is an Indian-patented, biodegradable seed enhancement platform that improves seed performance from the earliest stages of crop growth.
- **Developed By:** The technology was developed and scientifically validated by the **ICAR-Indian Institute of Oilseeds Research (ICAR-IIOR)** based in Hyderabad.
- **Aim:** The technology aims to **strengthen climate-resilient agriculture, reduce production risks in rainfed farming systems, and improve overall crop productivity** by protecting seedlings from climatic and environmental stresses.
- **Working Mechanism**
 - **Protective Coating:** The technology uses **biodegradable biopolymers** to form a **multifunctional protective layer** around seeds.
 - **Input Delivery:** The coating serves as a **delivery platform** for **beneficial microorganisms, nutrients, micronutrients, crop protection agents, and plant growth-promoting compounds** at the seed-soil interface.
 - **Favourable Microenvironment:** It creates a favourable microenvironment that **supports faster germination, stronger seedling growth, and better root development**.
 - **Stress Tolerance:** The coating enhances **tolerance to both biotic and abiotic stresses** during the crop establishment stage.
- **Key Features:**
 - **Biodegradable Technology:** It uses **biodegradable biopolymers** and functions as a multifunctional seed enhancement platform.
 - **Integrated Support:** The technology **combines protection, nutrition, and biological support in a single seed treatment**.
 - **Customizable Application:** It can be **tailored for cereals, millets, pulses, oilseeds, fibre crops, fodder crops, vegetables, spices, and horticultural crops**.
 - **Productivity Improvement:** All India Coordinated Research Project on Seed (AICRP-Seed) trials reported **productivity gains of 12% to 37% over untreated seeds**, while **Telangana trials showed nearly 30% higher yields in groundnut and soybean**.
 - **Suitable for Rainfed Areas:** The technology is particularly **valuable for rainfed agriculture** and helps improve crop resilience and establishment.

Mago Chu River

News: A satellite-based assessment reported expansion of glacial lakes in the Mago Chu Basin, raising concerns about possible GLOF risk.

About Mago Chu River



Source – ResearchGate

- **Location:** It is located in the **Tawang district of Arunachal Pradesh** and originates near **Mago village**.
- **Formation:** It is formed near Mago village by the **confluence of the Goshu Chu and Dungma Chu rivers**.
- **Course:** Mago Chu joins the Tsona Chu near Kyelatongbo to form the Tawang Chu.
- **Tributaries:** The major tributaries of the Mago Chu river system are **Goshu Chu, Dungma Chu, Gorjo Chu, and Tsona Chu**.
- **Key Aspects:**
 - **Part of Manas River system:** Tawang Chu later receives the Nuranang River and Nyamjang Chu before entering Bhutan and eventually contributing to the Manas River system.
 - **High-Altitude Basin:** The river basin includes **high-altitude glacial** regions where glacier movement and glacial lakes are being monitored.
 - **Glacial Lake Monitoring Area:** The Mago Chu basin contains a **potentially unstable proglacial lake** that is being monitored due to **concerns about a possible GLOF (Glacial Lake Outburst Flood)**.

About GLOF Risk

- **Growing Concern in Mago Chu Basin:** Scientists identified a potentially unstable proglacial lake within the Mago Chu basin and warned that **accumulated meltwater and unstable moraine debris could trigger a sudden lake breach**.
- **Nature of GLOF:** A Glacial Lake Outburst Flood **occurs when a weak moraine dam holding glacial lake water fails and suddenly releases a large volume of water downstream**.
- **Potential Impact:** Such floods can carry debris and boulders, damage hydropower projects, and threaten downstream settlements, river systems, property, and human lives.

Energy Transition Index 2026

News: The Energy Transition Index 2026 reported that India recorded one of the strongest improvements in global energy transition readiness.

About Energy Transition Index 2026



Source: World Economic Forum, (2026), Energy Transition Index 2026.

Source – WEF

- The Energy Transition Index 2026 tracks energy transition progress across 120 countries by assessing current energy system performance and future readiness.
- **Published by:** The index is published by the **World Economic Forum (WEF)** in collaboration with Accenture.
- **Structure of the Index:**
 - **Tracking Parameters:** The index evaluates 120 countries using 44 indicators across two major pillars.
 - **Current System Performance:** The index benchmarks national energy systems across the dimensions of security, sustainability, and equity.
 - **Transition Readiness:** This pillar evaluates the enabling environment, including institutional frameworks, infrastructure, stable policies, and capital investment.
- **Key Highlights:**
 - **Top Performers:** Nordic countries continued to lead the index. **Sweden ranked first, followed by Finland in second place and Denmark in third place.**
 - **Global Transition Challenges:** Despite record **global energy investment of USD 3.3 trillion, energy transition progress has slowed** due to geopolitical tensions, infrastructure bottlenecks, and rising energy demand.
 - **Decline in Readiness:** Global energy transition readiness **declined for the first time in more than a decade**, showing that investment alone is not sufficient to maintain momentum.

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- **India's Performance:**

- **Ranking and Progress:** India moved up two places to rank 70th and was among the strongest improvers in the Energy Transition Index 2026.
- **Drivers of Improvement:** India's progress was supported by stronger transition readiness, major infrastructure gains, and improvements in equity, sustainability, and financial investment.
- **Green Energy Strategy:** The report identified renewable energy capacity expansion, grid expansion, and green hydrogen development as key parts of India's infrastructure-led clean-energy strategy.
 - The share of low-carbon jobs increased by 24 percent in 2024, while renewable energy jobs reached 1.3 million, with hydropower providing the largest source of employment.

Dunagiri, Sanshodhak and Agray

News: The Indian Navy will commission the indigenously built Dunagiri, Sanshodhak and Agray platforms in Kolkata on Sunday.

About Dunagiri, Sanshodhak and Agray

DEFENCEHQ
—THE TONES OF INDIA—

Why INS Dunagiri, INS Sanshodhak and INS Agray are more powerful together than separately

INS SANSHODHAK THE MAPPER Survey Vessel (Large)	INS AGRAY THE HUNTER Anti-Submarine Warfare Shallow Water Craft	INS DUNAGIRI THE PROTECTOR Stealth Guided Missile Frigate
		
MAPS THE BATTLEFIELD	HUNTS THE THREAT	PROTECTS THE BATTLESPACE
Creates accurate seabed maps and collects ocean data.	Detects, tracks and engages enemy submarines in coastal waters.	Provides long-range protection and striking capability.
Key Capabilities	Key Capabilities	Key Capabilities
- Hydrographic surveys & seabed mapping - Oceanographic data collection - Equipped with sonar, AUVs & survey systems - Over 80% indigenous content	- Anti-submarine warfare operations - Advanced sonar & underwater sensors - Lightweight torpedoes & depth charges - High manoeuvrability in shallow waters	- Multi-role: Anti-air, anti-surface, anti-submarine warfare - BrahMos supersonic missiles - Advanced radar, EW suite & helicopters - Designed for blue-water operations

HOW THEY WORK TOGETHER

Sanshodhak maps an area
Provides detailed seabed and environment data.

→

Agray patrols it
Detects and neutralises submarine threats.

→

Dunagiri provides long-range protection
Detects and neutralises submarine threats.

Together they create a layered maritime picture of awareness, surveillance and combat power.

Source – ToI

- These are **three indigenously built Indian Navy platforms** designed to strengthen **combat, survey and anti-submarine capabilities**.
- Manufacturing & Design:** The **three vessels** were designed by the **Indian Navy's Warship Design Bureau**.

- **Constructed by:** All three vessels constructed by the **Garden Reach Shipbuilders & Engineers (GRSE), Kolkata.**
- **Objective:** The platforms are intended to **enhance operational capabilities** in maritime combat, hydrographic surveying and anti-submarine warfare.
- **Key Aspects of Dunagiri:**
 - **Stealth Frigate:** Dunagiri is the **fifth stealth frigate** built under **Project 17A.**
 - **Advanced Weapon Systems:** It is equipped with **BrahMos surface-to-surface missiles** and the **Medium Range Surface-to-Air Missile (MRSAM) system.**
- **Key Aspects of Sanshodhak:**
 - **Survey Role:** It is the **fourth Survey Vessel (Large)** designed for **coastal and deep-water hydrographic surveys.**
 - **Data Collection:** The ship **collects oceanographic and geophysical data** for defence and civilian applications.
 - **Advanced Technology:** It is equipped with **Autonomous Underwater Vehicles (AUVs) and Remotely Operated Vehicles (ROVs).**
- **Key Aspects of Agray:**
 - **Anti-Submarine Warfare Craft:** Agray is the **fourth vessel of the Arnala-class Anti-Submarine Warfare Shallow Water Craft series.**
 - **Indigenous Combat Systems:** It is fitted with **lightweight torpedoes, indigenous rocket launchers and shallow-water sonar systems.**
 - **Coastal Security Role:** The platform is designed to detect and engage **underwater threats in littoral and coastal waters.**

Turquoise Nexus Initiative (TNI)

News: Turkey and FAO introduced the Turquoise Nexus Initiative ahead of COP31 to promote integrated food-water-climate approaches in climate commitments.

About Turquoise Nexus Initiative (TNI)



Source – FAO

- **Turquoise Nexus Initiative (TNI)** is a **proposed initiative** to **integrate food, water, and climate actions** within **national climate commitments**.
- **Proposed:** The initiative was **proposed during a side event at the Bonn Climate Change Conference 2026** and is **scheduled for a formal launch at COP31 later this year**.
- **Launched by:** The initiative was **introduced by Turkey's COP31 Presidency and the Food and Agriculture Organization of the United Nations (FAO)**.
- **Objective:** The initiative aims to **help developing countries embed integrated food-water-climate approaches** into their **Nationally Determined Contributions (NDCs)** and **Paris Agreement implementation efforts**.
- **Parent Mechanism:** The TNI operates under the **FAO's multi-stakeholder Food and Agriculture for Sustainable Transformation (FAST) Partnership**.
- **Key Aspects:**
 - **Addressing Fragmentation:** The initiative seeks to **overcome fragmentation in national climate commitments** by linking food, water, and climate policies.
 - **Strengthening Adaptation Efforts:** It promotes **coordinated approaches** because separate policy frameworks often reduce the effectiveness of adaptation and resilience measures.
 - **Farmer-Centred Approach:** The **World Farmers' Organisation supported the initiative** and called for farmers to be recognized as primary managers of water resources.
 - **Improved Water Governance:** The initiative highlights that **effective water governance should be developed with farmers** and their organisations rather than through top-down approaches.

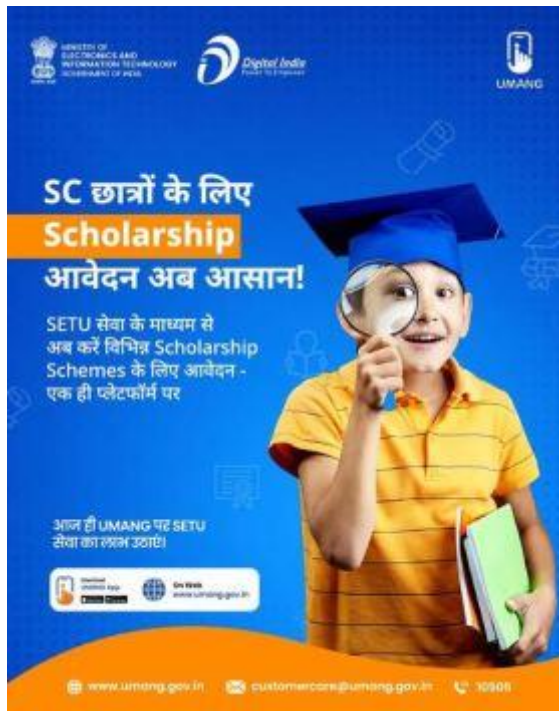
About Food and Agriculture for Sustainable Transformation (FAST) Partnership

- FAST is a **multi-stakeholder initiative and partnership** that aims to catalyze and accelerate the **transformation of agriculture and food systems by 2030 for people, climate, and nature**.
- **Launch:** It was **launched at COP27 in Sharm el-Sheikh, Egypt, in 2022**.
- **Hosted By:** It is hosted **by the Food and Agriculture Organization (FAO)**.
- **Core Objective:** It seeks to increase the quantity and quality of climate finance for transforming agrifood systems, support adaptation efforts, and maintain a 1.5-degree pathway while ensuring food and economic security.
- **Three Pillars of FAST:**
 - **Access to Finance:** It enhances country capacities to identify and access climate finance and investment.
 - **Knowledge and Capacity:** It develops analyses and voluntary guidelines and supports capacity development across stakeholders.
 - **Policy Support and Dialogue:** It ensures that agrifood systems are fully embedded and prioritized in climate change policies.

SETU (Scholarship for Educational Transformation and Upliftment)

News: The Department of Social Justice & Empowerment launched SETU on UMANG and removed the domicile certificate requirement for scholarship applications.

About SETU (Scholarship for Educational Transformation and Upliftment)



Source – UMANG App

- **SETU** is a comprehensive **digital platform on UMANG** that **provides scholarship-related services through a single interface**.
- **Developed By:** It was developed by the **Department of Social Justice & Empowerment (DoSJE)**.
- **Aim:** The platform aims to **improve accessibility, streamline scholarship processes, strengthen digital governance**, and ensure **effective delivery of scholarship benefits**.
- **Key Features:**
 - **Single Digital Gateway:** It acts as a unified platform for **One-Time Registration, application tracking, and validation of scholarship services**.
 - **Multi-tiered Interface:** The platform **brings students, Institutional Nodal Officers, District Nodal Officers, and State officials** onto a single dashboard for application verification.
 - **UMANG Integration:** The platform is **hosted directly on the UMANG platform** to provide easy access to scholarship services.
 - **Direct Benefit Transfer:** Financial assistance is **transferred directly into students' bank accounts in a transparent manner**.
 - **Technology-Based Security:** The platform uses **modern authentication features, including face-recognition technology**, to reduce fund leakage and administrative paperwork.

About UMANG (Unified Mobile Application for New-age Governance)

- **Developed By:** It was developed by the **Ministry of Electronics and Information Technology (MeitY)** and the **National e-Governance Division (NeGD)**.
- **Key Objective:** It is a key **e-governance initiative under the Digital India programme**.
- **Service Delivery:** It provides citizens with a **unified, multilingual platform for single-point access to hundreds of Central and State Government services**.

State of World Fisheries and Aquaculture 2026 Report

News: India ranked as the world's second-largest aquatic animal producer in the FAO's State of World Fisheries and Aquaculture 2026 report.

About State of World Fisheries and Aquaculture 2026 Report



Source – FAO

- It is a **biennial report** that provides evidence-based information on fisheries and aquaculture trends, challenges, opportunities and solutions.
- **Released by:** The report is released by the **Food and Agriculture Organization of the United Nations (FAO)**.
- **Key Highlights:**
 - **Global**
 - **Record Global Production:** Global fisheries and aquaculture production **reached 235 million tonnes in 2024**.
 - **Major Producing Bloc:** **India, China, Indonesia, Viet Nam and Bangladesh** together **produced 82 per cent of all farmed aquatic animals**.
 - **Food Availability:** Per capita aquatic animal food availability **increased from 21.1 kg in 2023 to a preliminary estimate of 21.3 kg in 2024**.
 - **Regional Consumption Pattern:** **Asia** recorded the **highest** availability at **26.3 kg per person**.
 - **Declining Wild Stocks:** The **share of marine fish stocks** within biologically sustainable levels **fell to 62.4% in 2023, down from 64.5% in 2021**.
 - **India**
 - **India's Global Position:** India produced **9 per cent of the world's aquatic animals in 2024** and **ranked second globally after China**.

- **Inland Water Catch:** India ranked first in inland water catches, producing 2.2 million tonnes from rivers, lakes and freshwater systems
- **Aquaculture Contribution:** India ranked second in farmed aquatic animal production and contributed 12 per cent of global output.
- **Policy Relevance:**
 - **Blue Transformation Agenda:** The report showcases **FAO's efforts to translate the Blue Transformation vision into action.**
 - **Global Commitments:** It highlights the **role of sustainable aquatic food systems in supporting the United Nations Sustainable Development Goals (SDGs) and the Kunming-Montreal Global Biodiversity Framework.**

White-bellied Heron

News: The Forest Advisory Committee has given in-principle approval for a hydropower project in an area of Arunachal Pradesh that serves as a habitat for the White-bellied Heron.

About White-bellied Heron



Source: Birds of the World

Aspects	Description
About	● The white-bellied heron is a large heron species. ● It is the second-largest heron. ● It is also known as the imperial heron or great white-bellied heron.
Scientific name	● Its scientific name is Ardea insignis.
Habitat	● It prefers habitats with fast-flowing rivers and forests. ● It inhabits the wetlands of tropical and subtropical forests in the foothills of the eastern Himalayas of northeast India and Myanmar.
Distribution	● Today, it is found only in parts of Arunachal Pradesh, Myanmar, and Bhutan, in regions that are relatively undisturbed by development.

	○ In the early 1900s, the bird was found across Nepal, Sikkim, Arunachal Pradesh, Bangladesh, and Myanmar.
Appearance	● It has a uniform dark grey plumage, a whitish belly and long silvery or whitish plumes on the rear crown and lower fore-neck. ● It has a relatively long neck, a compact body, short legs, and large, well-developed toes. ● Its elongated and highly flexible neck, combined with a sharp, serrated bill, enables it to efficiently catch fish even in deep water. ● The face is greenish-grey and has long bill black, but greenish near the base and tip. ● The legs and feet are dull grey. ● Weight: Its mean weight is estimated at 3.2–3.4 kg. ● In breeding plumage, it has a greyish-white nape plume and elongated grey breast feathers with white centres.
Diet	● It feeds primarily on aquatic prey, mainly fish.
Behaviour	● It needs clear, shallow, and fast-flowing river streams to fish. ● It waits for the fish to come, and unlike other herons, they don't move around too much.
Significance	It is an indicator species of a pristine habitat.
Threats	○ Habitat loss ○ Increasing disturbance and habitat degradation due to conversion of wetlands for agriculture and expansion of settlements, harvesting of wetland resources and poaching
Conservation status	● Wildlife Protection Act, 1972: Schedule I ● IUCN Red List: Critically Endangered

NAFEX.in Portal

News: Nafed will launch its own e-auction portal, NAFEX.in, to sell oilseeds and pulses, enhancing transparency and efficiency in agricultural commodity auctions.

About NAFEX.in Portal

- NAFEX.in is a **digital auction portal** to strengthen transparency, efficiency and technology-driven reforms in the cooperative sector.
- **Launched by:** It has been launched by the [National Agricultural Cooperative Marketing Federation \(Nafed\)](#).
- **Developed by:** It has been **developed in collaboration with the consulting firm Deloitte**.

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- It will consider **allowing state-level federations of cooperatives and agencies** to conduct their e-auction on the portal.
- It is to **strengthen transparency, efficiency and ease of operations** in the auction process.
- **Expected outcome:** It is expected to **provide a digital platform for streamlining auction-related activities and enhancing the overall functioning of NAFED** in the interest of farmers, member institutions and stakeholders.
- **Note:** Currently, Nafed uses private platforms such as **mjunction, NCDEX e Markets – NeML and E-Teach** for selling about 5.3 million tonnes (MT) of pulses and oilseeds annually from farmers under the price support scheme (PSS) and [price stabilisation fund \(PSF\)](#).
- **About Other Initiatives of Nafed:** Several other important digital and farmer-centric initiatives of Nafed have also been launched:
 - These include **NAFED-KALYAN scholarship** for children of farmers, the **DRISHTI portal** for inventory management of pulses and oilseeds, **ERP portal** for strengthening enterprise resource planning.

NCRB-Abhigyan, CrPI, e-Prosecution 2.0 and e-Forensics 2.0 applications

News: Union Minister of Home launched four important applications, namely NCRB-Abhigyan, CrPI Application, e-Prosecution 2.0 and e-Forensics 2.0.

About NCRB-Abhigyan, CrPI, e-Prosecution 2.0 and e-Forensics 2.0 Applications



Source: NCRB

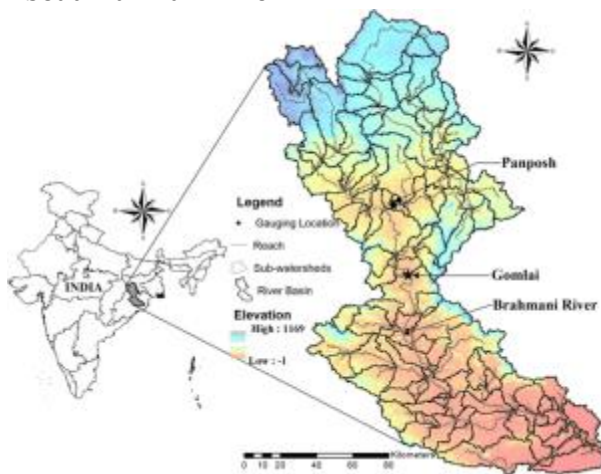
Applications	Description
NCRB-Abhigyan	● It is a mobile application that enables field police personnel to search the National Fingerprint Database from any location using a certified fingerprint scanner for suspect identification. ● It enhances the efficiency and responsiveness of field policing by enabling instant fingerprint matching.
CrPI Application	● The multi-modal biometric technology integrates facial recognition, iris matching, and DNA matching capabilities. ● It enhances the reliability of identification, reduces manual errors, and makes the process more transparent. ● Its primary applications include the identification of repeat offenders and CCTV-based suspect identification.

	● So far, 2,190 CrPI units have been distributed, and more than 553,000 enrollments have been completed.
e-Forensics 2.0	● It is a digital platform that connects forensic laboratories and investigating agencies across the country. ● Its key features include case receipt and digital tracking for forensic examination, sample registration, laboratory workflow management, report generation, digital access to reports, and strengthening of the chain of custody.
e-Prosecution 2.0	● It is a digital platform that establishes digital coordination among the police, prosecution, and judicial processes. ● It ensures that once an offender is identified, timely prosecution and punishment can also be secured.
Uses of these applications	● NAFIS and CrPI identify the offender, CCTNS and Cri-MAC connect and support the investigation, e-Forensics strengthens the evidence, and e-Prosecution drives the case towards conviction. ● Together, these four applications integrate policing, forensic investigation, prosecution management, and criminal identification into a seamless digital chain of the Integrated Criminal Justice System (ICJS). ○ They will transform data into informed decision-making and fingerprints into justice.

Brahmani River

News: A recent study showed that Microscopic plastic pollution is infiltrating the pristine habitats of India's Bhitarkanika Wildlife Sanctuary, carrying a toxic cargo of heavy metals into the Brahmani River.

About Brahmani River



Source: Research Gate

- The Brahmani is a **major seasonal river** in the **Odisha state** of **Eastern India**.
- It is **one of the few rivers that cut across the Eastern Ghats**.
- **Origin:** It originates near **Nagri village in the Ranchi district of Jharkhand** at an elevation of about 600m. It is initially known as the **South Koel River** in its upper reaches.
- **Drainage:** The river basin traverses the states of **Jharkhand, Chhattisgarh, and Odisha**.
- **Course of the river:** After meeting with the **Sankh River at Rourkela**, it is known as the **Brahmani River**.
 - It **generally flows south-southeast past Bonaigarh and Talcher in Odisha** before turning east to merge with the **northern branches of the Mahanadi River**, which eventually drains into the **Bay of Bengal at Palmyras Point, Odisha**.
- **Gorge formation:** It also forms a **minor gorge at Rengali (Angul district of Odisha)**.
- **Total Length:** Its total length is **about 799 km**.
- **Boundary:** The basin is bounded in the **North by the Chhotanagpur Plateau, in the West and South by the Mahanadi basin and in the East by the Bay of Bengal**.
- **Tributaries:** The major tributaries of the river include the **Sankh, Tikra, and Karo** rivers.
- **Delta formation:** Together with the **Mahanadi** and **Baitarani** rivers, it forms the **Brahmani delta** before **emptying into the Bay of Bengal**.
 - The **Brahmani delta is the site of the Bhitarkanika Wildlife Sanctuary**, known for its estuarine crocodiles.
- **Dams situated:** It supports irrigation through dams and canals like the **Rengali Dam and Samal Barrage**.
- **Historical significance:** Historically, its origin is linked to the **legend of Ved Vyasa**.

Battle of Plassey

News: June 23, 2026 marks 269 years of the Battle of Plassey, a turning point in British expansion in India.

About Battle of Plassey



Source – India Today

- The **Battle of Plassey** was fought on **23 June 1757** between the **British East India Company**, led by **Robert Clive**, and **Nawab Siraj-ud-Daulah of Bengal**.
- **Location:** The battle was fought **near Palashi (Plassey) in present-day Nadia district of West Bengal**.
- **Mughal Emperor:** **Alamgir II** was the Mughal Emperor when the Battle of Plassey was fought.
- **Causes of the Conflict:**

- **Misuse of Dastaks:** The East India Company misused **the dastaks (duty-free trade permits) granted to it for trade in Bengal.**
 - The **Company's privileged position** and the **loss of revenue** caused to the Bengal administration created resentment and increased tensions between the Nawab and the Company.
- **Unsanctioned Fortifications:** The Company strengthened the fortifications of **Fort William in Calcutta without the permission** of Siraj-ud-Daulah, challenging his authority.
- **Asylum to Political Fugitives:** The Company gave shelter to **Krishna Ballabh**, whom the Nawab had charged with fraud, creating further tension.
- **Black Hole Tragedy:** Siraj-ud-Daulah **captured Calcutta in June 1756** after the East India Company ignored his warnings.
 - Following the capture, several British officials and soldiers were reportedly confined in a **small and poorly ventilated room.**
 - According to **British accounts**, many **prisoners died** due to **overcrowding, heat, and lack of fresh air.**
 - The incident became **known as the Black Hole Tragedy.**
 - However, the event remains **controversial**, and the East India Company later **used it to justify military action against the Nawab.**
- **Course of the Battle:**
 - **The Odds:** Siraj-ud-Daulah's army had about **50,000 men** and around **50 field guns**, while **Clive commanded only 3,000 men and 10 field guns.**
 - **The Betrayal:**
 - **Mir Jafar (Commander-in-Chief):** He entered into a **secret understanding with the British** and kept the largest contingent of the Nawab's army inactive during the battle.
 - **Rai Durlabh (Army General and Court Official):** He brought his forces to the battlefield but **deliberately did not participate in the fighting.**
 - **Jagat Seths (Banking Family):** They supported the conspiracy against Siraj-ud-Daulah and **backed the plan to replace him with Mir Jafar.**
 - **Turning Point:** A sudden **heavy downpour weakened the Nawab's artillery**, while the British protected their ammunition and continued fighting effectively.
 - **The Climax:** The battle ended in **Robert Clive's victory.**
 - Siraj-ud-Daulah fled but was **later captured and put to death.**
- **Impacts:**
 - **Political Transformation:** **Mir Jafar became Nawab of Bengal** but functioned largely as a **puppet ruler under the Company's influence.**
 - **First Step to Empire:** The victory enabled the Company to move beyond trade and gain political influence in Bengal.
 - Bengal became the **first base of the Company's expanding power across India**, laying the foundation of British colonial dominance.

Air Force Arjan Singh Memorial Hockey Tournament 2026

News: The 7th edition of the Air Force Arjan Singh Memorial Hockey Tournament 2026 is being held in Bengaluru from 23 June to 3 July 2026.

About Air Force Arjan Singh Memorial Hockey Tournament 2026

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Source – NOA

- It is a **hockey tournament** organized to **honour the legacy of Marshal of the Air Force Arjan Singh** and his passion for the sport.
- **Organized by:** The tournament has been **organized by the Air Force Sports Control Board (AFSCB)** since 2018.
- **2026 Edition:** The 2026 event is the **7th edition** of the tournament.
- **Venue:** The tournament is being **held at Air Force Station Jalahalli, Bengaluru**.
- **Participants:** A total of **16 teams from across the country** are participating in the tournament.
- **Foreign Team Status:** **No foreign teams are participating in this edition** due to the ongoing crisis in the Middle East.
- **Format:** The matches are being conducted on a **league-cum-knockout basis**.
- **Prize Pool:** The **winning team will receive ₹10 lakh** and the **runners-up will receive ₹8 lakh**.
 - The **Man of the Match in each game will receive ₹25,000**, while the **Player of the Tournament will receive ₹50,000**.