

India achieves 18,900 organ transplants in 2024

The country ranks **third highest globally in total organ transplantation**, behind only the United States of America and China.

- India is **first in living donor organ transplantation**.

About organ transplantation in India

- Organ transplantation is the **life-saving therapy for end-stage organ failure**.
 - ⊕ It refers to the grafting of any human organ from any living person or deceased person to some other living person for therapeutic purposes.
- Organ donation and transplantation is regulated by **Transplantation of Human Organs and Tissues Act 1994** (amended in 2011)
 - ⊕ It was introduced by the **Ministry of Health and Family Welfare**.
 - ⊕ This legislation aims to regulate the removal, storage, and transplantation of human organs for therapeutic purposes while **strictly prohibiting any commercial dealing**.
- The **National Organ Transplant Program (NOTP)** aims to enhance access to transplants, improve awareness, and augment infrastructure.
- The **program operates through a network comprising**
 - ⊕ National Organ and Tissue Transplant Organization (NOTTO),
 - ⊕ Regional Organ and Tissue Transplant Organizations (ROTTOS), and
 - ⊕ State Organ and Tissue Transplant Organizations (SOTTOs).
- Despite this growth, India faces a **low deceased organ donation rate of less than 1 per million population** (Spain 48 per million population).

Initiatives taken for organ transplantation

- **"One Nation One Policy"**: State domicile, age limits, and registration fees removed for deceased donor organ transplant recipients.
- **Aadhaar-linked digital pledge portal**: It was launched in September 2023, enabling over **3 lakh citizens to register their pledges** for organ donation.
- **"Angdaan Jan Jagrukta Abhiyan"** was launched in 2024.

Ministry of Consumer Affairs notifies Amendments in Edible Oil Regulations

Notification seeks to amend **Vegetable Oil Products Production and Availability (Regulation) Order, 2011** issued under the **Essential Commodities Act, 1955**.

- It aims to **enhance transparency, prevent supply disruptions**, and **ensure fair prices for consumers** in India's edible oil industry. It also seeks to bring accountability and **stabilize edible oil supplies**.

Edible Oil Scenario in India

- India is **heavily dependent on imports** to meet its edible oil requirements and is the **world's largest importer** of vegetable oils, followed by **China and the USA**.
 - ⊕ **Palm oil dominates imports**, accounting for **59%**, followed by **soybean (23%) and sunflower (16%)**
 - ⊕ **Import dependence on edible oils decreased from 63.2% in 2015-16 to 54.9% in 2021-22**.
- **Major Edible oil crops in India (9)**: Groundnut, rapeseed-mustard, soybean, sunflower, sesame, safflower, Nigerseed, castor and linseed.
- Among 9 major oilseeds, **soybean (34%), rapeseed & mustard (31%) and groundnut (27%) contribute to more than 92%** of total oilseeds production in the country.

Initiatives taken for Domestic Edible Oil Production

- **National Mission on Edible Oils – Oil Palm (NMEO-OP)**: To boost domestic oilseed production and achieving self-reliance in edible oils.
- **National Food Security Mission- Oilseeds & Oil palm (NFSM-OS&OP)**: To augment the availability of edible oils by increasing the production and productivity of nine oilseed crops and area expansion under Oil Palm & Tree Borne Oilseeds.

Reasons for high import dependence

- **Almost 72% of the total oilseeds area** is confined to **rainfed farming** cultivated mostly by marginal and small farmers.
- Lack of **appropriate technologies**, cultivation under **input-starved conditions**, etc., are some of the major causes for poor productivity of Oilseeds.

Tamil Nadu Government launches State Policy for Transgender People

The policy seeks to protect the rights of transgender people in education, employment, healthcare, housing and safety.

- The state will also take steps to amend **Hindu Succession Act** and **Indian Succession Act** to ensure the right of inheritance for transgender people.
- The policy **allows transgender and intersex people to choose their gender** — male, female, or transgender — without needing medical procedures or certificates.

Who is a Transgender?

- **Definition:** A transgender person is someone whose gender identity does not align with the gender assigned at birth. [Transgender Persons (Protection of Rights) Act, 2019].
- **Population:** ~ 4.8 Lakh. (Census, 2011).
- **NALSA Judgment (2014):** Supreme Court recognized transgender individuals as the "**third gender**" and affirmed their fundamental rights under the Indian Constitution.

Issues Faced by Transgender Persons

- **Legal and identity issues:** 2019 Act mandates certification of gender identity by a District Magistrate, infringing on the right to self-identify.
- **Social Discrimination and marginalization:** Lack of social acceptance, cultural perceptions view gender non-conformity as deviant, leading to widespread ostracism, physical and sexual violence, etc.
- **Education barriers:** Lack of inclusive curriculum, dropouts due to bullying, etc.
- **Healthcare:** Lack of gender-affirmative healthcare, high prevalence of depression, anxiety, and suicidal tendencies due to societal non-acceptance, etc.
- **Economic Exclusion:** due to hiring biases and workplace hostility.

Schemes for Welfare of Transgenders

- **SMILE (Support for Marginalized Individuals for Livelihood and Enterprise) Scheme:** For comprehensive welfare of transgenders.
- **National Portal for Transgender Persons** for obtaining online certificate of identity.
- **Gender Inclusion Fund** under National Education Policy for providing quality education to girls and transgenders.
- **Garima Grehas:** Shelter homes for transgender persons.
- **PM-DAKSH (Dakshta aur Kushalta Sampann Hitgrahi):** For skill training to transgenders.

Union Minister reiterates India's second position in Fish Production

India is the **second largest fish producing country after China** with around **8% share in global fish production**.

Fisheries sector in India

- Fisheries is listed in **the State List**.
 - ⊕ However, the Union Government supplements the efforts of the States/UTs for development of the sector.
 - ⊕ **Inland sector** is by and large, in the **domain of State Governments** while **Marine sector** is a shared responsibility **between the Central and Coastal State Governments**.
- **Inland fish production** constitutes about **75% of the total fish production**.
- Fisheries constitutes about **1.12 percent of the total national GVA** and **7.26 percent of agricultural GVA**.
- Around **30 million people involved** in fish production across the value chain.
- The Union Budget 2025-26, proposed the **highest ever total annual budgetary support** for the fisheries sector.

Challenges of the Fisheries sector:

- **Environmental:** overfishing, habitat destruction and climate change.
- **Economic:** market fluctuations; Illegal, Unreported, and Unregulated (IUU) fishing and limited access.
- **Social issues:** food security, gender inequality and community displacement.
- **Others:** Infrastructure gaps, resource management issues, and the need for modernized fishing techniques.

Initiatives taken

- **Pradhan Mantri Matsya Sampada Yojana (PMMSY).**
 - ⊕ **Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana:** A Central Sector Sub-scheme under PMMSY.
 - ⊕ **Aquaculture parks** established under PMMSY.
- **Blue Revolution Scheme, Fisheries and Aquaculture Infrastructure Development Fund (FIDF).**
- **5th Marine Fisheries Census** for data-driven policymaking.
- **India's endorsement to the Regional Plan of Action on IUU** (Illegal, Unreported and Unregulated) Fishing to prevent illegal, unreported and unregulated fishing in the Bay of Bengal Region jointly in cooperation with Sri Lanka, Bangladesh and Maldives.

ISRO inaugurates HOPE Analog Mission in Tso Kar Valley, Ladakh

Himalayan Outpost for Planetary Exploration (HOPE) is a specially designed **Habitat Module** for crew living and a **Utility Module** for operations and support systems which are interconnected for seamless workflow.

The HOPE station set up by ISRO aims to simulate space-like conditions on Earth to aid research for future interplanetary missions.

About HOPE Mission

- **Led by:** ISRO's Human Space Flight Centre (HSFC), with industry partners and top Indian institutions.
- **Objectives**
 - ⊕ Simulates extraterrestrial environments like the Moon and Mars.
 - ⊕ Enables testing of human survival, health protocols, and equipment in space-like environments.
- **Studies to be conducted:**
 - ⊕ Epigenetics, genomics, physiology, psychology.
 - ⊕ Sample collection and microbial analysis techniques.
 - ⊕ Validation of health monitoring and planetary surface operation protocols.
- **Why Tso Kar Valley was chosen?**
 - ⊕ For Mars-like conditions: **High UV radiation, Low atmospheric pressure, Extreme cold** and **Saline permafrost**.
 - ⊕ Supports both **technological tests** and **astrobiology research**.
- Part of **broader analog missions trend globally**, aimed at preparing for long-term extra-terrestrial human missions.
 - ⊕ **Other similar research stations across the World:** Mars Desert Research Station of the US, Flashline Mars Arctic Station of Canada, and BIOS-3 of Russia.

About Indian Human Spaceflight Programme, Gaganyaan

- Envisages demonstration of **human spaceflight capability by launching crew of 3 members** to an **orbit of 400 km** for a **3 days mission** and bring them back safely to earth, by landing in Indian sea waters.
- **LVM3 rocket** is identified as the launch vehicle for Gaganyaan mission.
- **Major milestones planned:** Integrated Air Drop Tests, Test Vehicle Mission, Pad Abort Tests, Unmanned Flights, and Manned Flight

Also in News



Mahanadi water dispute

Odisha and Chhattisgarh expressed willingness to resolve Mahanadi water dispute 'amicably'.

- In 2016, Odisha, the lower riparian state, alleged **unilateral construction of multiple barrages** by Chhattisgarh in the upper catchment areas, which reduced water flow during non-monsoon seasons.
- Consequently, **Mahanadi Water Disputes Tribunal (MWDT), 2018** was constituted under the Inter-State River Water Disputes Act, 1956.
 - ⊕ The final decision is pending.

Constitutional and legal Provisions related to interstate water dispute

- **Article 262** empowers Parliament to adjudicate such disputes.
- **Inter State River Water Disputes Act, 1956** empowers the Central Government to constitute water dispute tribunals.
- **River Boards Act, 1956** provides for the establishment of River Boards to advise on interstate river development.



'Matri Van' Initiative

Matri Van Initiative is launched in **Gurugram** to develop a **750-acre urban forest** in the **Aravalli hills**.

- The initiative is part of the **'Ek Ped Maa Ke Naam'** programme.
- It aims to **enhance ecological preservation and foster community participation**, marking a significant step towards urban sustainability.
- **Ecological Restoration Components includes** removal of invasive species, plantation of **native trees** and restoring **Aravalli-specific biodiversity**.



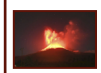
Kopili River (NW 57)

NW-57 on Kopili River was operationalised in Assam with cargo trials in line with the **Maritime India Vision 2030** and **PM Gati Shakti**.

- Four National Waterways in Assam including Brahmaputra (NW 2), Barak (NW 16), Dhansiri (NW 31) and Kopili (NW 57) are now operational.

About Kopili River

- River Kopili is one of the **important major left bank tributaries** of the **Brahmaputra**.
- Kopili River is an **interstate river in Northeast India** that flows through the states of Meghalaya and Assam.
- It **originates from the Saipong Reserve Forest** situated in south east of Meghalaya.



Mount Lewotobi

Recently, Mount Lewotobi Laki Laki Volcano erupted twice sending ash 18,000 meters into the sky.

About Mount Lewotobi

- It is one of **Indonesia's** 127 active volcanoes.
- Mount Lewotobi is composed of **two adjacent stratovolcanoes**:
 - ⊕ **Laki-Laki and Perempuan**, which lie less than 2 kilometers apart.
 - ⊕ **Laki-Laki has been frequently active** since the 19th century, while Perempuan erupted most in 1921 and 1935.
- The **country is prone to volcanic eruptions** due to its location along the **"Ring of Fire"**.
 - ⊕ **Ring of Fire** is a string of volcanoes and sites of seismic activity, or earthquakes, around the edges of the Pacific Ocean.



District Flood Severity Index

Researchers from IIT Delhi and IIT Gandhinagar have developed a District Flood Severity Index that factors in flood duration, historically flooded area, etc., to assess flood impact.

About District Flood Severity Index (DFSI):

- It is designed to **quantify flood severity at the district level**, which is India's key administrative unit for disaster planning and management.
- Composite DFSI consists of six factors** classified in two groups:
 - variables representing the **occurrence of floods** – number of flood events, mean flood duration, flooded area, and population;
 - variables representing the **damage due to floods** – human fatality and the number of humans injured in a district.



Cold pools

A new study by researchers at the University of Washington says rain sometimes makes the **ocean's surface heavier and more stable due to Cold Pools**.

About Cold Pools

- Cold pools are **small-scale areas of evaporatively cooled** downdraft air that spread on the surface underneath precipitating clouds.
- Phenomenon:** When rain falls during a storm, some of it evaporates before reaching the ground. This evaporation cools the air, making it heavier. The cool, heavy air then sinks and spreads out across the ground like a shallow, cold bubble - that's a cold pool.



C-295 Transport Aircraft

India received the final batch of 16 Airbus **C-295 military transport aircraft** in Spain.

About C-295 Transport Aircraft

- It is a new-generation tactical airlifter in the light and medium segment.
- Designed and built by:** Airbus, a European multinational aerospace corporation.
- Features of Airbus C-295 Military Aircraft:**
 - It is an efficient tactical transport aircraft having a flight endurance of up to 11 hours.
 - It is set to replace the IAF's ageing Avro fleet.



Notch Signaling

Recently, a team of scientists at Harvard engineered a synthetic activator of a key cellular pathway called Notch signalling.

About Notch Signalling

- It is a **cell-to-cell communication system** vital for various developmental processes and tissue homeostasis in multicellular organisms.
 - Homeostasis** is the process by which **living organisms maintain a stable internal environment** despite external changes.
- It plays a vital role in **cell fate determination, proliferation, differentiation, and apoptosis**.
- It can lead to **birth defects and diseases like cancer**.

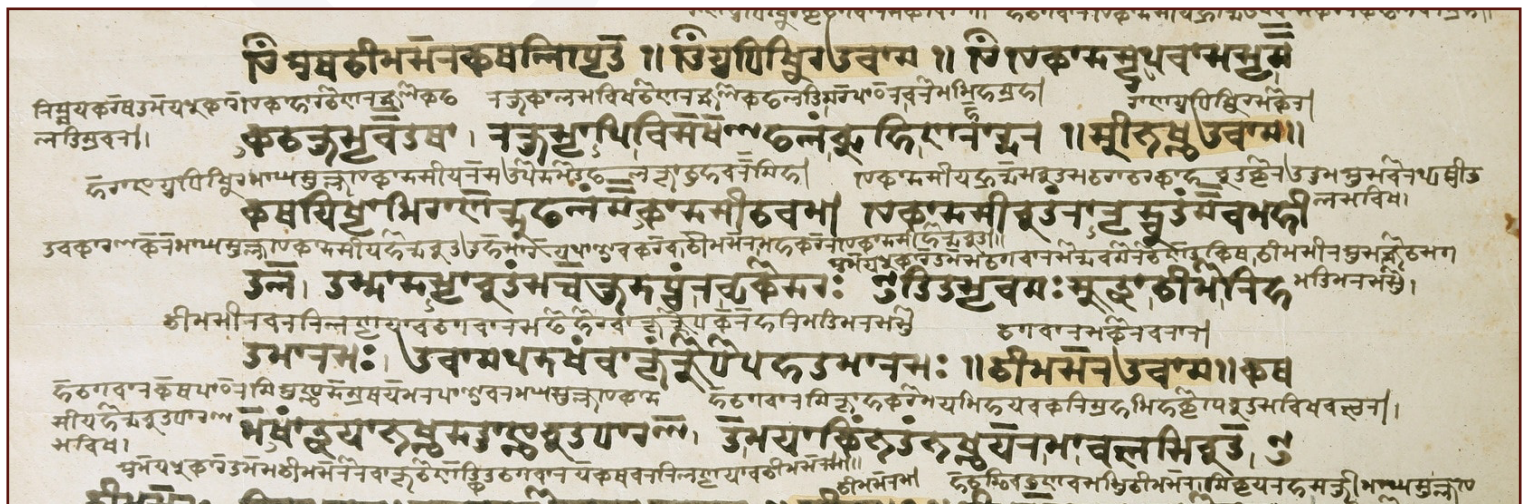


Sharada Script

The **first-ever exhibition showcasing Sharada**, the ancient script that originated in Kashmir and was traditionally used by Kashmiri Pandits, was held during the **Chinar Book Festival**.

About Shāradā Script

- Shāradā script is a writing system based on the **Brahmic family of scripts**.
 - It was the main script used to write Sanskrit.
- Flourished in:** Kashmir, Himachal Pradesh, and Punjab.
- Shāradā Script in Afghanistan:** On a **Ganesh statue** (Gardez) and on a **Uma Maheshwara sculpture** (near kabul).
- The script **developed in between the 8th and 9th centuries AD**. However, few manuscripts survive today.



AHMEDABAD



BHOPAL



CHANDIGARH



DELHI



JAIPUR



JODHPUR



GUWAHATI



HYDERABAD



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI



SIKAR