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IMPACT PIB 360

Monthly PIB Analysis for

UPSC Civil Services

CURRENT AFFAIRS MAGAZINE

Prelims + Mains Focused



AUGUST
2026 EDITION

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Why Should UPSC Aspirants Read PIB?

*A recent public post by **Ajay Kumar, Chairman, UPSC**, offers an important clue about the nature of sources behind UPSC Prelims questions. While discussing the **Civil Services Prelims 2026 Provisional Answer Key**, he noted that many answers are based on **standard textbooks, Government websites, Government press releases and reputed newspapers**.*

*This makes **PIB (Press Information Bureau)** especially relevant for serious UPSC preparation. PIB is one of the Government's primary channels for publishing official information on **policies, schemes, Bills, Cabinet decisions, reports, indices, international engagements, science and technology, environment, economy and governance**.*

Why PIB Matters for UPSC

- ***Authentic Government Source:** PIB carries official information directly from Union Ministries and Departments.*
- ***Useful for Prelims:** Schemes, institutions, reports, factual details, objectives and implementing ministries frequently become potential statement-based questions.*
- ***Strengthens Mains Answers:** Official statistics, initiatives, achievements and policy developments can add credibility and contemporary examples to GS answers.*
- ***Connects Static + Current Affairs:** PIB helps aspirants link topics such as Parliament, economy, environment, agriculture, science and international relations with current developments.*
- ***Reduces Dependence on Unverified Material:** Reading the original government source helps avoid factual errors and distorted summaries.*

IMPACT PIB 360

***IMPACT PIB 360 – Monthly PIB Analysis for UPSC Civil Services** is designed to filter the large volume of PIB releases and present only the **UPSC-relevant issues, background concepts, Prelims facts and Mains dimensions** that aspirants need.*

POLITY & GOVERNANCE

1. Micro, Small and Medium Enterprises development (Amendment) Bill, 2026

Why in News?

The **Micro, Small and Medium Enterprises Development (Amendment) Bill, 2026** was passed by Parliament in August 2026. It was passed by the **Rajya Sabha on 3 August 2026** and by the **Lok Sabha on 7 August 2026**. The Bill seeks to amend the **Micro, Small and Medium Enterprises Development (MSMED) Act, 2006** to modernise the legal framework governing MSMEs, strengthen mechanisms for addressing delayed payments, introduce time-bound dispute resolution, promote digital registration and simplify regulatory compliance.



Background & UPSC-Relevant Facts

About

The **Micro, Small and Medium Enterprises Development (MSMED) Act, 2006** is the principal law governing the promotion, development and competitiveness of MSMEs in India. The **MSME Development (Amendment) Bill, 2026** amends selected provisions of this Act rather than replacing it. It strengthens the legal framework for classification, registration, delayed payments and dispute resolution.

The amendment provides for **investment-and-turnover-based classification**, free and voluntary digital registration, wider use of **TReDS**, stronger **Micro and Small Enterprises Facilitation Councils (MSEFCs)** and time-bound mediation and arbitration. According to the **Economic Survey 2025–26**, MSMEs contribute about **31.1% of GDP, 35.4% of manufacturing output and 48.58% of exports**.

Key Features

1. MSME Classification

MSMEs are classified on the basis of **investment in plant and machinery/equipment** and **annual turnover**. The Central Government can notify the monetary thresholds instead of fixing them permanently in the Act. The current classification, effective from **1 April 2025**, is:

Category	Investment Limit	Annual Turnover Limit
Micro	Up to ₹2.5 crore	Up to ₹10 crore
Small	Up to ₹25 crore	Up to ₹100 crore
Medium	Up to ₹125 crore	Up to ₹500 crore

The 2025 revision increased investment limits by **2.5 times** and turnover limits by **2 times**.

2. Digital Registration

The amendment provides for **free and voluntary digital registration** of MSMEs. The Central Government may notify a **national digital registration platform**, while State Governments may also establish their own platforms. The existing **Udyam Registration Portal** provides free, paperless and self-declaration-based MSME registration.

3. TReDS for MSME Payments

Central Public Sector Enterprises (CPSEs) are required to settle eligible MSME invoices through the **Trade Receivables Discounting System (TReDS)**. TReDS is an **RBI-regulated electronic receivables-financing platform** that enables MSMEs to obtain finance against invoices payable by buyers. It is not a direct loan scheme of the Ministry of MSME.

4. Micro and Small Enterprises Facilitation Councils

MSEFCs deal with delayed-payment disputes involving **Micro and Small Enterprises**. They are constituted by **State Governments**, which may establish more than one council and provide them with infrastructure, digital systems and trained manpower. As of August 2026, **161 MSEFCs** had been established across States and Union Territories.

5. Time-Bound Dispute Resolution

The amendment introduces definite timelines for delayed-payment disputes. **Mediation must be completed within 90 days** from the first appearance. If mediation fails, the matter must be referred to arbitration within **30 days**, and the arbitral award must generally be made within **90 days from completion of pleadings**.

The Central Government may also establish an **Online Dispute Resolution**

mechanism. An ODR Portal for MSE delayed-payment disputes was launched in **June 2025**.

6. Challenge to MSEFC Awards

A party challenging an MSEFC award before a court must deposit **75% of the awarded amount**. Courts may release part of this amount to the MSE supplier during the pendency of the case. If the challenge continues for more than **six months**, at least **50% of the awarded amount** must be paid to the Micro or Small Enterprise supplier.

7. Decriminalisation, Penalties and Appeals

The amendment replaces criminal prosecution for certain compliance failures with **warnings and graded monetary penalties**. For wilfully furnishing incorrect information, the first contravention attracts a warning and subsequent violations may attract a penalty of **₹1,000–₹50,000**.

For failure to disclose unpaid MSME dues:

- **First contravention:** Warning
- **Second contravention:** ₹10,000–₹50,000
- **Subsequent contraventions:** ₹50,000–₹1 lakh

The minimum penalties may rise by **10% every three years**. The **Development Commissioner** acts as the adjudicating officer for specified penalties, while appeals lie before the **Secretary, Ministry of MSME**.

Conclusion

The **MSME Development (Amendment) Bill, 2026** seeks to modernise the MSMED Act, 2006 by strengthening digital registration, TReDS-based invoice settlement, MSEFCs, online dispute resolution and time-bound mediation and arbitration. Its emphasis on resolving delayed payments, improving liquidity and simplifying compliance is particularly significant for strengthening India's Micro and Small Enterprises and improving the ease of doing business.

2. Centralised Public Grievance Redress and Monitoring System – CPGRAMS

Why in News?

The **Department of Administrative Reforms and Public Grievances (DARPG)** released the **48th monthly report on CPGRAMS for States and Union Territories** for July 2026. During July 2026, States/UTs received **1,01,047 public grievances** and redressed **83,324 grievances** through the system. As of 31 July 2026, **2,33,714 grievances** were pending across States and UTs.

Background & UPSC-Relevant Facts

About

The **Centralised Public Grievance Redress and Monitoring System (CPGRAMS)** was launched in **June 2007** as a 24×7 online platform for redressal and monitoring of citizens' grievances relating primarily to **public service delivery**. It is administered by the **Department of Administrative Reforms and Public Grievances (DARPG)** under the **Ministry of Personnel, Public Grievances and Pensions**, with technological support from the **National Informatics Centre (NIC)**.

CPGRAMS should not be confused with the **Right to Information mechanism**. CPGRAMS is meant for **grievance redressal**, whereas RTI is used to obtain information from public authorities under the **Right to Information Act, 2005**..

Key Features

1. Digital Grievance Platform

CPGRAMS is a **24×7 online grievance-redressal platform** covering Central Ministries/Departments and States/UTs. Every grievance receives a **unique registration number**, through which citizens can track its status online. The platform can be accessed through the CPGRAMS portal, mobile application

and **Common Service Centres (CSCs)**. By July 2026, CPGRAMS was accessible through more than **5 lakh CSCs**, supported by around **2.5 lakh Village Level Entrepreneurs (VLEs)**.



2. Time-Bound Redressal and Appeal

The **Comprehensive Guidelines for Effective Redressal of Public Grievances, 2024** reduced the prescribed maximum grievance-redressal period from **30 days to 21 days**. If a grievance cannot be resolved within this period, an **interim reply explaining the delay** must be provided. A dissatisfied citizen can file an **appeal within 30 days**, which is handled by designated **Nodal Appellate Authorities and Sub-Appellate Authorities**.

3. Matters Outside CPGRAMS

Certain categories of complaints are not taken up under CPGRAMS. These include:

- **RTI matters**
- **Sub judice and court-related matters**
- Matters concerning judgments already delivered by courts
- **Personal and family disputes**
- Matters affecting India's **territorial integrity**
- Matters affecting **friendly relations with foreign countries**

4. BHASHINI and Samadhan Didi

CPGRAMS has been integrated with **BHASHINI**, India's AI-based language platform, to enable multilingual grievance registration and translation. The Government has also introduced **Samadhan Didi**, an **AI-powered, multilingual and voice-first chatbot**, which enables citizens to lodge grievances through voice interaction.

5. Artificial Intelligence and Machine Learning

CPGRAMS uses **Artificial Intelligence and Machine Learning-enabled systems** for better grievance processing and analysis. AI/ML applications include:

- Categorisation of grievances
- Identification of priority, repeat and spam grievances
- Geographical and trend analysis
- Semantic search
- Root-cause analysis

The Government is also developing **NextGen CPGRAMS** using AI/ML and other emerging technologies.

6. GRAI and Monitoring Mechanism

The **Grievance Redressal Assessment and Index (GRAI)** is used to assess and benchmark the grievance-redressal performance of Central Ministries and

Departments. It focuses on parameters such as **timeliness, quality of disposal, accountability and institutional performance**. DARPG also publishes monthly CPGRAMS reports, while a **Feedback Call Centre** and **Review Meeting Module** are used to collect citizen feedback and monitor grievance disposal.

7. Sevottam Scheme

The **Sevottam Scheme** is associated with improving the quality of **public service delivery** and is used for capacity building of grievance-redressal officers. Between FY 2022–23 and July 2026, **1,217 training programmes** were conducted and around **40,077 officers** were trained.

Conclusion

CPGRAMS is an important component of India's **digital governance and citizen-centric administration**, providing a common platform for grievance registration, tracking, feedback and appeal. The reduction of the redressal timeline to **21 days**, integration with **CSCs and BHASHINI**, use of **AI/ML**, introduction of **Samadhan Didi**, and performance assessment through **GRAI** have strengthened the system's accessibility, transparency and accountability.

3. Government Standardises Names of 27 Places/Features in Arunachal Pradesh

Why in News?

In August 2026, the **Government of India**, in consultation with the **Government of Arunachal Pradesh**, formally identified **27 places and geographical features in Arunachal Pradesh** by their standard names on the official maps of the **Survey of India (SoI)**. The exercise is intended to facilitate accurate identification of these geographical features and improve public awareness about their locations and names.

Background & UPSC-Relevant Facts

About

The **Survey of India (SoI)** is India's **National Survey and Mapping Organisation**, functioning under the **Department of Science and Technology (DST), Ministry of Science and Technology**. Established in **1767**, it is regarded as the **oldest scientific department of the Government of India**. It prepares and maintains official topographical maps and undertakes surveying, geodesy, photogrammetry and mapping activities.

Official geographical names are standardised to maintain uniformity across government maps, administrative records and geographical databases. In this exercise, **27 places and geographical features in Arunachal Pradesh** were formally identified and incorporated into Survey of India maps. These include **land areas, mountain passes, a lake and a monument**, and are not limited to villages or settlements.

Key Features

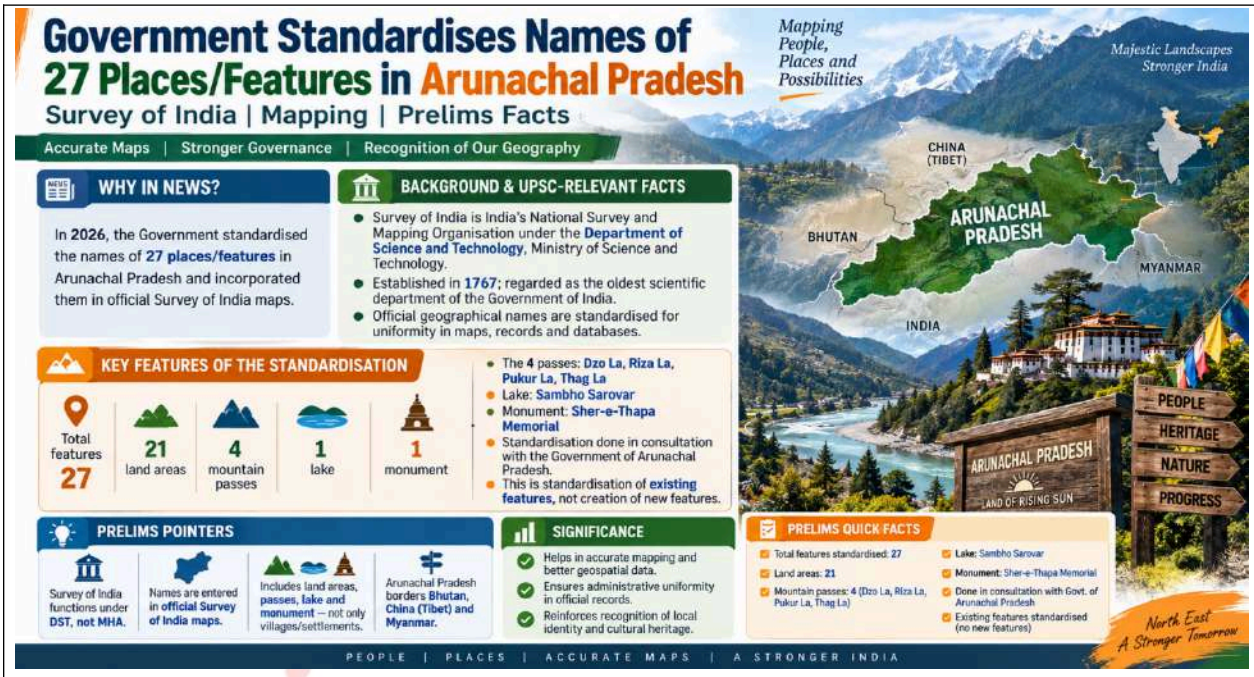
1. Composition of the 27 Features

The 27 standardised geographical features comprise four different categories:

- **21 land areas**
- **4 mountain passes**
- **1 lake**
- **1 monument**

2. Mountain Passes

The four mountain passes included in the exercise are **Dzo La, Riza La, Pukur La and Thag La**. The term **"La"** is commonly used for a mountain pass in Himalayan and Tibetan regions.



3. Lake and Monument

Sambho Sarovar is the only feature classified as a **lake**, while **Sher-e-Thapa Memorial** is the only feature classified as a **monument** among the 27 standardised names.

4. Land Areas

The **21 land areas** are:

Longju, Maja, Bisa, Bara Kundun, Chhota Kundun, Dhan Bari, Pritnagar Buddhamandir, Jairampur, Teritnagar, Ramnagar, Jaswant Garh, Sagar Padma, Jyotinagar, Baisakhi, Chhota Ropuk, Bara Ropuk, Shivaji Nagar Sunpura, Kamlang Nagar

5. Role of Survey of India

The standardised names have been incorporated into the **official maps of the Survey of India**. SoI is India's national mapping agency under the **Department of Science and Technology** and is responsible for maintaining authoritative

topographical and geographical information of the country.

6. Centre–State Consultation

The exercise was carried out by the **Government of India in consultation with the Government of Arunachal Pradesh**. It aims to ensure uniform identification of geographical features and consistency in official maps and administrative records.

7. Standardisation of Existing Features

The exercise does **not create 27 new geographical features**. It formally identifies and standardises the names of already existing geographical and cultural features on official Survey of India maps.

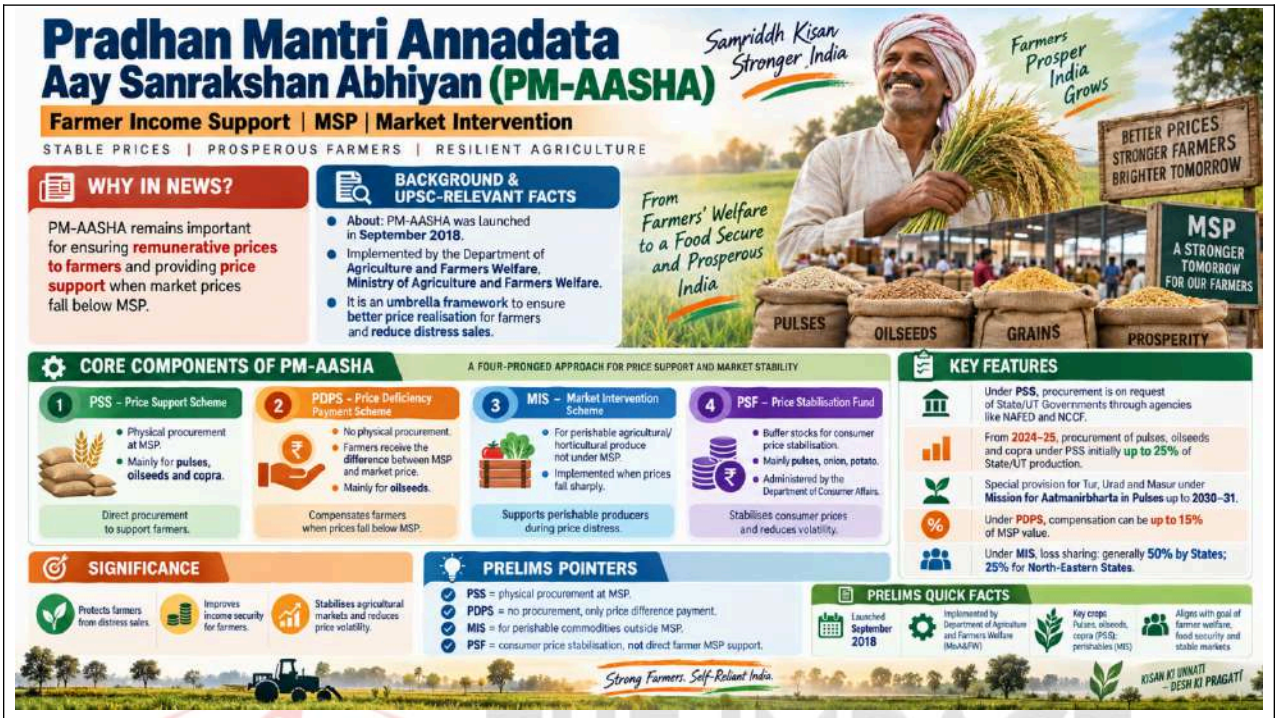
Conclusion

The formal identification of **27 places and geographical features in Arunachal Pradesh** strengthens consistency and accuracy in India's official geographical records. For UPSC Prelims, the important areas are the **Survey of India and its administrative control, the composition of the 27 features, and the names of the four passes, Sambho Sarovar lake and Sher-e-Thapa Memorial**.

4. Pradhan Mantri Annadata Aay Sanrakshan Abhiyan – PM-AASHA

Why in News?

In August 2026, the Government highlighted the progress of the **Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA)**, its flagship price-support framework for farmers. The scheme has received a **₹7,200 crore allocation for 2026–27** and has been strengthened through expanded procurement of pulses and oilseeds, Aadhaar-based farmer authentication and digital platforms such as **e-Samriddhi and e-Samyukti**. PM-AASHA seeks to strengthen implementation of **Minimum Support Price (MSP)** and prevent distress sale of agricultural produce.



Background & UPSC-Relevant Facts

About

PM-AASHA – Pradhan Mantri Annadata Aay Sanrakshan Abhiyan was launched in **September 2018** to provide remunerative prices to farmers and reduce distress sales when market prices fall below the **Minimum Support Price (MSP)**. It is implemented by the **Department of Agriculture and Farmers Welfare, Ministry of Agriculture and Farmers Welfare**, with procurement undertaken through Central nodal agencies and State/UT Governments.

PM-AASHA functions as an umbrella framework combining four mechanisms — **Price Support Scheme (PSS), Price Deficiency Payment Scheme (PDPS), Market Intervention Scheme (MIS) and Price Stabilisation Fund (PSF).** These differ in terms of commodities covered, whether physical procurement takes place and whether the objective is farmer price support or consumer price stabilisation.

Key Features

1. Price Support Scheme – PSS

Under **PSS**, notified commodities are physically procured from farmers at **MSP** when market prices fall below MSP during the harvesting season. Procurement is undertaken on the request of the concerned State/UT Government through Central Nodal Agencies such as **NAFED** and **NCCF**. Only produce meeting prescribed **Fair Average Quality (FAQ)** standards is procured from pre-registered farmers.

PSS mainly covers:

- **Pulses:** Tur/Arhar, Moong, Urad, Gram and Masur
- **Oilseeds:** Groundnut, Soybean, Sunflower, Sesamum, Niger seed, Rapeseed/Mustard and Safflower
- **Copra:** Ball copra and Milling copra

2. Procurement Limits under PSS

From the **2024–25 procurement year**, procurement under PSS is initially permitted up to **25% of the production of the concerned State/UT**, subject to prescribed national limits. Additional procurement may be approved by the Central Government.

For **Tur, Urad and Masur**, procurement from pre-registered farmers can be undertaken to the extent offered under the **Mission for Aatmanirbharta in Pulses**, which operates up to **2030–31**.

3. Price Deficiency Payment Scheme – PDPS

Under **PDPS**, there is **no physical procurement of the crop by the Government**. Farmers sell their produce in notified markets through transparent auction, and the difference between the **MSP and the selling/modal price** is paid directly to eligible farmers.

- Mainly applicable to **oilseeds**
- Payment can be up to **15% of MSP value**
- Farmer must be pre-registered
- Produce must meet prescribed FAQ standards

PSS → Physical procurement at MSP
PDPS → No physical procurement; price difference is paid

4. Market Intervention Scheme – MIS

MIS applies mainly to **perishable agricultural and horticultural commodities not covered under MSP**. It may be activated when market prices fall by at least **10% compared with the previous normal season's rates**.

Important commodities include **Tomato, Onion and Potato (TOP)** and other perishable produce. The scheme is implemented at the request of State/UT Governments to prevent distress sales during bumper production or sharp price declines.

5. Centre–State Sharing under MIS

Under MIS, losses arising from market intervention are shared between the Centre and States. State Governments generally bear **50% of the loss**, while the share of **North-Eastern States is 25%**.

The scheme also allows reimbursement of transportation and storage costs for **TOP crops — Tomato, Onion and Potato** when they are moved from producing States to consuming States.

6. Price Stabilisation Fund – PSF

The **Price Stabilisation Fund (PSF)** is aimed primarily at protecting **consumers from excessive price volatility** in essential commodities. Buffer stocks are created during periods of adequate supply and released during lean periods or sharp price increases.

Important commodities include:

- Pulses, Onion, Potato

PSF has been integrated with PM-AASHA but continues to be administered by the **Department of Consumer Affairs**.

PSS/PDPS → Farmer price protection
PSF → Consumer price stabilisation

7. Digital Authentication and Procurement

From the **2025–26 season**, farmer authentication under PSS has been made mandatory through:

- **Aadhaar-enabled Point of Sale machines**, or
- **Facial authentication through a mobile application**

Digital platforms associated with procurement include **e-Samriddhi, e-Samyukti and e-NAM**. The budget allocation for PM-AASHA for **2026–27 is ₹7,200 crore**, compared with ₹6,941.36 crore in 2025–26.

Conclusion

PM-AASHA strengthens India's MSP and agricultural price-support architecture by combining physical procurement, price-deficiency payments, market intervention and price stabilisation. Its four components — **PSS, PDPS, MIS and PSF** — should be clearly distinguished for UPSC Prelims, particularly with respect to the **crops covered, physical procurement, implementing agencies, MSP linkage and role of State Governments**.

5. 31st Southern Zonal Council Meeting

Why in News?

The **31st meeting of the Southern Zonal Council** was held on **20 August**

2026 at Mahabalipuram, Tamil Nadu, under the chairmanship of the **Union Home Minister**. The meeting brought together representatives of the southern States and Union Territories to discuss major inter-State and Centre -State issues, particularly **river-water disputes, division of assets and liabilities between Andhra Pradesh and Telangana, Fast Track Special Courts, malnutrition, school dropouts and drug abuse**.

Background & UPSC-Relevant Facts

About

Zonal Councils are statutory and advisory bodies established under **Part III of the States Reorganisation Act, 1956** to promote cooperation among States and between the Centre and States. Five Zonal Councils were created following the reorganisation of States, mainly to address inter-State issues, promote national integration and facilitate regional coordination. They are **not constitutional bodies**, and their recommendations are advisory in nature.

The idea of Zonal Councils was proposed by **Jawaharlal Nehru in 1956**. The **Southern Zonal Council** comprises **Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Telangana**, along with the Union Territories of **Puducherry, Andaman and Nicobar Islands and Lakshadweep**. The **31st meeting** was organised by the **Inter-State Council Secretariat under the Ministry of Home Affairs**, with Tamil Nadu as the host State.

Key Features

1. Five Zonal Councils

The **States Reorganisation Act, 1956** provides for five Zonal Councils:

- Northern Zonal Council
- Central Zonal Council
- Eastern Zonal Council
- Western Zonal Council

- Southern Zonal Council



The **North Eastern Council (NEC)** is separate from these five councils and functions under a different statutory framework.

2. Chairperson and Vice-Chairperson

The **Union Home Minister** is the Chairperson of every Zonal Council. The **Chief Ministers of the member States** serve as Vice-Chairperson by rotation, with each Chief Minister holding the position for **one year**.

3. Membership

Each Zonal Council includes the **Chief Minister of every member State** and **two Ministers nominated by the Governor of each State**, along with

representatives of the participating Union Territories. Union Ministers and senior officials may also be invited when specific issues require their participation.

4. Standing Committee and Secretariat

Each Zonal Council has a **Standing Committee consisting of the Chief Secretaries of the member States**, which examines issues before they are placed before the full Council. A common **Zonal Council Secretariat** has functioned from **New Delhi since 1963** under the administrative control of the **Ministry of Home Affairs**.

5. Functions of Zonal Councils

Zonal Councils discuss and make recommendations on matters of common regional interest, including:

- **Economic and social planning**
- **Inter-State border disputes**
- Issues concerning **linguistic minorities**
- **Inter-State transport**
- Matters arising from reorganisation of States
- Other Centre-State and inter-State issues

Their recommendations are **not legally binding**.

6. Major Issues at the 31st Meeting

The 31st Southern Zonal Council meeting discussed **inter-State river-water issues, division of assets and liabilities between Andhra Pradesh and Telangana, Fast Track Special Courts, school dropouts, malnutrition, stunting and drug abuse**. Andhra Pradesh and Telangana also agreed to pursue pending reorganisation-related issues in consultation with the **Ministry of Home Affairs**.

7. Inter-State Water Disputes

Southern States agreed to pursue pending water-sharing issues through dialogue involving the concerned States, **Ministry of Jal Shakti, Ministry of Home Affairs and Inter-State Council**. Zonal Councils themselves **do not adjudicate inter-State river-water disputes**; they provide a forum for consultation, coordination and negotiated settlement.

Conclusion

The **31st Southern Zonal Council Meeting** highlighted the role of Zonal Councils as institutional platforms for **cooperative federalism, inter-State coordination and negotiated settlement of regional issues**. For UPSC Prelims, the most important distinction is that Zonal Councils are **statutory advisory bodies created under the States Reorganisation Act, 1956**, chaired by the **Union Home Minister**, and should not be confused with the **constitutional Inter-State Council under Article 263**.

6. Sujalam Bharat – Digital Public Infrastructure

Why in News?

In August 2026, the **Department of Drinking Water and Sanitation (DDWS), Ministry of Jal Shakti**, issued the **Policy on Data Sharing, Interoperability and Stakeholder Access under Sujalam Bharat Digital Public Infrastructure (DPI)**. The policy creates a **secure, federated, interoperable and accountable framework** for sharing and governing rural drinking-water data among the Centre, States/UTs, Gram Panchayats, government organisations and authorised stakeholders.

Background & UPSC-Relevant Facts

About

Sujalam Bharat is a **Digital Public Infrastructure (DPI)** developed under the **Jal Jeevan Mission (JJM)** for lifecycle-based management of **Rural Piped Water**

Supply Schemes (RPWSS). It supports the shift from merely creating water infrastructure towards ensuring **reliable service delivery, operation and maintenance, water-quality monitoring and long-term sustainability**.

The **Sujalam Bharat App** was launched on **10 December 2025** with technical support from the **Bhaskaracharya National Institute for Space Applications and Geo-informatics (BISAG-N)**. It functions as a **federated digital platform**, integrating data on water sources, assets, scheme design, water quality, supply performance and community feedback through GIS mapping and interoperable databases.

Key Features

1. Federated Digital Public Infrastructure

Sujalam Bharat follows a **federated architecture**, enabling secure exchange of information among the **Department of Drinking Water and Sanitation (DDWS), States/UTs, Gram Panchayats, government organisations and authorised stakeholders**. It uses common identifiers, standardised metadata and interoperable digital registries rather than functioning as a single centralised database.

2. Sujalam Bharat ID and Sujal Gaon ID

The platform uses two distinct digital identifiers:

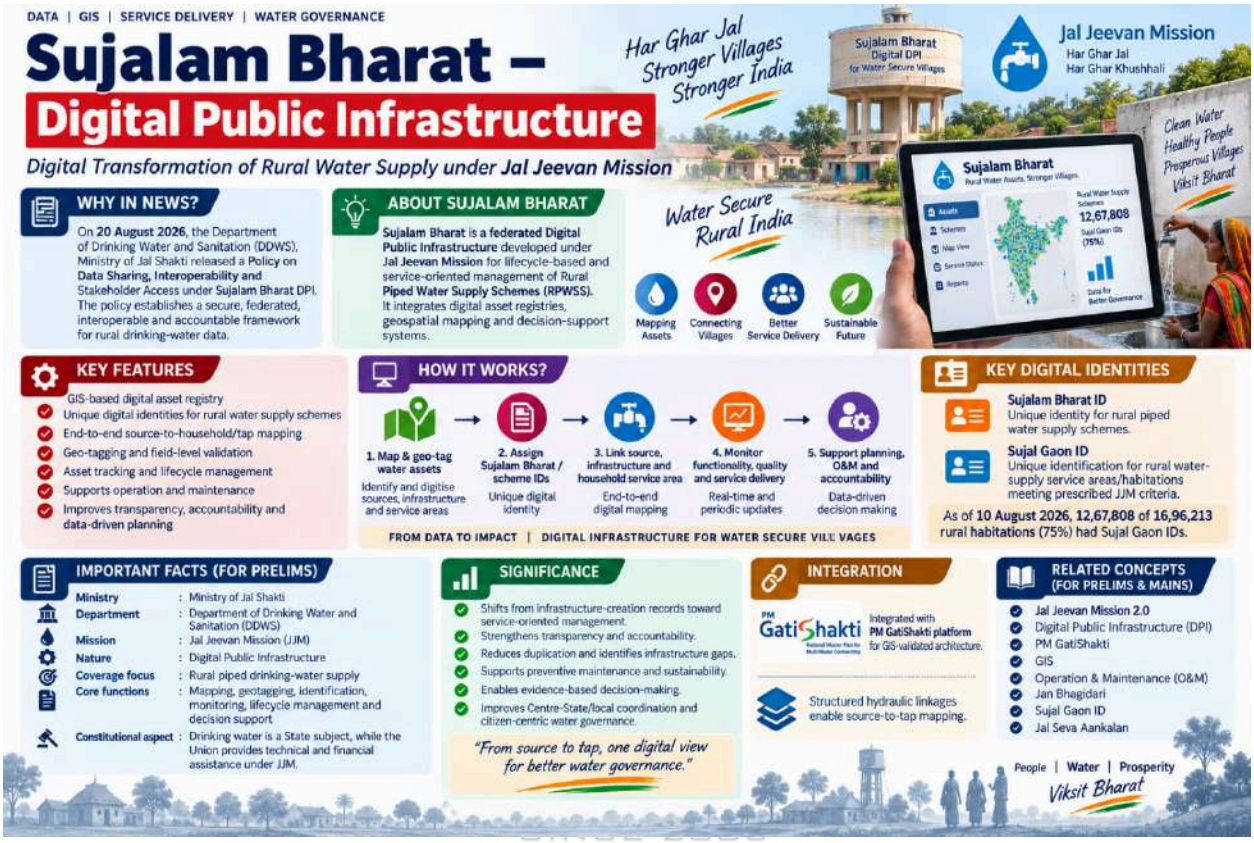
Sujalam Bharat ID – assigned to a **Rural Piped Water Supply Scheme**
Sujal Gaon ID – assigned to a **water-supply service area or habitation**

As of **10 August 2026**, Sujal Gaon IDs had been issued to **12,67,808 out of 16,96,213 rural habitations**, covering about **75%** of rural habitations.

3. Source-to-Tap Mapping

Sujalam Bharat digitally maps the entire rural water-supply chain from **water source to household tap connection**. It links information on treatment and

storage infrastructure, distribution networks, service areas, water quality, supply reliability and operation and maintenance arrangements.



4. GIS and PM GatiShakti Integration

The platform is integrated with **PM GatiShakti** and uses GIS-based mapping of rural drinking-water infrastructure. Geospatial data assists in identifying infrastructure gaps, planning network expansion, carrying out repairs, avoiding duplication of assets and improving lifecycle management of water-supply infrastructure.

5. Data and Interoperability Framework

The Sujalam Bharat database integrates information on **water sources, infrastructure assets, scheme designs, operational records, water-quality**

reports, supply metrics, maintenance history and service performance. The August 2026 data-sharing policy provides for **interoperability, data classification, cybersecurity, privacy and tiered access** based on the sensitivity of data.

6. AI and Advanced Digital Applications

Authorised stakeholders can use Sujalam Bharat data for **water-quality monitoring, predictive maintenance, geospatial planning, infrastructure management, Digital Twins, AI-based analytics and decision-support systems**. The platform therefore combines geospatial and operational data for real-time and predictive management of rural water systems.

7. Link with Jal Jeevan Mission and Panchayats

Sujalam Bharat forms part of the digital governance architecture of the **Jal Jeevan Mission, launched in 2019** to provide **Functional Household Tap Connections (FHTCs)** to rural households. It also strengthens the role of **Gram Panchayats and Village Water and Sanitation Committees (VWSCs)** in monitoring assets, service quality, citizen feedback and local operation and maintenance.

Conclusion

Sujalam Bharat provides a unified digital backbone for rural drinking-water management by integrating **unique digital IDs, GIS mapping, asset registries, interoperable datasets and decision-support systems**. Its distinction between **Sujalam Bharat IDs for water-supply schemes and Sujal Gaon IDs for service areas**, along with its integration with **Jal Jeevan Mission and PM GatiShakti**, is particularly important from the UPSC Prelims perspective.

7. PRAGATI – 53rd Meeting

Why in News?

The **53rd meeting of PRAGATI – Pro-Active Governance and Timely Implementation** was held on **25 August 2026** and chaired by Prime Minister **Narendra Modi**. The meeting reviewed **six major infrastructure projects** in the **Railway, Road and Power sectors**, spread across **nine States** with a cumulative investment of more than **₹30,000 crore**. The meeting also reviewed **AgriStack under the Digital Agriculture Mission** and issues relating to **cyber fraud and digital arrest scams**.

Background & UPSC-Relevant Facts

About

The **Electronics Components Manufacturing Scheme (ECMS)** is a **Central Sector Scheme** implemented by the **Ministry of Electronics and Information Technology (MeitY)** to strengthen domestic manufacturing of electronic components, sub-assemblies, materials and capital equipment. It was approved by the Union Cabinet in **March 2025** and formally notified on **8 April 2025**.

ECMS seeks to raise **Domestic Value Addition (DVA)**, reduce import dependence and integrate Indian manufacturers into **Global Value Chains (GVCs)**. The scheme originally had an outlay of **₹22,919 crore**, which was enhanced to **₹40,000 crore in the Union Budget 2026–27** following strong industry participation.

Key Features

1. Incentive Structure

ECMS provides three forms of fiscal incentives depending on the category of product:

- **Turnover-linked incentive** – linked to eligible sales or turnover.
- **Capital Expenditure-linked incentive** – linked to eligible investment in manufacturing facilities.

- **Hybrid incentive** – combines turnover-linked and capex-linked incentives.



A part of the incentive payout is also linked to achievement of prescribed **employment targets.**

2. Components and Sub-Assemblies Covered

Important sub-assemblies covered under ECMS include **Display Module Sub-Assemblies, Camera Module Sub-Assemblies and Optical Transceivers (SFP).** Major components include **non-SMD passive components, electro-mechanical components, multi-layer PCBs, enclosures and lithium-ion cells for digital applications.**

The Li-ion cell category under ECMS relates to **digital applications** and does

not primarily cover cells used for **electric mobility or energy-storage applications**.

3. Advanced Components

Selected advanced electronic components are eligible for **hybrid incentives**. These include:

- **High-Density Interconnect (HDI) PCBs**
- **Modified Semi-Additive Process (MSAP) PCBs**
- Flexible PCBs
- **Surface Mount Device (SMD) passive components**

4. Supply-Chain Materials and Capital Equipment

ECMS also covers upstream electronics manufacturing, including **parts, materials and capital goods** used to manufacture eligible components and sub-assemblies. These categories mainly receive **capex-linked incentives**.

Approved categories also include materials such as **anode material, rare-earth permanent magnets, acetylene black, electrolyte additives and metallised films for capacitors**.

5. Tenure and Original Targets

ECMS has a **six-year tenure**, including a **one-year gestation period**, and broadly operates from **FY 2025–26 to FY 2031–32**.

At the time of approval, the scheme envisaged:

- **Investment:** ₹59,350 crore
- **Production:** ₹4,56,500 crore
- **Additional direct employment:** 91,600 persons

6. Status as of August 2026

By August 2026, **106 projects across 15 States** had been approved under

ECMS. These projects covered around **30 electronic-domain products**, with total approved investment of **₹69,548 crore** and projected production of about **₹5.34 lakh crore**.

Expected direct employment from the approved projects stood at **74,628 persons**. The approvals also included domestic manufacturing capacities for products such as **filters, coils, speakers, acetylene black and electrolyte additives**.

7. ECMS, PLI and Semiconductor Mission

ECMS is distinct from the **PLI Scheme for Large Scale Electronics Manufacturing**. PLI primarily supports large-scale manufacture of specified finished electronic products through incentives linked to **incremental sales**, while ECMS focuses on **components, sub-assemblies, materials and capital equipment** through turnover-linked, capex-linked and hybrid incentives.

ECMS is also different from the **India Semiconductor Mission**, which focuses on areas such as **semiconductor fabrication, display fabrication, semiconductor packaging and semiconductor design**.

Conclusion

PRAGATI combines digital data management, video conferencing and geo-spatial technology to monitor major projects, programmes and systemic grievances across the Union and State governments. The **53rd PRAGATI meeting** focused on infrastructure projects worth over ₹30,000 crore, along with **AgriStack and cyber fraud**, highlighting the platform's role in technology-enabled monitoring and Centre–State coordination.

8. Digital Public Infrastructure in Land Governance

Why in News?

In August 2026, a high-level delegation from the **African Union Commission**,

officials from **Ethiopia, Malawi, Rwanda, Sierra Leone and Zambia**, and representatives of the **United Nations Development Programme (UNDP)** visited India's **Department of Land Resources (DoLR)** to study India's **Digital Public Infrastructure (DPI) for land governance**. The discussions focused on the **Digital India Land Records Modernisation Programme (DILRMP), Unique Land Parcel Identification Number (ULPIN/Bhu-Aadhaar), National Generic Document Registration System (NGDRS), Bharat Land Stack and NAKSHA** for urban land mapping.

Background & UPSC-Relevant Facts

About

India's land records have traditionally been maintained through separate **Records of Rights, cadastral maps, registration documents and revenue-court systems**. The **National Land Records Modernisation Programme (NLRMP)** was launched in **2008 as a Centrally Sponsored Scheme** and was revamped from **1 April 2016** as the **Digital India Land Records Modernisation Programme (DILRMP)**, a **Central Sector Scheme with 100% Central funding**.

DILRMP is implemented by the **Department of Land Resources, Ministry of Rural Development** through States and Union Territories. The emerging **Bharat Land Stack** seeks to integrate cadastral maps, ownership records, registration, encumbrances and revenue-court information through interoperable digital systems. **DILRMP 3.0**, covering **2026–31**, has an outlay of **₹565.50 crore**.

Key Features

1. Digital India Land Records Modernisation Programme

DILRMP forms the foundation of India's digital land-governance architecture. It covers computerisation of **Records of Rights (RoR)**, digitisation and georeferencing of cadastral maps, survey and resurvey, computerisation of registration offices, modernisation of record rooms and digitisation of

revenue courts.

By September 2026:

- **99.90% of Records of Rights** had been computerised.
- About **97% of cadastral maps** had been digitised.
- Around **99% of Sub-Registrar Offices** had been computerised.



2. DILRMP 3.0 and Bharat Land Stack

DILRMP 3.0 covers the period **2026–31** with an approved outlay of **₹565.50 crore** and continues as a **100% centrally funded Central Sector Scheme**. Its focus is on integrating land databases rather than merely digitising individual records.

The **Bharat Land Stack** is a federated, GIS-enabled framework integrating **georeferenced cadastral maps, Records of Rights, registration records, encumbrances and revenue-court cases** through common standards and

APIs. States retain control over their underlying land data.

3. ULPIN or Bhu-Aadhaar

ULPIN – Unique Land Parcel Identification Number, popularly known as **Bhu-Aadhaar**, is a **14-digit unique identifier** assigned to individual land parcels based on their geographical coordinates. It can be used for both **rural and urban land parcels** and enables different land databases to be linked to a common parcel identity.

By August 2026, more than **40.58 crore land parcels** had been assigned ULPIN. Bhu-Aadhaar identifies the **land parcel**, not the landowner.

4. ULPIN, DIGIPIN and NGDRS

ULPIN identifies a specific land parcel, while **DIGIPIN** provides a precise **geo-referenced digital address or location**. Their integration is intended to improve location-based services and interoperability.

The **National Generic Document Registration System (NGDRS)** is a common property-registration software under DILRMP based on the concept of **"One Nation, One Registration Software."** It supports online document entry, valuation, appointment scheduling, payments and property registration. NGDRS deals with **registration of documents**, while ULPIN identifies the **land parcel**.

5. NAKSHA and Urban Land Mapping

NAKSHA – National Geospatial Knowledge-based Land Survey of Urban Habitations is a GIS-based initiative under DILRMP for preparing accurate digital records of **urban land parcels**. It uses modern geospatial surveying and GIS-based parcel mapping to support land administration, town planning and infrastructure development.

Under DILRMP 3.0, NAKSHA is also intended to support the creation of **Urban Property Cards (UrPro Cards)**.

6. Registration and Revenue-Court Reforms

DILRMP 3.0 proposes upgrading **75 high-footfall Sub-Registrar Offices** into **Registration Seva Kendras**, modelled on Passport Seva Kendras. About **₹37.5 crore** has been provided for this initiative.

It also provides for a **Registration Repository** containing registered documents, transaction history and encumbrance information, along with modernisation of the **Revenue Court Case Management System (RCCMS)** for digitised and paperless handling of land disputes.

7. Georeferencing and Formal Credit

Digitisation converts physical land records into electronic form, while **georeferencing** links a land parcel or cadastral map to precise geographical coordinates. DILRMP promotes integration of spatial and textual records through GIS-based systems and ULPIN.

The Land Stack can also support **formal credit** by enabling financial institutions to verify ownership, parcel identity, registration history and encumbrances for loans and mortgages. The Department of Land Resources has also explored integration with the **RBI Innovation Hub**.

Conclusion

India's Digital Public Infrastructure for land governance integrates **DILRMP 3.0, Bharat Land Stack, ULPIN/Bhu-Aadhaar, NGDRS, NAKSHA and GIS-based land records** into an interoperable framework. It seeks to improve land identification, property registration, dispute management and access to formal financial services.

ECONOMY

1. Periodic Labour Force Survey (PLFS): Quarterly Bulletin, April–June 2026

Why in News?

The **Ministry of Statistics and Programme Implementation (MoSPI)** released the **Periodic Labour Force Survey (PLFS) Quarterly Bulletin for April–June 2026** on **10 August 2026**. The bulletin provides estimates of **Labour Force Participation Rate (LFPR), Worker Population Ratio (WPR), Unemployment Rate (UR)** and distribution of workers by employment status and industry under the **Current Weekly Status (CWS)** approach for rural and urban India.

Background & UPSC-Relevant Facts

About

The **Periodic Labour Force Survey (PLFS)** is conducted by the **National Statistics Office (NSO) under MoSPI** and is the principal official source of data on employment and unemployment conditions in India. The survey provides information on labour-force participation, employment, unemployment, status of employment and sector of work.

The PLFS methodology was revamped from **January 2025** to generate monthly labour-market indicators for both rural and urban India and quarterly estimates for both areas under the **Current Weekly Status (CWS)** framework. Earlier quarterly bulletins up to December 2024 covered only urban areas; from **April–June 2025**, quarterly estimates were extended to rural India as well.

Key Features

1. Labour Force Participation Rate – LFPR

LFPR is the percentage of persons in the population who are either **working or seeking/available for work**. For persons aged **15 years and above**, overall LFPR during April–June 2026 stood at **54.6%**, compared with **55.5%** in January–March 2026.

- **Rural LFPR:** 56.9%
- **Urban LFPR:** 50.2%
- **Overall female LFPR:** 33.2%
- **Urban male LFPR:** 75.3%



2. Worker Population Ratio – WPR

WPR is the percentage of the population that is **employed**. The overall WPR for persons aged 15 years and above was **51.7%** during April–June 2026,

compared with **52.8%** in the previous quarter.

- **Urban WPR:** 46.8%
- **Urban male WPR:** 70.7%
- **Urban female WPR:** 22.8%
- **Overall female WPR:** 31.3%

3. Unemployment Rate – UR

The **Unemployment Rate** is the percentage of unemployed persons in the **labour force**, not in the total population. Rural UR increased marginally to **4.8%** during April–June 2026 from 4.3% in the previous quarter, while urban UR remained broadly stable at **6.7%**.

- **Rural UR:** 4.8%
- **Urban UR:** 6.7%
- **Urban female UR:** 8.7%
- Rural male UR declined to **4.8%** from 5.0% in April–June 2025.

4. Employment Status

The share of **regular wage/salaried workers** increased in both rural and urban areas during April–June 2026. In rural India, their share rose from **15.5% to 16.1%**, while in urban areas it increased from **48.9% to 49.3%** compared with the previous quarter.

Thus, regular wage/salaried employment remained substantially more prevalent in **urban areas** than in rural areas.

5. Sectoral Distribution of Employment

The rural workforce remained predominantly concentrated in the **primary sector**, while the urban workforce was concentrated mainly in the **tertiary sector**. During April–June 2026, the share of rural workers engaged in agriculture declined to **52.9%** from 55.8% in the previous quarter.

- **Rural secondary sector including mining and quarrying:** 24.4%
- **Rural tertiary sector:** 22.7%
- **Urban secondary sector including mining and quarrying:** 31.9%
- **Urban agriculture:** 6.1%
- **Urban tertiary sector:** 62.0%

6. Number of Workers

Using projected population figures of the **Ministry of Health and Family Welfare**, PLFS estimated that an average of **56.6 crore persons aged 15 years and above** were employed in India during April–June 2026.

- **Male workers:** 40.2 crore
- **Female workers:** 16.4 crore

The quarterly estimates were based on a survey of **5,59,673 persons**, comprising **3,18,792 rural** and **2,40,881 urban** respondents.

7. Current Weekly Status – CWS

The April–June 2026 Quarterly Bulletin presents LFPR, WPR and UR using the **Current Weekly Status (CWS)** approach. Under CWS, a person's activity status is determined with reference to the **seven days preceding the date of survey**. Quarterly PLFS data for rural and urban India are therefore based on short-period labour-market participation rather than only long-term usual-status employment.

Conclusion

The April–June 2026 PLFS showed an overall **LFPR of 54.6% and WPR of 51.7%**, while unemployment remained higher in urban areas than in rural areas. The quarter also recorded an increase in **regular wage/salaried employment** and a rise in secondary-sector employment, alongside a decline in the rural share of agricultural employment.

2. National Credit Framework (NCrF)

Why in News?

In August 2026, the **Ministry of Education** highlighted the implementation and expansion of the **National Credit Framework (NCrF)** as part of the reforms under the **National Education Policy (NEP), 2020**. NCrF enables the assignment, accumulation, storage, transfer and redemption of credits across **school education, higher education, vocational education, skilling and experiential learning**.

Background & UPSC-Relevant Facts

About

The **National Credit Framework (NCrF)** was notified in **April 2023** as a unified credit framework aligned with **NEP 2020**. It integrates academic education, vocational education, skill training and experiential learning within a common system and seeks to establish equivalence and mobility between different forms of learning.

NCrF operates as a **single meta-framework** covering school, higher and skill education. It allows credits earned from different learning pathways to be accumulated, transferred and redeemed through the **Academic Bank of Credits (ABC)**, thereby supporting flexible learning, multiple entry and exit and Recognition of Prior Learning.

Key Features

1. Creditisation of Different Forms of Learning

NCrF permits credit assignment for **academic, vocational, skill-based and experiential learning**, subject to assessment of learning outcomes. It recognises classroom learning, practical work, internships, apprenticeships, projects, field visits, sports, performing arts, NCC and other recognised

learning activities.

It removes the rigid separation between **academic and vocational education** and between curricular and extracurricular learning.

2. Credit Calculation

Under NCrF, the standard annual learning load is **1,200 notional learning hours**, corresponding to **40 credits**. In general:

- **1 Credit = 30 notional learning hours**
- **20 Credits = 600 hours = one semester**
- **40 Credits = 1,200 hours = one academic year**

Credits are awarded only after the learner successfully achieves the prescribed learning outcomes through assessment.

3. NCrF Credit Levels

NCrF provides a common credit-level structure extending up to **Level 8**.

Class V: Level 1
Class VIII: Level 2
Class X: Level 3
Class XII: Level 4
Higher Education: Levels **4.5 to 8**
Vocational Education and Skilling: Levels **1 to 8**
PhD: Level 8

The level indicates the **complexity and learning outcomes** of a qualification and is distinct from the number of credits earned.

4. Academic Bank of Credits

The **Academic Bank of Credits (ABC)** is the digital mechanism through which credits under NCrF are **stored, accumulated, transferred and redeemed**. It is a Ministry of Education initiative and is regulated in higher education by the

University Grants Commission (UGC).

ABC enables students to move between recognised institutions and learning pathways without losing eligible credits and supports **Multiple Entry and Multiple Exit** from academic programmes.



5. Recognition of Prior Learning

NCrF provides for **Recognition of Prior Learning (RPL)**, allowing knowledge and skills acquired through work experience, informal learning, traditional occupations or other non-formal routes to be recognised and creditised after assessment.

This enables learners outside the formal education system to re-enter academic or vocational pathways at an appropriate level.

6. Flexibility and Multiple Entry–Exit

Credits accumulated under NCrF can facilitate **multiple entry and exit**, movement between academic and vocational streams and progression across institutions. The framework also permits learners to take additional courses and earn credits beyond the normal annual requirement of 40 credits.

The framework is therefore designed to support **lifelong learning and flexible educational pathways**.

7. Implementation Status

By August 2026, more than **700 universities and over 7,500 affiliated colleges** had adopted the National Credit Framework. The Academic Bank of Credits ecosystem had onboarded **3,123 institutions**, while more than **35.27 crore APAAR IDs** had been issued to enable digital tracking and use of academic credits.

Conclusion

The **National Credit Framework** creates a common credit system across **school education, higher education, vocational education, skilling and experiential learning**. Through **credit levels, the Academic Bank of Credits, Recognition of Prior Learning and multiple entry–exit**, it provides the institutional framework for flexible and transferable learning envisioned under **NEP 2020**.

3. NITI Aayog Report: Key Sectors to Position India as a Global Manufacturing Hub

Why in News?

In August 2026, **NITI Aayog** released the report **"Key Sectors to Position India as a Global Manufacturing Hub"**. The report identifies manufacturing sectors

with high potential to strengthen India's domestic production, exports, employment and participation in **Global Value Chains (GVCs)**. The first volume provides detailed analysis of **Chemicals, Textiles, Telecom & Networking Equipment and Solar PV Manufacturing.**

Background & UPSC-Relevant Facts

About

The report was prepared by the **Industry & Foreign Investment Division of NITI Aayog** in collaboration with **CRISIL Intelligence** under NITI Aayog's research framework. It seeks to identify sectors capable of supporting India's transformation into a major global manufacturing centre by **2047**, based on domestic and global market opportunities, competitiveness, employment potential and value-chain position.

India's manufacturing sector accounts for nearly **17% of Gross Value Added (GVA)**, while India's share in global manufacturing value added increased from about **1.5% in 1995 to 3.2% in 2023**. The report emphasises deeper participation in global production networks, higher domestic value addition, technological capability and export competitiveness.

Key Features

1. Twelve Priority Manufacturing Sectors

The study initially examined **62 manufacturing sectors** and shortlisted **12 high-potential sectors** based on market size and growth prospects.

Automobiles, Chemicals, Capital Goods, Electronics, Pharmaceuticals
Defence & Drones, Food Processing, Textiles, Steel, Leather & Footwear
Telecom Equipment, Solar PV Manufacturing

2. Four-Phase Assessment Framework

The report follows a **four-phase methodology**. Phase I shortlisted sectors

based on domestic and global market size and projected growth up to FY2030. Phase II assessed shortlisted sectors through **strategic alignment, operational and financial viability, and value-chain play**. Phase III benchmarked sectors against leading manufacturing countries, while Phase IV developed sector-specific recommendations based on research and stakeholder consultations.



3. Four Sectors Covered in Volume I

The first volume provides detailed analysis of four manufacturing sectors:

- **Chemicals**
- **Textiles**
- **Telecom & Networking Equipment**
- **Solar Photovoltaic Manufacturing**

The remaining **eight identified sectors** are to be covered in subsequent volumes.

4. Chemicals Sector

India's chemical industry includes **petrochemicals and organic chemicals, specialty chemicals and inorganic chemicals**. The report identifies opportunities to increase domestic value addition through downstream manufacturing, better feedstock utilisation and reduced import dependence. India's chemical industry accounted for around **3–3.5% of the global chemicals market** and ranked **sixth globally and fourth in Asia by production**.

5. Textiles Sector

The textile and apparel sector contributes about **2% of India's GDP, 11% of manufacturing GVA and 9% of merchandise exports**. It employs more than **45 million people**, making it the second-largest employment generator after agriculture. In FY2025, India exported textiles worth **USD 37.7 billion** and accounted for **4.1% of global textile and apparel exports**, ranking sixth globally.

6. Telecom and Solar PV Manufacturing

India is the world's **second-largest telecommunications market**, with more than **1.2 billion subscribers**. The report identifies localisation of components, technology transfer, industrial clusters, testing and certification as important elements of telecom manufacturing.

In solar energy, India had about **106 GW of installed solar capacity by March 2025**, against a 2030 target of **280 GW**. The domestic Solar PV market was estimated at about **₹32,400 crore (USD 3.7 billion)** and was projected to grow at **17–20% CAGR between FY2023 and FY2030**.

7. Global Value Chain Approach

The report examines India's position at different stages of manufacturing value chains and identifies opportunities for **forward and backward integration**. Its assessment includes raw-material availability, geopolitical dependencies, technology readiness, employment intensity, profitability,

capital intensity and the share of value addition at different stages of production.

A **Global Value Chain (GVC)** refers to a production system in which different stages such as design, raw-material sourcing, component manufacturing, assembly, marketing and distribution are located across different countries.

Conclusion

The NITI Aayog report identifies **12 priority manufacturing sectors** where India can expand production, increase domestic value addition and strengthen participation in global value chains. Its first volume focuses on **Chemicals, Textiles, Telecom & Networking Equipment and Solar PV Manufacturing**, using a structured assessment based on market potential, competitiveness, technology, employment and value-chain positioning.

4. Regional Rural Banks (RRBs) – Performance & Credit Growth

Why in News?

In August 2026, the **Ministry of Finance** reported strong credit growth by **Regional Rural Banks (RRBs)** during FY 2025–26. Gross loans outstanding increased by **10.3%**, from ₹5.24 lakh crore in FY 2024–25 to **₹5.78 lakh crore in FY 2025–26**. RRBs also achieved Priority Sector Lending equivalent to **91.7% of Adjusted Net Bank Credit (ANBC)** against the prescribed target of 75%.

Background & UPSC-Relevant Facts

About

Regional Rural Banks were first established on **2 October 1975** and subsequently given statutory status under the **Regional Rural Banks Act, 1976**. They were created to expand institutional credit in rural areas, particularly for **small and marginal farmers, agricultural labourers, artisans, small**

entrepreneurs and weaker sections. RRBs are regulated by the **Reserve Bank of India (RBI)** and supervised by **NABARD.**

The ownership of an RRB is shared by the **Central Government, concerned State Government and Sponsor Bank in the ratio of 50:15:35.** Under the **"One State–One RRB"** consolidation, the number of RRBs was reduced from 43 to **28 with effect from 1 May 2025.** These 28 RRBs currently operate through more than **22,000 branches** across about 700 districts.



Key Features

1. Credit Growth in FY 2025–26

Gross loans outstanding of RRBs increased from **₹5,24,163 crore in FY 2024–25 to ₹5,78,349 crore in FY 2025–26**, recording annual growth of **10.3%**. Their **Credit-Deposit Ratio** also increased from **73.4% to 75.2%**, indicating a higher proportion of deposits being deployed as credit.

2. Priority Sector Lending

RRBs have a prescribed **Priority Sector Lending (PSL) target of 75% of Adjusted Net Bank Credit (ANBC)**. During FY 2025–26, their average PSL achievement reached **91.7% of ANBC**, substantially exceeding the prescribed target. Almost all RRBs achieved the overall PSL requirement.

3. Agriculture and Farm Credit

Agriculture and allied activities remained the largest component of RRB priority-sector lending. Outstanding agricultural credit stood at about **₹3.78 lakh crore**, accounting for nearly **77% of total PSL**. Of this agricultural lending, approximately **98% constituted farm credit**, covering crop production, allied activities and agricultural investment.

4. MSME and Weaker-Section Credit

Credit to the **MSME sector** reached **₹66,978 crore**, representing **13.6% of total PSL**. More than **95% of MSME lending** was directed towards **micro enterprises**, while the services sector accounted for the largest share within the MSME portfolio. RRB credit to **weaker sections** stood at about **₹3.49 lakh crore** in FY 2025–26.

5. Financial Performance

RRBs recorded their **highest-ever consolidated net profit of ₹10,177 crore** in FY 2025–26, compared with ₹6,820 crore in the previous year. Total deposits increased to **₹7,68,621 crore**, while net worth reached **₹74,086 crore**. The **Capital to Risk-Weighted Assets Ratio (CRAR)** improved to **15.0%**.

Indicator	FY 2024–25	FY 2025–26
Deposits	₹7.14 lakh crore	₹7.69 lakh crore

Loans Outstanding	₹5.24 lakh crore	₹5.78 lakh crore
Credit-Deposit Ratio	73.4%	75.2%
Gross NPA	5.4%	5.3%
Net Profit	₹6,820 crore	₹10,177 crore
CRAR	14.4%	15.0%

6. One State–One RRB

Under the **One State–One RRB** policy, **26 RRBs across 11 States/UTs** were amalgamated with effect from **1 May 2025**, reducing the total number of RRBs from **43 to 28**. The consolidation was undertaken to improve **scale efficiency, cost rationalisation, technology adoption and operational efficiency** while retaining the rural character of RRBs.

7. Regulation and Supervision

RRBs are **regulated by the Reserve Bank of India**, while **NABARD supervises and inspects them** under **Section 35(6) of the Banking Regulation Act, 1949**. Their performance is also reviewed by the **Department of Financial Services, Ministry of Finance**, along with their respective Sponsor Banks.

Conclusion

RRBs remain an important institutional channel for **rural credit and financial inclusion**, with agriculture, micro enterprises and weaker sections forming the core of their lending portfolio. FY 2025–26 recorded **10.3% credit growth, 91.7% PSL achievement and the highest-ever consolidated net profit of ₹10,177 crore**, alongside continued consolidation under the **One State–One RRB** framework.

5. UPI – 10 Years of India's Digital Revolution

Why in News?

The **Unified Payments Interface (UPI)** completed **10 years of public operations on 25 August 2026**. Developed by the **National Payments Corporation of India (NPCI)** under the regulatory oversight of the **Reserve Bank of India (RBI)**, UPI has become India's dominant retail digital-payment system. In FY 2025–26, it processed over **24,162 crore transactions worth about ₹314 lakh crore**.

Background & UPSC-Relevant Facts

About

UPI – Unified Payments Interface is an instant, interoperable payment system developed by **NPCI** that enables users to access multiple bank accounts through a single mobile application and make **person-to-person (P2P) and person-to-merchant (P2M)** payments on a 24×7 basis. UPI was launched on a pilot basis in **April 2016 with 21 member banks** and was rolled out to the public in **August 2016**.

NPCI is the umbrella organisation for retail payment and settlement systems in India and is an initiative of the **RBI and Indian Banks' Association (IBA)** under the **Payment and Settlement Systems Act, 2007**. It is incorporated as a **not-for-profit Section 8 company** under the Companies Act, 2013.

Key Features

1. Interoperable Real-Time Payment System

UPI enables instant transfer of funds between participating bank accounts without requiring the payer and payee to use the same bank or application. It supports **24×7 transactions**, integrates fund transfers and merchant payments on a common platform and allows multiple bank accounts to be accessed through a single UPI-enabled application.

Transactions can be initiated using identifiers such as a **UPI ID/Virtual Payment Address (VPA)**, mobile-linked details, QR codes or other supported payment credentials. A **UPI PIN**, generally a 4–6 digit passcode, is used to authorise transactions.

2. NPCI–RBI Institutional Framework

UPI is **developed and operated by NPCI**, while payment-system regulation and oversight are exercised by the **Reserve Bank of India**. NPCI itself is an RBI-regulated entity and operates several retail-payment systems in addition to UPI.

Thus, **UPI is not an RBI-operated payment application**; NPCI provides the payment infrastructure under RBI's regulatory framework.

3. Growth of UPI

UPI transaction volume increased from **1.78 crore transactions in FY 2016–17 to 24,162 crore in FY 2025–26**, while transaction value rose from **₹0.07 lakh crore to about ₹314 lakh crore** during the same period. UPI accounted for around **84% of India's digital-payment transactions in FY 2025–26**.

As of **July 2026**:

- **741 banks** were live on UPI.
- Monthly transactions reached a record **2,366 crore**.

- Monthly transaction value reached about **₹29.88 lakh crore**.
- Average daily transactions in 2026 were around **66 crore**.



4. Major UPI Innovations

UPI has progressively added payment facilities for different users and transaction types. **BHIM – Bharat Interface for Money**, a UPI-based application, was launched in **December 2016**, while **UPI 2.0** was introduced in 2018.

Other important facilities include:

- **UPI AutoPay** – recurring payments through e-mandates.
- **UPI 123PAY** – UPI transactions for feature-phone users.
- **UPI Lite** – low-value payments with simplified authentication.
- **Credit Line on UPI** – permits use of pre-sanctioned credit lines.
- **UPI Circle** – allows a primary user to authorise a secondary user to make payments from the primary user's account.

5. UPI 123PAY and UPI Lite

UPI 123PAY enables feature-phone users to make UPI payments through mechanisms such as **Interactive Voice Response (IVR), missed-call-based payments, app-based functionality and proximity sound-based payments.** Its per-transaction limit was increased to **₹10,000**.

UPI Lite is designed primarily for low-value transactions. Its wallet limit was increased to **₹5,000**, with a **₹1,000 per-transaction limit**.

6. Global Expansion

UPI has expanded beyond India through merchant acceptance and cross-border payment arrangements. As of August 2026, UPI was operational for acceptance and/or cross-border remittances in **11 countries**:

United Arab Emirates, France, Bhutan, Sri Lanka, Nepal, Singapore, Mauritius, Qatar, Cambodia, Greece, Maldives

In 2025, UPI accounted for around **49% of the world's real-time payment transaction volume**, and the IMF recognised it as the world's largest real-time payment system by transaction volume.

7. UPI and BHIM – Distinction

UPI is the underlying **payment infrastructure and protocol developed by NPCI**, whereas **BHIM** is one of the mobile applications that uses the UPI infrastructure for bank-to-bank transactions. Other banks and payment service providers can similarly offer their own UPI-enabled applications.

Conclusion

In a decade, UPI has developed from a pilot involving **21 banks in 2016** into an interoperable payment system connecting **741 banks by July 2026**. Its combination of real-time bank-to-bank transfers, interoperability, feature-phone access, low-value payment options and international expansion has

made it a major component of India's **Digital Public Infrastructure.**

6. Pradhan Mantri Jan Dhan Yojana – Financial Inclusion

Why in News?

The **Pradhan Mantri Jan Dhan Yojana (PMJDY)** completed **12 years on 28 August 2026**. As of **19 August 2026**, the scheme had **59.09 crore accounts**, with deposits of about **₹3.17 lakh crore**. Women held **32.92 crore accounts**, while **45.95 crore accounts** were located in rural and semi-urban areas.

Background & UPSC-Relevant Facts

About

Pradhan Mantri Jan Dhan Yojana (PMJDY) was launched on **28 August 2014** as the **National Mission for Financial Inclusion.** It is implemented by the **Department of Financial Services, Ministry of Finance** and seeks to provide universal access to basic banking, remittances, credit, insurance and pension services, particularly to unbanked and underserved sections.

The scheme initially aimed to provide a bank account to **every household**. In **2018**, its focus was expanded to cover **every unbanked adult**. PMJDY also forms the banking component of the **JAM Trinity — Jan Dhan, Aadhaar and Mobile**, which supports Direct Benefit Transfer of government benefits.

Key Features

1. Basic Savings Bank Account

PMJDY provides a **Basic Savings Bank Deposit Account** to unbanked persons. There is **no requirement to maintain a minimum balance**, and the normal savings-bank interest rate applies. Accounts can be opened through bank branches or **Business Correspondent/Bank Mitra outlets**, and joint accounts are also permitted.

2. RuPay Debit Card and Accident Insurance

PMJDY account holders are provided a **RuPay debit card**. The card carries an in-built accident insurance cover of **₹1 lakh**, which was enhanced to **₹2 lakh for new PMJDY accounts opened after 28 August 2018**. The insurance premium is not charged to the beneficiary.

As of **19 August 2026**, **41.29 crore RuPay cards** had been issued to PMJDY account holders.

3. Overdraft Facility

Eligible PMJDY account holders can access an **overdraft facility of up to ₹10,000**. The facility is available to **one account holder per household** after satisfactory operation of the account for at least **six months**, subject to eligibility conditions.

4. Link with DBT and Social-Security Schemes

PMJDY accounts can receive **Direct Benefit Transfers (DBT)** and provide access to several financial and social-security schemes, including:

Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)
Pradhan Mantri Suraksha Bima Yojana (PMSBY)
Atal Pension Yojana (APY)
MUDRA-related credit facilities

PMJDY therefore serves as a basic banking platform connecting beneficiaries with insurance, pension and credit schemes.

5. Scale of Financial Inclusion

As of **19 August 2026**:

- Total PMJDY accounts: **59.09 crore**
- Women account holders: **32.92 crore — 55.7%**
- Rural and semi-urban accounts: **45.95 crore — 77.8%**

- Urban and metropolitan accounts: **13.14 crore**



6. Deposits under PMJDY

Total deposits in PMJDY accounts reached **₹3,16,514 crore** as of 19 August 2026. The average deposit per account stood at **₹5,356**. Deposits increased much faster than the number of accounts over the previous decade, indicating greater usage of Jan Dhan accounts.

7. Guinness World Record and JAM Trinity

In **January 2015**, PMJDY entered the **Guinness World Records** after **18,096,130 bank accounts were opened in a single week** during the financial-inclusion campaign led by the Department of Financial Services.

PMJDY is also the **"Jan Dhan" component of the JAM Trinity**, along with **Aadhaar and Mobile**, which enables direct transfer of welfare benefits into beneficiaries' bank accounts.

Conclusion

PMJDY has expanded access to **basic banking, RuPay cards, overdraft facilities, DBT, insurance and pensions** across India. By August 2026, it had crossed **59 crore accounts**, with a majority held by women and located in rural and semi-urban areas, making it a major institutional pillar of India's financial-inclusion architecture.

7. Index of Industrial Production (IIP) – July 2026

Why in News?

India's **Index of Industrial Production (IIP)** recorded **6.7% year-on-year growth in July 2026**, compared with 7.3% in June 2026. The General IIP stood at **124.8**, against 117.0 in July 2025. The July figures were released as **Quick Estimates** by the Ministry of Statistics and Programme Implementation.

Background & UPSC-Relevant Facts

About

The **Index of Industrial Production (IIP)** is a composite index that measures changes in the **volume of industrial production** over time relative to a base year. It is compiled and released by the **National Statistics Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI)**. The current series uses **2022–23 as the base year = 100**, replacing the earlier 2011–12 series.

The new IIP series was introduced in **June 2026** and expanded coverage beyond Mining, Manufacturing and Electricity to include **Gas Supply and Water Supply, Sewerage & Waste Management**. It follows **NIC 2025**, contains **463 item groups**, including 120 newly added groups, and is released every month with a time lag of about **28 days**.

Key Features

1. Sectoral Composition and Weights

The new IIP series covers four broad sectors, with **Manufacturing carrying the highest weight.** Sectoral weights are based mainly on their contribution to Gross Value Added in the base year 2022–23.

Sector	Weight (%)
Mining & Quarrying	11.053
Manufacturing	76.062
Electricity & Gas Supply	10.865
Water Supply, Sewerage & Waste Management	2.020

2. July 2026 Sectoral Performance

In July 2026, **Manufacturing grew by 7.3%**, while **Electricity & Gas Supply recorded the highest sectoral growth at 8.7%.** Water Supply, Sewerage & Waste Management grew by 7.4%, whereas Mining & Quarrying contracted by 0.9%.

Sector	July 2026 Index	YoY Growth
Mining & Quarrying	94.4	**–0.9%**
Manufacturing	127.4	**7.3%**
Electricity & Gas Supply	133.5	**8.7%**
Water Supply, Sewerage & Waste Management	148.4	**7.4%**
General IIP	**124.8**	**6.7%**

3. Manufacturing Performance

Within Manufacturing, **19 out of 23 NIC 2-digit industry groups** recorded positive growth in July 2026. The leading contributors were:

- **Electrical equipment:** 28.3%
- **Motor vehicles, trailers and semi-trailers:** 22.2%
- **Machinery and equipment n.e.c.:** 12.1%

Motor vehicles were supported by **auto components, passenger cars and commercial vehicles**, while electrical equipment growth was supported by switchgear, UPS systems and related electrical components.

4. Use-Based Classification

IIP also classifies industrial production according to the **use of goods**. The six use-based categories are:

- Primary Goods
- Capital Goods
- Intermediate Goods
- Infrastructure/Construction Goods
- Consumer Durables
- Consumer Non-Durables

In July 2026, **Capital Goods recorded the highest growth at 16.1%**, followed by Consumer Durables at 10.5% and Intermediate Goods at 10.0%. Consumer Non-Durables contracted by 1.0%.

Use-Based Category	Growth in July 2026
Primary Goods	4.1%
Capital Goods	**16.1%**
Intermediate Goods	10.0%

Infrastructure/Construction Goods	6.9%
Consumer Durables	10.5%
Consumer Non-Durables	**–1.0%**

5. Expanded Coverage in the New Series

The 2022–23 series broadened IIP coverage by including **minor minerals, rare-earth minerals, gas supply, water supply, sewerage and waste management.** It also separately measures **renewable and non-renewable electricity generation.**

The number of item groups increased from **407 in the 2011–12 series to 463 in the 2022–23 series.** The Manufacturing basket alone increased from 405 to **455 item groups.**

6. Quick Estimates and Revision

IIP **Quick Estimates are released on the 28th of every month,** or on the next working day if the 28th is a holiday. These estimates are subsequently revised when updated production data are received from source agencies. Along with the July 2026 release, the **June 2026 index underwent final revision.**

7. IIP and Index of Core Industries

IIP should be distinguished from the **Index of Core Industries (ICI).** IIP covers a much wider range of industrial production, whereas ICI tracks the performance of **eight core infrastructure industries** and is compiled separately by the **Office of Economic Adviser, DPIIT, Ministry of Commerce and Industry.** The revised ICI series also uses **2022–23 as its base year,** with its weights derived from the new IIP series.

Conclusion

India's industrial production grew by **6.7% in July 2026**, led by **Manufacturing and Electricity & Gas Supply**, while Mining recorded a marginal contraction. The new **2022–23 base-year IIP series** provides broader industrial coverage through updated weights, expanded item groups and the inclusion of gas, water supply, sewerage and waste-management activities.

8. Electronics Components Manufacturing Scheme (ECMS)

Why in News?

In August 2026, the **Ministry of Electronics and Information Technology (MeitY)** approved **31 additional proposals** under the **Electronics Components Manufacturing Scheme (ECMS)**. With these approvals, a total of **106 projects across 15 States** have been approved, involving an expected investment of **₹69,548 crore**, projected production of about **₹5.34 lakh crore** and nearly **74,628 direct jobs**. Of the approved projects, **38 plants have already commenced manufacturing**, while another 16 are in advanced stages of construction or machinery installation.

Background & UPSC-Relevant Facts

About

The **Electronics Components Manufacturing Scheme (ECMS)** is a **Central Sector Scheme** implemented by the **Ministry of Electronics and Information Technology (MeitY)** to strengthen domestic manufacturing of electronic components, sub-assemblies, materials and capital equipment. It was approved by the Union Cabinet in **March 2025** and formally notified on **8 April 2025**.

ECMS seeks to raise **Domestic Value Addition (DVA)**, reduce import dependence and integrate Indian manufacturers into **Global Value Chains (GVCs)**. The scheme originally had an outlay of **₹22,919 crore**, which was

enhanced to **₹40,000 crore in the Union Budget 2026–27** following strong industry participation.

Key Features

1. Incentive Structure

ECMS provides three forms of fiscal incentives depending on the category of product:

- **Turnover-linked incentive** – linked to eligible sales or turnover.
- **Capital Expenditure-linked incentive** – linked to eligible investment in manufacturing facilities.
- **Hybrid incentive** – combines turnover-linked and capex-linked incentives.

A part of the incentive payout is also linked to achievement of prescribed **employment targets**.

2. Components and Sub-Assemblies Covered

Important sub-assemblies covered under ECMS include **Display Module Sub-Assemblies, Camera Module Sub-Assemblies and Optical Transceivers (SFP)**. Major components include **non-SMD passive components, electro-mechanical components, multi-layer PCBs, enclosures and lithium-ion cells for digital applications**.

The Li-ion cell category under ECMS relates to **digital applications** and does not primarily cover cells used for **electric mobility or energy-storage applications**.

3. Advanced Components

Selected advanced electronic components are eligible for **hybrid incentives**. These include:

- **High-Density Interconnect (HDI) PCBs**

- **Modified Semi-Additive Process (MSAP) PCBs**
- Flexible PCBs
- **Surface Mount Device (SMD) passive components**



4. Supply-Chain Materials and Capital Equipment

ECMS also covers upstream electronics manufacturing, including **parts, materials and capital goods** used to manufacture eligible components and sub-assemblies. These categories mainly receive **capex-linked incentives.**

Approved categories also include materials such as **anode material, rare-earth permanent magnets, acetylene black, electrolyte additives and metallised films for capacitors.**

5. Tenure and Original Targets

ECMS has a **six-year tenure**, including a **one-year gestation period**, and broadly operates from **FY 2025–26 to FY 2031–32**.

At the time of approval, the scheme envisaged:

- **Investment:** ₹59,350 crore
- **Production:** ₹4,56,500 crore
- **Additional direct employment:** 91,600 persons

6. Status as of August 2026

By August 2026, **106 projects across 15 States** had been approved under ECMS. These projects covered around **30 electronic-domain products**, with total approved investment of **₹69,548 crore** and projected production of about **₹5.34 lakh crore**.

Expected direct employment from the approved projects stood at **74,628 persons**. The approvals also included domestic manufacturing capacities for products such as **filters, coils, speakers, acetylene black and electrolyte additives**.

7. ECMS, PLI and Semiconductor Mission

ECMS is distinct from the **PLI Scheme for Large Scale Electronics Manufacturing**. PLI primarily supports large-scale manufacture of specified finished electronic products through incentives linked to **incremental sales**, while ECMS focuses on **components, sub-assemblies, materials and capital equipment** through turnover-linked, capex-linked and hybrid incentives.

ECMS is also different from the **India Semiconductor Mission**, which focuses on areas such as **semiconductor fabrication, display fabrication, semiconductor packaging and semiconductor design**.

Conclusion

The **Electronics Components Manufacturing Scheme** represents India's shift

from electronics assembly towards deeper domestic manufacturing of **components, sub-assemblies, materials and capital equipment**. By combining turnover-linked, capex-linked and hybrid incentives, ECMS seeks to increase domestic value addition, reduce import dependence and integrate Indian manufacturers into global electronics value chains.

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INTERNATIONAL RELATIONS

1. India–Uzbekistan Relations: Centuries-old Historical, Cultural & Civilizational Ties

Why in News?

In August 2026, **Uzbekistan's Foreign Minister Bakhtiyor Saidov** met Lok Sabha Speaker **Om Birla** in New Delhi. The discussions focused on parliamentary cooperation, trade and investment, education, culture and regional and global issues. The **India–Uzbekistan Parliamentary Friendship Group**, constituted in **March 2026**, was also highlighted as an important mechanism for strengthening bilateral parliamentary engagement.



Background

India and Uzbekistan share historical links extending through the **ancient Silk Route**, which facilitated movement of traders, ideas, religions and cultural influences between India and Central Asia. Parts of India and Central Asia were connected during the **Kushan period**, while Buddhism travelled from India into Central Asia. Later interactions contributed to shared

influences in **architecture, language, cuisine, music and art.**

India was among the early countries to recognise Uzbekistan after its independence following the dissolution of the Soviet Union. Diplomatic relations were formally established on **18 March 1992**, and the two countries established a **Strategic Partnership in 2011**. Bilateral cooperation now covers political relations, defence and security, trade, investment, technology, education and cultural exchanges.

Key Features

1. Historical and Cultural Links

India and Uzbekistan were connected through the **Silk Route**, while Buddhism and other cultural influences travelled between the Indian subcontinent and Central Asia. The region also influenced Indian **architecture, cuisine, language and artistic traditions**. The historical association continued during the Mughal period and later through cultural exchanges with cities such as **Samarkand, Bukhara and Tashkent**.

2. Strategic Partnership

India–Uzbekistan relations were elevated to a **Strategic Partnership in 2011**. Cooperation encompasses **political and strategic affairs, defence, security, trade, investment, energy, agriculture, science and technology, education and people-to-people contacts**. The two countries also maintain institutional mechanisms such as Foreign Office Consultations and the Inter-Governmental Commission on Trade, Economic, Scientific and Technical Cooperation.

3. Parliamentary Cooperation

The **India–Uzbekistan Parliamentary Friendship Group** was constituted in **March 2026** to strengthen contacts between the legislatures of the two countries. Parliamentary cooperation also takes place through international

forums such as the **Inter-Parliamentary Union (IPU)**. Tashkent hosted the **150th Assembly of the IPU in April 2025**.

4. Defence and Security Cooperation

India and Uzbekistan cooperate in **counter-terrorism, military training, capacity building and defence exchanges**. Their joint military exercise is known as **DUSTLIK**, first conducted in **2019**. The latest edition was held in the **Namangan Region of Uzbekistan in April 2026**. The two sides also maintain Joint Working Groups on military cooperation and counter-terrorism.

5. Trade, Investment and Technology

Major areas of economic cooperation include **pharmaceuticals, automobiles and components, textiles, agriculture and food processing, IT, healthcare, mining and energy**. India has also supported the development of Uzbekistan's IT ecosystem; the **IT Park in Tashkent**, established in 2019, was developed with support from the **Software Technology Parks of India (STPI)**.

6. Education and Cultural Cooperation

The **Lal Bahadur Shastri Centre for Indian Culture in Tashkent**, run by the **Indian Council for Cultural Relations (ICCR)**, promotes **Hindi, Yoga, Kathak and Tabla**. Uzbek nationals also receive training under India's **Indian Technical and Economic Cooperation (ITEC)** programme and ICCR scholarships. Indian films, music and cultural traditions remain popular in Uzbekistan.

7. Regional and Multilateral Cooperation

India and Uzbekistan cooperate through the **Shanghai Cooperation Organisation (SCO)** and the **India–Central Asia Dialogue**. Uzbekistan participated in the **first India–Central Asia Summit in January 2022**. Cooperation within these mechanisms covers connectivity, counter-terrorism, trade, digital technologies, energy, Afghanistan and regional security.

Conclusion

India–Uzbekistan relations combine **ancient Silk Route and civilizational links with a modern strategic partnership**. Cooperation has expanded across defence, trade, technology, education, culture and regional security, while mechanisms such as the **Strategic Partnership, DUSTLIK exercise, India–Central Asia Dialogue and Parliamentary Friendship Group** provide an institutional basis for bilateral engagement.

2. EU Carbon Border Adjustment Mechanism (CBAM)

Why in News?

In August 2026, the **Department of Commerce, Ministry of Commerce and Industry**, along with the **National Accreditation Board for Certification Bodies (NABCB)** and the **Engineering Export Promotion Council (EEPC)**, organised an awareness session for Indian exporters on the **European Union's Carbon Border Adjustment Mechanism (CBAM)**. The mechanism entered its **definitive phase on 1 January 2026**, bringing financial obligations linked to the embedded carbon emissions of specified imports into the EU.

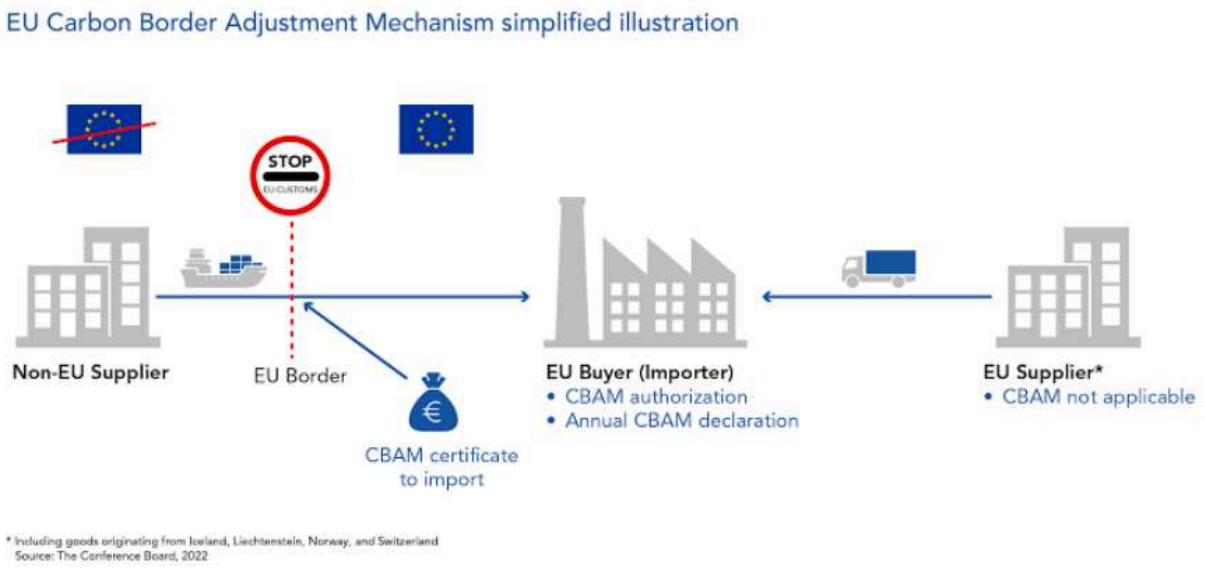
Background

About

The **Carbon Border Adjustment Mechanism (CBAM)** is the European Union's carbon-pricing mechanism for selected carbon-intensive goods imported from non-EU countries. It was established through **EU Regulation 2023/956** and complements the **EU Emissions Trading System (EU ETS)** by seeking to place a carbon cost on imported goods comparable to that faced by producers within the EU.

CBAM also seeks to address **carbon leakage**, which occurs when production shifts from jurisdictions with stricter climate policies to countries with weaker carbon constraints. Its transitional phase operated from 1

October 2023 to 31 December 2025, during which importers primarily reported embedded emissions. The definitive regime began on **1 January 2026**.



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Key Features

1. Sectors Covered

CBAM currently applies to imports of selected goods and precursors from six carbon-intensive sectors:

- **Cement, Iron and Steel, Aluminium, Fertilisers, Electricity, Hydrogen**

These sectors were selected because of their relatively high carbon emissions and exposure to the risk of carbon leakage.

2. Authorised CBAM Declarant

Under the definitive regime, eligible EU importers or their **indirect customs representatives** must obtain the status of an **authorised CBAM declarant**. They are responsible for reporting the quantity of CBAM goods imported,

their embedded greenhouse-gas emissions and the corresponding number of CBAM certificates to be surrendered.

3. CBAM Certificates and EU ETS Linkage

The carbon cost under CBAM is paid through **CBAM certificates**, whose price is linked to the auction price of allowances under the **EU Emissions Trading System**. For **2026**, certificate prices are calculated using the **quarterly average EU ETS auction price**, while from 2027 they are calculated on a weekly basis.

CBAM is being phased in alongside the gradual withdrawal of free EU ETS allowances for corresponding sectors, with the transition continuing up to **2034**.

4. 50-Tonne De Minimis Threshold

From 2026, a **50-tonne annual cumulative import threshold per importer** applies to CBAM goods in the **cement, iron and steel, aluminium and fertiliser sectors**. Importers remaining below this threshold are generally exempt from CBAM obligations.

The 50-tonne exemption does **not apply to electricity and hydrogen**; importers of these products remain subject to the relevant CBAM requirements irrespective of this mass threshold.

5. Embedded Emissions

CBAM is based on the **embedded greenhouse-gas emissions generated during the production of imported goods**. Importers must declare these emissions using prescribed methodologies, verified data or permitted default values.

The mechanism therefore applies to the carbon intensity of production rather than functioning as a conventional customs tariff based solely on the monetary value of imported goods.

6. Carbon Price Paid in Country of Origin

Where a carbon price has already been effectively paid in the exporting country for the relevant embedded emissions, the authorised CBAM declarant may claim a **reduction in the number of CBAM certificates to be surrendered.**

This provision links CBAM with domestic carbon-pricing systems outside the EU and avoids charging the full EU-equivalent carbon cost where an eligible carbon price has already been paid.

7. CBAM and India

CBAM is particularly relevant to Indian exporters of **iron and steel and aluminium**, which were specifically covered in the Government of India's August 2026 exporter-awareness programme. Indian firms exporting covered products to the EU must provide emissions-related information required by their EU importers and comply with applicable monitoring and verification requirements.

India is also developing its domestic carbon-market framework through the **Carbon Credit Trading Scheme (CCTS)** and greenhouse-gas emission-intensity targets for carbon-intensive industries.

Conclusion

The **EU Carbon Border Adjustment Mechanism** links international trade with carbon pricing by imposing an EU ETS-linked carbon cost on selected carbon-intensive imports. Since **1 January 2026**, CBAM has moved from reporting-only requirements to its definitive regime, covering **cement, iron and steel, aluminium, fertilisers, electricity and hydrogen** and making embedded emissions increasingly important in market access to the European Union.

3. India's Drought Resilience – UNCCD COP17

Why in News?

At the **17th Conference of the Parties (COP17) to the United Nations Convention to Combat Desertification (UNCCD)** in **Ulaanbaatar, Mongolia**, India called for a shift from **reactive drought response to proactive drought resilience**. At the Ministerial Dialogue on **"Accelerating Drought Resilience"** on 25 August 2026, India highlighted early-warning systems, watershed development, land restoration, groundwater recharge, crop insurance and community-based measures as key elements of its drought-management approach.

Background

The **United Nations Convention to Combat Desertification (UNCCD)** was adopted in **1994** and is the only legally binding international agreement specifically linking environment and development with **sustainable land management**. It has **197 Parties**, including 196 countries and the European Union, and its permanent Secretariat is located in **Bonn, Germany**. UNCCD addresses **desertification, land degradation and drought (DLDD)**.

UNCCD COP17 was held from **17–28 August 2026 in Ulaanbaatar, Mongolia**, under the theme **"Restoring Land. Restoring Hope."** It focused on land restoration, drought resilience, water security, rangelands, food systems and sustainable land management. UNCCD is one of the three **Rio Conventions**, alongside the **UNFCCC** and the **Convention on Biological Diversity (CBD)**.

Key Features

1. From Drought Response to Drought Resilience

India advocated treating drought as a **predictable and preventable risk** rather than only as a recurring disaster. Its approach combines **early warning, preparedness, mitigation, relief and community resilience**, with rainfall monitoring and satellite-based drought assessments used to trigger action at Union and State levels.

2. Land–Water Management

India highlighted the close relationship between **land restoration and water security**. Major measures include **catchment and riverscape forestry, groundwater recharge, revival of traditional water bodies, spring rejuvenation and watershed development**. In rain-fed areas, watershed programmes follow a **ridge-to-valley approach** for soil and water conservation.



3. Agriculture and Crop Resilience

India's drought-resilience framework includes **climate-resilient crops, water harvesting, afforestation and crop insurance**. Crop-insurance mechanisms

protect farmers against drought, dry spells and other non-preventable crop losses, while schemes such as **PMKSY, WDC-PMKSY and climate-resilient agriculture programmes** strengthen adaptation in vulnerable agricultural areas.

4. Land Restoration Commitments

India has committed under the **Bonn Challenge** to restore **26 million hectares of degraded and deforested land by 2030**. According to India's Second Progress Report, **21.76 million hectares** were brought under restoration during **2011–2020**, generating about **1.22 billion person-days of employment**. Restoration covers forests, agricultural land, soil and water conservation and other land-use systems.

5. Land Degradation Neutrality

UNCCD implementation is closely linked with **SDG Target 15.3**, which calls for combating desertification, restoring degraded land and striving to achieve a **land degradation-neutral world by 2030**. UNCCD uses indicators relating to **land cover, land productivity and soil organic carbon stocks** for monitoring land degradation.

6. Financing Drought Resilience

At COP17, India called for **adequate, predictable and sustained international finance** for land restoration and drought resilience. India highlighted financing instruments such as **Sovereign Green Bonds, blended green finance and the Green Credit Programme** for supporting afforestation, sustainable land use, biodiversity conservation and restoration activities.

7. Community-Based and Rangeland Restoration

India emphasised community participation in restoring **grasslands, rangelands and degraded landscapes**. Its approach includes watershed development, sustainable grazing, fodder development and recognition of local community rights. India also highlighted around **25,000 community-**

protected sacred groves, covering approximately **0.6 million hectares**, as examples of traditional community stewardship.

Conclusion

At **UNCCD COP17**, India presented drought resilience as an integrated issue of **land, water, agriculture, livelihoods and climate adaptation**. Its approach combines early-warning systems, watershed management, land restoration, crop insurance, community participation and innovative finance, while aligning with the broader UNCCD objective of achieving **Land Degradation Neutrality by 2030**.

4. India–Chile Comprehensive Economic Partnership Agreement (CEPA)

Why in News?

In August 2026, India and Chile advanced negotiations for the proposed **Comprehensive Economic Partnership Agreement (CEPA)** during discussions between India's Commerce Secretary and Chile's Vice-Minister of International Economic Relations in **Santiago**. Both countries reiterated their intention to conclude negotiations by the **end of 2026**, with cooperation focusing on trade, investment, technology, critical minerals and resilient supply chains.

Background

India and Chile already have a **Preferential Trade Agreement (PTA)**, signed on **8 March 2006** and brought into force in **September 2007**. An expanded PTA was signed in **September 2016** and became effective on **16 May 2017**, increasing its coverage from about **474 tariff lines to 2,829 tariff lines**.

The proposed CEPA seeks to expand this limited tariff-based arrangement into a broader economic agreement covering **goods, services, investment, digital trade, MSMEs, critical minerals and Global Value Chains**. The **Terms of**

Reference (ToR) were signed on **8 May 2025**, and the first round of negotiations was held in New Delhi from **26–30 May 2025**.

Key Features

1. Existing India–Chile PTA

Under the expanded PTA, **India provides tariff concessions on 1,031 tariff lines**, while **Chile provides concessions on 1,798 tariff lines**. India's concessions cover products such as chemicals, pharmaceuticals, copper ores, iron and steel products and certain agricultural goods, while Chile's concessions include pharmaceuticals, textiles, machinery, chemicals and metal products.

2. Scope of the Proposed CEPA

The CEPA negotiations extend beyond tariff reductions in goods. The first round covered **17 thematic tracks**, including:

- Trade in Goods and Services
- Movement of Natural Persons
- Rules of Origin
- SPS and Technical Barriers to Trade
- Customs and Trade Facilitation
- Investment Promotion
- MSMEs
- Intellectual Property Rights
- Critical and Strategic Minerals
- Global Value Chains and Sustainable Development

3. Critical Minerals Cooperation

Critical and strategic minerals form a separate negotiating area under the CEPA. Chile is an important source of mineral commodities for India, including **copper ores and concentrates, copper cathodes, molybdenum**

ores and lithium compounds. Cooperation in minerals is therefore linked with India's requirements in **electronics, renewable energy, batteries and manufacturing supply chains**.

4. Trade Profile

Chile is among India's major trading partners in the **Latin America and Caribbean (LAC) region**. In **2024**, bilateral trade stood at about **US$3.84 billion**, comprising Chilean exports to India of about **US$2.60 billion** and Indian exports to Chile of about **US$1.24 billion**.

India mainly exports **automobiles, pharmaceuticals, chemicals, iron and steel products, textiles, auto components, electrical machinery and leather products** to Chile. India's imports are dominated by mineral and resource-based products, particularly copper-related commodities.

5. Negotiation Timeline

The **Joint Study Group report** examining a deeper trade agreement was finalised on **30 April 2024**. The CEPA Terms of Reference were signed on **8 May 2025**, followed by the first negotiating round in May 2025. The **fourth round** concluded on **5 December 2025**, and negotiations continued through 2026, with both sides targeting conclusion by the end of the year.

6. PTA and CEPA – Difference

A **Preferential Trade Agreement (PTA)** generally provides tariff concessions on a **limited number of products** between participating countries. A **CEPA** is broader and can cover **trade in goods, services, investment, intellectual property, movement of professionals, digital trade and economic cooperation**.

The proposed India–Chile CEPA therefore seeks to **build upon and deepen the existing PTA**, rather than beginning the bilateral trade relationship from scratch.

7. Wider Economic Cooperation

The CEPA is intended to expand cooperation in **healthcare, pharmaceuticals, energy, minerals, agriculture, machinery and engineering**. It also seeks to promote **technology cooperation, investment flows, movement of talent and resilient supply chains** between India and Chile.

Conclusion

The proposed **India–Chile CEPA** represents an effort to upgrade the existing **2006 PTA** into a wider economic partnership covering goods, services, investment and strategic sectors. The negotiations are particularly important for **critical minerals, pharmaceuticals, engineering, digital services and Global Value Chains**, while retaining the existing PTA as the foundation of bilateral trade relations.

5. India–Japan Cooperation in Semiconductors & Artificial Intelligence

Why in News?

In August 2026, India and Japan held a high-level **Semiconductors and Artificial Intelligence Roundtable in Tokyo**, chaired by India's Commerce and Industry Minister, with participation from leading Indian and Japanese companies. Discussions focused on **semiconductor materials and equipment, power semiconductors, electronics, AI, investment and technology partnerships**, building on existing India–Japan digital and semiconductor cooperation frameworks.

Background

India and Japan established the **Japan–India Semiconductor Supply Chain Partnership** through a Memorandum of Cooperation between India's **Ministry of Electronics and Information Technology (MeitY)** and Japan's **Ministry of Economy, Trade and Industry (METI)** in **July 2023**. It focuses on

developing a resilient semiconductor supply chain, research, manufacturing, skills and greater cooperation between industries and institutions of the two countries.

The bilateral digital partnership was upgraded through the **Japan–India Digital Partnership 2.0 in August 2025**, making **semiconductors, Artificial Intelligence and Digital Public Infrastructure** major areas of cooperation. In 2026, the two countries further institutionalised AI cooperation through the **First India–Japan AI Strategic Dialogue** and a **Joint Statement on Cooperation in Artificial Intelligence**.

Key Features

1. Semiconductor Supply Chain Partnership

The **Japan–India Semiconductor Supply Chain Partnership**, established in **2023**, covers cooperation in semiconductor manufacturing, research, investment, human-resource development and supply-chain resilience. It brings together **MeitY of India and METI of Japan** and seeks to combine Japan's strengths in semiconductor technology and manufacturing equipment with India's expanding electronics and chip ecosystem.

2. Japan–India Digital Partnership 2.0

The **Japan–India Digital Partnership 2.0**, signed in **August 2025**, expanded the original Digital Partnership established in 2018. Its major areas include:

- **Semiconductor ecosystem**
- Artificial Intelligence
- Digital Public Infrastructure
- Digital talent
- Start-ups and digital enterprises
- High-performance computing and quantum technologies
- Cybersecurity and future communication networks

It also promotes investment, research collaboration and development of

resilient semiconductor supply chains.

3. Artificial Intelligence cooperation

The **First India–Japan AI Strategic Dialogue** was held in **Mumbai on 21 April 2026**. It was co-chaired by officials from India's **Ministry of External Affairs** and Japan's **Ministry of Foreign Affairs**, creating a dedicated bilateral mechanism for cooperation in Artificial Intelligence.

A **Joint Statement on Cooperation in the Field of Artificial Intelligence** was subsequently announced in **July 2026**, elevating bilateral engagement towards a strategic research and development partnership in AI.



4. AI Talent and Joint Research

India and Japan have set a goal of facilitating the movement of **500 highly skilled AI professionals from India to Japan by 2030**. Cooperation also covers **joint research, AI talent development, computing resources, machine-learning models, AI applications and data governance.**

The two countries also cooperate on AI through multilateral platforms such as the **Global Partnership on Artificial Intelligence (GPAI), Hiroshima AI Process Friends Group and United Nations mechanisms.**

5. Semiconductor Talent Development

The bilateral framework promotes development of skilled human resources for the semiconductor industry through **educational programmes, internships, industry–university cooperation and job fairs**. Japanese companies are encouraged to provide semiconductor-related training and educational programmes to Indian universities.

6. India Semiconductor Mission Linkage

India–Japan cooperation complements the **India Semiconductor Mission (ISM)**, launched with an approved outlay of **₹76,000 crore** to develop semiconductor fabrication, packaging, chip design and related ecosystems in India. Japanese participation is particularly relevant in areas such as **semiconductor materials, manufacturing equipment, power semiconductors and advanced electronics.**

7. Complementary Strengths

India contributes a large pool of **engineering and digital talent, growing semiconductor demand and expanding electronics manufacturing**, while Japan possesses established capabilities in **semiconductor materials, precision equipment, advanced manufacturing and industrial technology**. The bilateral framework therefore focuses on combining these complementary strengths across **R&D, manufacturing, investment, skills and resilient supply chains**.

Conclusion

India–Japan cooperation in **semiconductors and Artificial Intelligence** is anchored in the **Semiconductor Supply Chain Partnership, Japan–India Digital Partnership 2.0 and India–Japan AI Strategic Dialogue**. The advanced-technology cooperation an important component of the **India–Japan Special Strategic and Global Partnership**.

ECOLOGY AND ENVIRONMENT

1. India Achieves 300 GW Non-Fossil Fuel Power Capacity

Why in News?

India crossed **300 GW of non-fossil fuel-based installed electricity generation capacity** as of **31 July 2026**. The total non-fossil capacity reached **300.50 GW**, accounting for **over 54% of India's total installed power capacity of around 552 GW**. This represents more than **60% of India's target of 500 GW non-fossil fuel capacity by 2030**.

Background

Non-fossil fuel-based power capacity includes electricity-generation sources that do not depend on coal, oil or natural gas. In India, this category includes **solar, wind, large and small hydropower, bio-power and nuclear power**. Solar power currently forms the largest component of India's non-fossil installed capacity.

India's updated **Nationally Determined Contribution (NDC)** commits to achieving about **50% of cumulative installed electric-power capacity from non-fossil fuel sources by 2030**. India crossed this 50% milestone in **June 2025**, more than five years ahead of schedule. Separately, under the **Panchamrit commitments announced at COP26**, India aims to achieve **500 GW of non-fossil fuel capacity by 2030** and **Net Zero emissions by 2070**.

Key Features

1. Non-Fossil Capacity Break-up

As of **31 July 2026**, India's total non-fossil fuel capacity stood at **300.50 GW**.

- **Solar Power:** 164.59 GW
- **Wind Power:** 58.14 GW

- **Hydro Power – Large & Small:** 57.24 GW
- **Bio-power:** 11.75 GW
- **Nuclear Power:** 8.78 GW

2. Solar Power

Solar power is the **largest component of India's non-fossil capacity**, reaching **164.59 GW** by July 2026, compared with only about **2.8 GW in 2014**. During FY 2025–26 alone, India added around **44.6 GW of solar capacity**.

Domestic solar manufacturing has also expanded, with enlisted capacity under the **Approved List of Models and Manufacturers (ALMM)** for solar PV modules crossing **200 GW**.

3. Wind, Hydro and Bio-power

Wind capacity reached **58.14 GW**, while total hydropower capacity, including both large and small hydro, stood at **57.24 GW**. Bio-power contributed another **11.75 GW** to India's non-fossil power capacity.

India ranks **fourth globally in installed wind-power capacity**, while hydropower provides flexible generation and supports grid stability as variable renewable sources such as solar and wind expand.

4. Nuclear Power

Nuclear power is included within India's **non-fossil fuel capacity**, although it is not generally classified as renewable energy. India had **8.78 GW of installed nuclear capacity** as of July 2026.

India has also set a longer-term target of reaching **100 GW of nuclear power capacity by 2047**.

5. 500 GW Target for 2030

India aims to reach **500 GW of non-fossil fuel-based installed electricity capacity by 2030**, a commitment announced as part of the **Panchamrit** at

COP26 in Glasgow. The 300.50 GW achieved by July 2026 represents over **60% of this target**.

During FY 2025–26, India added a record **55.29 GW of non-fossil capacity**, including about **44.6 GW solar and 6 GW wind**.

6. Installed Capacity and Electricity Generation

Installed capacity refers to the maximum rated generating capacity of power plants and should not be confused with the **actual electricity generated**. Although non-fossil sources account for over **54% of installed capacity**, their share in actual electricity generation can be different because solar and wind are variable sources and have different capacity factors from thermal and nuclear plants.

Renewable electricity generation increased from **190.96 billion units in 2014–15 to 477.79 billion units in 2025–26**.

7. India's Energy Transition

Expansion of non-fossil capacity is supported by programmes and policies covering **solar manufacturing, rooftop solar, wind energy, hydropower, energy storage and green hydrogen**. The **National Green Hydrogen Mission**, approved in 2023 with an outlay of **₹19,744 crore**, targets production of **5 million metric tonnes of green hydrogen annually by 2030**.

Conclusion

India's achievement of **300.50 GW of non-fossil installed power capacity** marks a major milestone in its energy transition. With **solar, wind, hydro, bio-power and nuclear energy** together accounting for more than half of installed electricity capacity, India has crossed its NDC-based 50% milestone ahead of schedule and is progressing towards the **500 GW non-fossil capacity target for 2030**.

2. Asiatic Lion Population Rises to 891

Why in News?

On **World Lion Day – 10 August 2026**, the Ministry of Environment, Forest and Climate Change highlighted the recovery of India's **Asiatic Lion population**, which increased from **523 in 2015 to 891 in 2025**. The latest estimate represents a rise of **217 lions or 32.2% from 674 in 2020**.

Background

The **Asiatic Lion (Panthera leo persica)** survives in the wild in India's **Greater Gir Landscape in Gujarat**. Historically, the species had a much wider distribution across West and South Asia, but its present wild population is concentrated in Gujarat. The **16th Asiatic Lion Population Estimation** was conducted by the **Gujarat Forest Department in May 2025**, recording **891 lions**.

The Asiatic Lion receives high legal protection under **Schedule I of the Wildlife (Protection) Act, 1972** and **Appendix I of CITES**. Government sources identify it as **Endangered** under the IUCN Red List. **Project Lion**, announced on **15 August 2020**, provides a long-term framework for habitat protection, population management, corridor conservation and scientific monitoring of the species.

Key Features

1. Population Growth

The Asiatic Lion population increased from **523 in 2015 to 674 in 2020 and 891 in 2025**. Between 2020 and 2025, the population increased by **32.20%**, while the increase over the decade from 2015 to 2025 was about **70.36%**.

2. Expansion of Lion Range

The distribution of Asiatic Lions is no longer confined only to the Gir protected forests. Lions have expanded into **notified forests, river corridors, coastal areas and revenue wastelands** across the Greater Gir landscape. Between 2015 and 2025, their distribution range expanded by about **59%.**



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3. Satellite Populations

The 2025 estimation recorded **497 Asiatic Lions across nine satellite populations** outside the main Gir population. New satellite populations were recorded in areas including **Barda Wildlife Sanctuary, Jetpur and adjoining areas, and Babra–Jasdan and adjoining areas.** Lions were also recorded in corridor areas during the estimation.

4. Barda Wildlife Sanctuary

Barda Wildlife Sanctuary in Gujarat is being developed as an important **second habitat for Asiatic Lions.** It covers about **192.31 sq km** across **Porbandar and Devbhumi Dwarka districts.** Lions naturally migrated to the Barda landscape in 2023, strengthening its importance as an alternative

habitat outside the core Gir landscape.

5. Project Lion

Project Lion was announced on **15 August 2020** for the long-term conservation of Asiatic Lions. It adopts a **landscape-based approach** involving habitat restoration, protection of wildlife corridors, scientific population management, disease surveillance and strengthening of ecological resilience across Gujarat's lion landscape.

6. Scientific Monitoring

A **Hi-Tech Monitoring Unit** was established at **Sasan-Gir in 2019** for real-time tracking of lions using radio telemetry. Satellite telemetry studies are also used to assess **lion movement, spatial distribution, corridor use, seasonal patterns and habitat preferences.**

7. Human–Lion Conflict and Disease Management

Conservation measures include strengthening **veterinary facilities**, habitat improvement in newly occupied areas and deployment of **Vanya Prani Mitras and trackers** to monitor lion movement and sensitise local communities. Management measures also focus on reducing human–wildlife conflict and vulnerability to disease as lions increasingly occupy landscapes outside protected areas.

Conclusion

The rise of the Asiatic Lion population to **891 in 2025**, together with the expansion of its geographical range, reflects the recovery of the species in Gujarat. Conservation efforts under **Project Lion**, development of **Barda Wildlife Sanctuary as an additional habitat**, corridor protection, telemetry-based monitoring and community participation form the core of India's Asiatic Lion conservation strategy.

3. Access and Benefit Sharing from Mustard Genetic Resources

Why in News?

In August 2026, the **National Biodiversity Authority (NBA)** released **₹15.52 crore** as **Access and Benefit Sharing (ABS)** proceeds received from **M/s Pioneer Overseas Corporation**. The company had developed **10 commercial hybrid varieties of Indian mustard (Brassica juncea)** using Indian biological resources. The amount is being distributed among **26 State Biodiversity Boards (SBBs) and 3 Union Territory Biodiversity Councils (UTBCs)**.

Background

Access and Benefit Sharing (ABS) refers to the mechanism through which access to genetic or biological resources is regulated and the benefits arising from their commercial or research use are shared fairly with the providers and custodians of those resources. In India, ABS is governed by the **Biological Diversity Act, 2002** and administered at the national level by the **National Biodiversity Authority (NBA)** under the **Ministry of Environment, Forest and Climate Change**.

The ABS framework also implements the principles of the **Nagoya Protocol on Access and Benefit Sharing**, adopted under the **Convention on Biological Diversity (CBD)** in **2010** and in force since **12 October 2014**. It seeks to ensure that benefits from the utilisation of genetic resources are shared fairly while supporting biodiversity conservation and sustainable use.

Key Features

1. Mustard Genetic Resource Case

Pioneer Overseas Corporation developed ten commercial mustard hybrids using parental lines sourced from the **open market and traders**. Since the original farmer or community supplying the genetic material could not be individually identified, the NBA constituted an **Expert Committee** to

determine the method of distributing the ABS proceeds.

2. Distribution of ₹15.52 Crore

The ABS amount is being distributed among **26 SBBs and 3 UTBCs** according to the area under mustard cultivation in each State/UT. Cultivation-area data were obtained from the **ICAR–Indian Institute of Rapeseed-Mustard Research (ICAR-IIRMR), Bharatpur, Rajasthan**. Rajasthan, with nearly **42% of India's mustard cultivation area**, received the largest share.

State	ABS Amount
Rajasthan	₹6.43 crore
Uttar Pradesh	₹2.28 crore
Madhya Pradesh	₹1.86 crore
Haryana	₹1.21 crore
West Bengal	₹1.10 crore
Jharkhand	₹0.73 crore
Assam	₹0.53 crore
Gujarat	₹0.48 crore

3. Three-Tier Biodiversity Governance

The **Biological Diversity Act, 2002** provides a decentralised institutional framework comprising the **National Biodiversity Authority at the national level, State Biodiversity Boards/UT Biodiversity Councils at the State/UT level and Biodiversity Management Committees (BMCs) at the local level**. The NBA was established in **2003** as a statutory body.

4. Use of ABS Funds

Under **Section 32 of the Biological Diversity Act**, the SBBs and UTBCs

receiving the mustard ABS proceeds must use them for biodiversity-related purposes. These include:

- **In-situ and ex-situ conservation**
- Preparation and updating of **People's Biodiversity Registers (PBRs)**
- Restoration of degraded ecosystems
- Strengthening **Biodiversity Heritage Sites**
- Capacity building of **Biodiversity Management Committees**
- Improvement of community livelihoods.

5. Nagoya Protocol Link

The **Nagoya Protocol** is a supplementary agreement to the **Convention on Biological Diversity** dealing specifically with access to genetic resources and fair and equitable benefit sharing. It was adopted at **COP10 in Nagoya, Japan, on 29 October 2010** and entered into force on **12 October 2014.** India is a Party to the Protocol.

6. Link with Kunming–Montreal Global Biodiversity Framework

The mustard ABS distribution also supports **Target 13 of the Kunming–Montreal Global Biodiversity Framework**, which deals with measures to ensure the **fair and equitable sharing of benefits arising from genetic resources, digital sequence information and associated traditional knowledge.**

7. ABS Proceeds Released by NBA

By August 2026, the **National Biodiversity Authority had released a cumulative ₹182.5 crore under the ABS mechanism.** Of this, **₹116.22 crore** had been released to beneficiaries across India during the preceding 12 months.

Conclusion

The distribution of **₹15.52 crore from the commercial use of mustard**

genetic resources demonstrates the working of India's Access and Benefit Sharing framework under the **Biological Diversity Act, 2002**. It links commercial utilisation of genetic resources with **biodiversity conservation, local institutions and equitable benefit sharing**, in accordance with the **Nagoya Protocol**.

4. Ken–Betwa Link Project

Why in News?

In August 2026, the **Ministry of Jal Shakti** reported that the **Ken–Betwa Link Project (KBLP)** is the **only priority river-linking project under the National Perspective Plan (NPP) that has entered the implementation stage**. The project seeks to transfer water from the **Ken basin to the Betwa basin** to improve irrigation and drinking-water security in the drought-prone **Bundelkhand region of Madhya Pradesh and Uttar Pradesh**.

Background

The **Ken–Betwa Link Project** is India's first major river-interlinking project under the **National Perspective Plan for Interlinking of Rivers**. The NPP has identified **30 river-link projects — 16 under the Peninsular Component and 14 under the Himalayan Component** — with the **National Water Development Agency (NWDA)** entrusted with their technical work. Both the **Ken and Betwa are tributaries of the Yamuna River**.

The Government approved implementation of KBLP in **December 2021** at an estimated cost of about **₹44,605 crore**. A Special Purpose Vehicle, the **Ken–Betwa Link Project Authority (KBLPA)**, has been established for implementation. The foundation stone was laid on **25 December 2024**, and the project is scheduled for completion by **2030**.

Key Features

1. Transfer of Ken Water to Betwa Basin

The project envisages transfer of water from the **Ken River to the Betwa River system** through the **Daudhan Dam and Ken–Betwa Link Canal**. It is primarily intended to improve water availability in the **Bundelkhand region**, which experiences recurrent drought, rainfall variability and groundwater stress.

2. Daudhan Dam and Link Canal

The **Daudhan Dam** is being constructed across the **Ken River in Panna and Chhatarpur districts of Madhya Pradesh**, about 40 km from Khajuraho. It is proposed to be about **96.7 metres high**. Water will be transferred through the approximately **216.465-km-long Ken–Betwa Link Canal**, which will connect the Daudhan Dam area with **Barua Sagar near Jhansi**.

3. Major Project Components

Apart from the Daudhan Dam and link canal, the project includes:

- **Lower Orr Project**
- **Kotha Barrage**
- **Bina Complex Multipurpose Project**
- Modernisation of existing canal systems
- Renovation of tanks and weirs
- Pumping and micro-irrigation systems
- Development and stabilisation of command areas

4. Irrigation and Drinking-Water Benefits

The project is designed to provide irrigation to about **11.88 lakh hectares** and drinking water to nearly **62 lakh people** in Madhya Pradesh and Uttar Pradesh. Major beneficiary districts include **Panna, Chhatarpur, Tikamgarh, Damoh, Sagar, Datia, Vidisha and Raisen in Madhya Pradesh**, and **Banda, Mahoba, Jhansi and Lalitpur in Uttar Pradesh**.

5. Power Generation

KBLP includes both hydropower and solar-power components. It is expected to generate:

- **103 MW of hydropower**
- **27 MW of solar power**

The total planned renewable-power capacity associated with the project is therefore **130 MW**.

6. Environmental and Wildlife Clearances

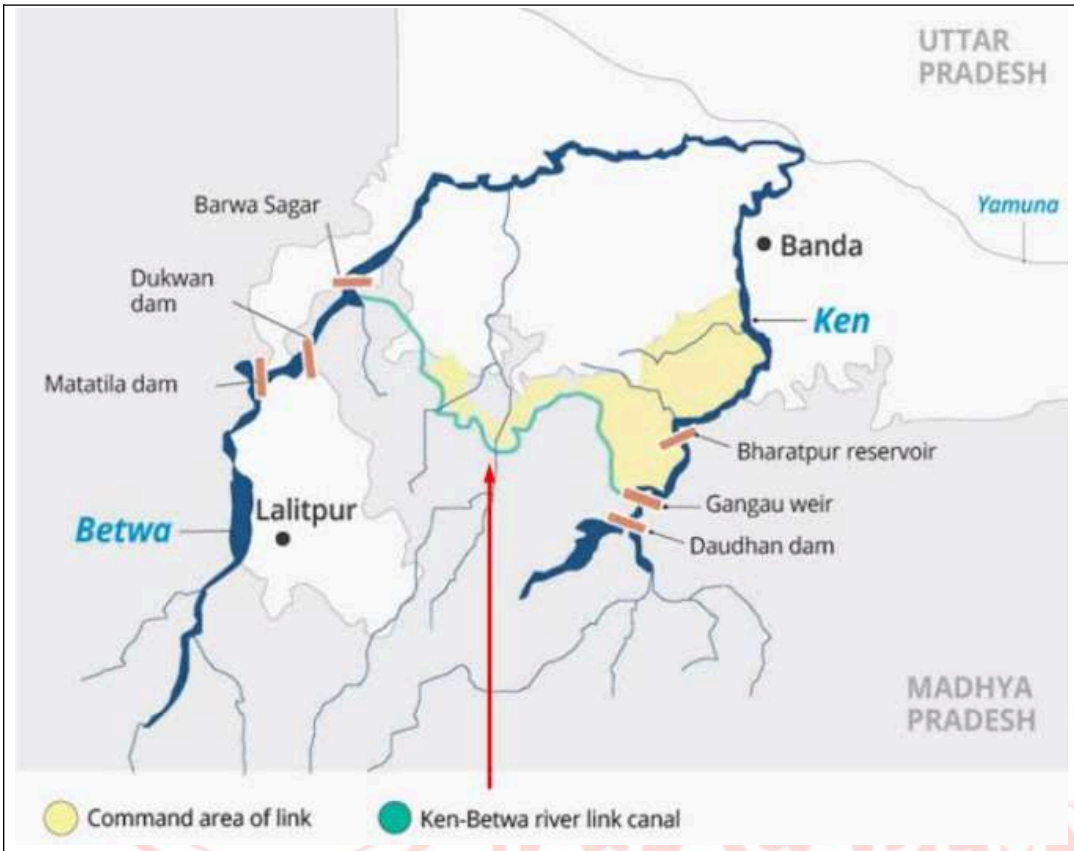
The project has received major statutory clearances, including:

- **Wildlife Clearance – 2016**
- **Environmental Clearance – 2017**
- **Ministry of Tribal Affairs clearance – 2017**
- **Forest Clearance – 2023**

A comprehensive **Environmental Impact Assessment (EIA)** and an **Integrated Landscape Management Plan (ILMP)** have also been prepared, covering catchment treatment, biodiversity conservation, ecological management and long-term environmental monitoring.

7. Panna Tiger Reserve and R&R

Part of the project landscape overlaps with the **Panna Tiger Reserve**, making wildlife conservation and habitat management important components of implementation. Land acquisition and **Resettlement and Rehabilitation (R&R)** are being undertaken under the **Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013**, along with project-specific rehabilitation provisions.



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Conclusion

The **Ken–Betwa Link Project** is the first major river-linking project under the National Perspective Plan to reach implementation. Through the **Daudhan Dam, 216.465-km link canal and associated projects**, it aims to improve irrigation, drinking-water availability and power generation in Bundelkhand while incorporating environmental, wildlife and rehabilitation safeguards.

5. PM-PRANAM

Why in News?

In August 2026, the **Department of Fertilizers, Ministry of Chemicals**

and Fertilizers reported that **five States/UTs — Dadra and Nagar Haveli, Delhi, Goa, Manipur and Mizoram — reduced chemical-fertilizer consumption during 2025–26** under PM-PRANAM. Together, they recorded a reduction of **0.18 lakh metric tonnes** of Urea, DAP, NPK and MOP compared with the average consumption of the preceding three financial years.

Background

PM-PRANAM – PM Programme for Restoration, Awareness Generation, Nourishment and Amelioration of Mother-Earth was approved by the **Cabinet Committee on Economic Affairs (CCEA) on 28 June 2023**. It is implemented by the **Department of Fertilizers, Ministry of Chemicals and Fertilizers** and covers **all States and Union Territories**.

The scheme promotes **balanced and sustainable fertilizer use, alternative fertilizers, organic and natural farming and resource-conservation technologies**. Instead of providing a direct subsidy to individual farmers, PM-PRANAM financially incentivises States/UTs that reduce consumption of specified chemical fertilizers compared with their previous three-year average.

Key Features

1. Fertilizers Covered

PM-PRANAM measures reduction in consumption of four major chemical fertilizers:

- **Urea**
- **DAP – Di-Ammonium Phosphate**
- **NPK fertilizers**
- **MOP – Muriate of Potash**

The consumption in a particular financial year is compared with the **average consumption during the previous three financial years**.

2. Incentive Mechanism



A State or Union Territory that reduces chemical-fertilizer consumption becomes eligible for a grant equivalent to **50% of the fertilizer subsidy saved** because of that reduction. Thus, the incentive is linked to actual savings in the Central Government's fertilizer-subsidy expenditure rather than to a fixed allocation.

3. Distribution of the Grant

Of the total incentive calculated under PM-PRANAM:

- **95%** is earmarked for the concerned State/UT.
- **5%** is retained by the Government of India.

Out of the State/UT share:

- **65%** is for **capital-expenditure projects**, preferably as contributions to Centrally Sponsored Schemes.
- **30%** is available for other activities, including **Information, Education and Communication (IEC)** measures.

4. Coverage and Implementation

PM-PRANAM covers **all States and Union Territories**. It does not prescribe a separate State-wise fertilizer-reduction target; the incentive depends on the reduction achieved relative to the State/UT's own previous three-year average consumption.

5. Alternative Fertilizers and Nano Fertilizers

The scheme supports reduced dependence on conventional chemical fertilizers through greater use of **alternative fertilizers, organic inputs and balanced nutrient management**. The Department of Fertilizers has also promoted **Nano DAP and Nano Urea** through field trials and demonstrations across the country's **15 agro-climatic zones**.

6. 2025–26 Performance

During **2025–26**, the following five States/UTs recorded a reduction in chemical-fertilizer consumption:

- Dadra and Nagar Haveli
- Delhi
- Goa
- Manipur
- Mizoram

Their cumulative reduction was **0.18 lakh metric tonnes** compared with the average of the previous three financial years. As of August 2026, incentives relating to this reduction had **not yet been disbursed**.

7. Link with Soil Health and Nutrient Management

PM-PRANAM operates alongside programmes promoting **Soil Health Cards, organic farming, natural farming and precision nutrient management**. ICAR studies cited by the Government show that balanced NPK application and integrated nutrient management improve crop productivity and soil-health parameters compared with continuous nitrogen-only application.

Conclusion

PM-PRANAM is a State/UT-based incentive programme for reducing excessive chemical-fertilizer consumption and promoting balanced nutrient use. Its key mechanism is the transfer of **50% of fertilizer-subsidy savings** to States/UTs that reduce the use of **Urea, DAP, NPK and MOP** relative to their previous three-year average.

6. India's First Guide to Grasslands and Other Open Natural Ecosystems

Why in News?

India launched its first-ever **"Guide to Grasslands and Other Open Natural Ecosystems (ONEs) of India"** on **17 August 2026** at **UNCCD COP17 in Ulaanbaatar, Mongolia**. The Guide documents the diversity, distribution, ecological importance and socio-economic value of India's grasslands, savannas, deserts and other open natural ecosystems, with emphasis on their conservation, restoration and sustainable management.

Background

Open Natural Ecosystems (ONEs) are naturally occurring landscapes with relatively low tree cover, such as **grasslands, savannas, scrublands, deserts, rocky plateaus, ravines and rangelands**. They support specialised biodiversity, pastoral and livestock-based livelihoods, soil and water processes and significant **soil carbon storage**. Such ecosystems should not automatically be treated as degraded forests or "wastelands" merely because they lack dense tree cover.

The Guide was launched under the aegis of the **Ministry of Environment, Forest and Climate Change (MoEFCC)**. Its publication was organised by the **Ashoka Trust for Research in Ecology and the Environment (ATREE)** in collaboration with **IUCN, the Centre of Excellence on Sustainable Land Management (CoE-SLM), Indian Council of Forestry Research and Education (ICFRE), and Space Applications Centre (SAC), ISRO**.

Key Features

1. Ecosystems Covered

The Guide documents major open natural ecosystems occurring across India. These include:

- **Himalayan and Terai grasslands**
- **Thar Desert landscapes**
- **Banni grasslands**
- **Deccan savannas**
- Rocky plateaus
- Ravines
- Scrublands
- Coastal open ecosystems
- Other desert and rangeland landscapes.

2. Ecological Importance

Open natural ecosystems support distinctive plant and animal communities and perform important ecological functions. They contribute to **biodiversity conservation, soil and water processes, climate resilience and carbon sequestration**, with a substantial proportion of their carbon stored below ground in soils.

3. Livelihood and Pastoral Importance

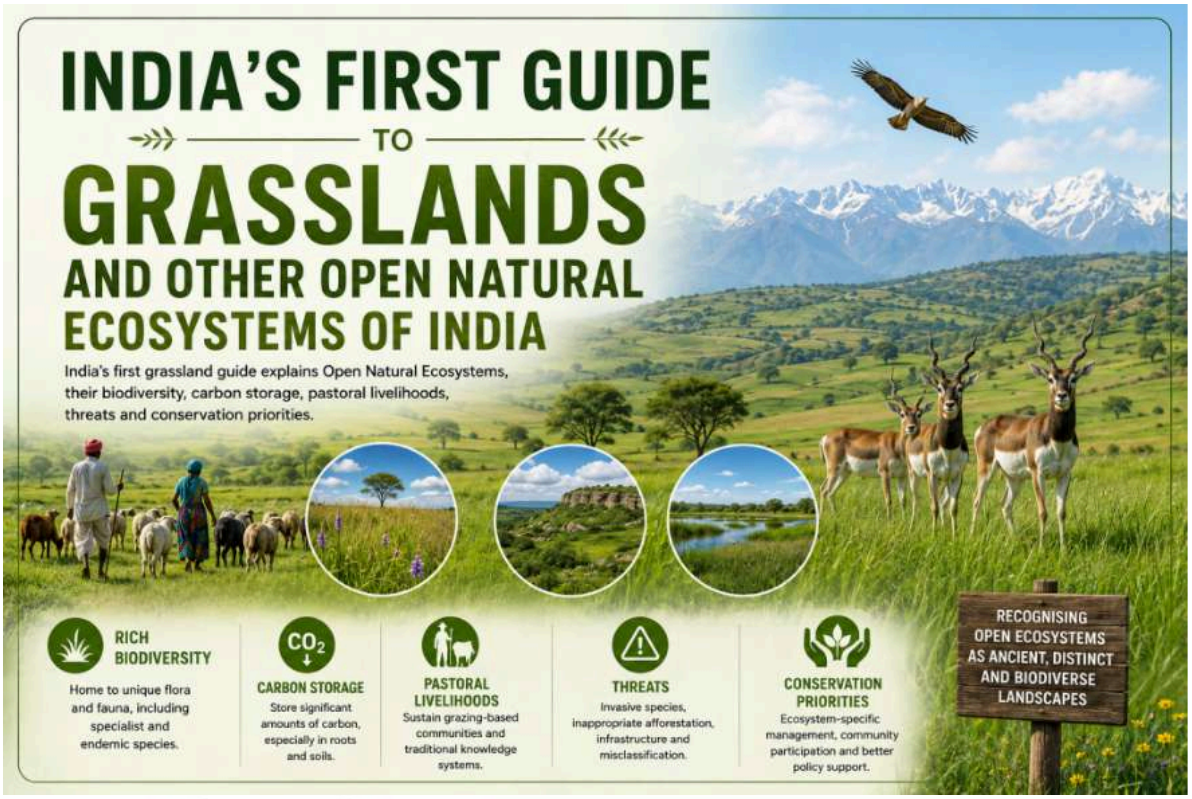
Grasslands and rangelands support **pastoral communities, livestock-based livelihoods and agriculture-dependent populations.** The Guide also records the communities and tribes associated with different open ecosystems and gives specific attention to **pastoralism and people-centred rangeland governance.**

4. Thematic Coverage

Apart from geographical and ecological descriptions, the Guide contains thematic sections dealing with:

- **Pastoralism**
- **Fire ecology**
- **Carbon sequestration**
- Biodiversity
- Ecosystem restoration

- Sustainable land management.



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5. Grasslands and "Wastelands"

The Guide emphasises that grasslands, scrublands and similar landscapes should not be classified merely on the basis of the **absence of trees**. Many landscapes historically labelled as "wastelands" are naturally open ecosystems with specialised biodiversity and long-standing livelihood functions. Traditional landscapes such as **Orans and Gauchars** were also highlighted as examples of community-managed grazing and conservation areas.

6. Link with Land Degradation Neutrality

Conservation and restoration of ONEs contribute to India's efforts towards **Land Degradation Neutrality (LDN)** under the **United Nations Convention to**

Combat Desertification (UNCCD). The Guide emphasises improved land-degradation assessment, scientific knowledge and landscape-level planning for restoring degraded grasslands and drylands.

7. UNCCD COP17

The Guide was launched at the **17th Conference of the Parties to the UNCCD** in **Ulaanbaatar, Mongolia**. Its launch placed Indian grasslands and open natural ecosystems within the global discussions on **land restoration, rangeland management, drought resilience, biodiversity and sustainable livelihoods**.

Conclusion

India's first **Guide to Grasslands and Other Open Natural Ecosystems** formally recognises grasslands, savannas, scrublands, deserts and other open landscapes as ecologically valuable ecosystems rather than simply treeless or wasteland areas. It provides a scientific basis for their conservation and links their protection with **biodiversity, pastoral livelihoods, climate resilience and Land Degradation Neutrality**.

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7. Deep-Sea and Distant-Water Fishery Resources of Indian EEZ

Why in News?

In August 2026, the **Ministry of Earth Sciences (MoES)** released the **"National Report on Deep-Sea and Distant-Water Fishery Resources of the Indian EEZ"** during the Silver Jubilee celebrations of the **Centre for Marine Living Resources & Ecology (CMLRE), Kochi**. The report consolidates decades of scientific surveys across India's **2.37 million sq km Exclusive Economic Zone (EEZ)** and identifies important deep-sea, oceanic and biodiversity resources for sustainable development of India's **Blue Economy**.

Background

An **Exclusive Economic Zone (EEZ)** is the maritime zone extending up

to **200 nautical miles from the coastal baseline**, within which the coastal State has sovereign rights for exploration, exploitation, conservation and management of natural resources. India's EEZ covers about **2.37 million sq km**, including waters around the mainland, Lakshadweep and the Andaman & Nicobar Islands.

The **Centre for Marine Living Resources & Ecology (CMLRE)**, Kochi, functions under the **Ministry of Earth Sciences** and is responsible for assessment and monitoring of marine living resources in India's EEZ. It implements the **Marine Living Resources Programme (MLRP)** and undertakes resource surveys, biodiversity studies and ecosystem monitoring to support sustainable fisheries and marine conservation.

Key Features

1. National Assessment of Marine Living Resources

The National Report is based on nearly **four decades of oceanographic research** and about three decades of systematic surveys. More than **400 oceanographic cruises** have been conducted since the early 1990s under the Marine Living Resources Programme, covering the **Arabian Sea, Bay of Bengal, Lakshadweep waters, Andaman Sea and Southern Ocean**.

CMLRE also estimates the **potential fishery yield of India's EEZ once every eight years** and identifies fish spawning grounds, biodiversity-rich areas and ecosystem changes.

2. Mesopelagic or "Twilight Zone" Resources

The **mesopelagic zone**, also called the **Twilight Zone**, extends roughly from **200 metres to 1,000 metres depth**. It contains large communities of **lanternfishes or myctophids, deep-sea shrimps and cephalopods**.

Many mesopelagic organisms migrate vertically towards surface waters at night and descend during the day. This movement contributes to the ocean's **biological carbon pump**, transferring carbon from surface waters to the deep

ocean.

3. Deep-Sea Demersal Resources

Demersal resources are organisms that live on or close to the seabed. The report assesses resources occurring along the **continental slope beyond about 200 metres depth.**

Important resources identified include:

- Deep-sea shrimps
- Perches
- Scombroids
- Flatfishes
- Eels

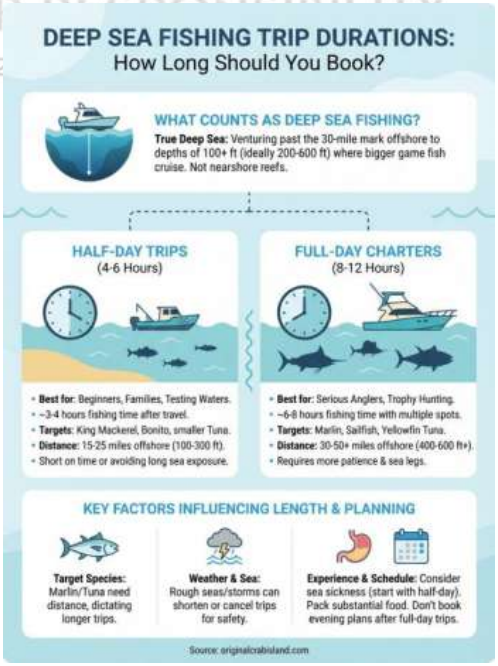
Many of these stocks remain relatively **underexploited** compared with conventional coastal fisheries.

4. Distant-Water Fishery Resources

Distant-water fisheries involve fishing for high-value stocks in **open-ocean and deep-water areas,** including waters far from the traditional coastal fishing grounds.

Important resources documented include:

- **Tunas**
- Billfishes
- Sharks
- Oceanic squids
- **Antarctic krill**



5. Marine Biodiversity Hotspots

The report identifies several ecologically important areas that function as habitats, nurseries and biodiversity-rich zones. Major areas include:

- **Kollam Bank**
- **Angria Bank**
- Off-Mangalore Deep-Sea Slope
- Terrace off Trivandrum
- **Lakshadweep Islands**
- **Andaman & Nicobar Islands**

These areas are important for balancing fisheries development with protection of vulnerable marine ecosystems.

6. FORV Sagar Sampada and Scientific Technologies

The **Fishery and Oceanographic Research Vessel (FORV) Sagar Sampada** has served as the principal research vessel for extensive surveys of India's marine living resources. It functions as a floating laboratory for estimating fish abundance, studying species distribution and collecting oceanographic data.

Modern surveys increasingly use **fisheries acoustics, environmental DNA (eDNA), satellite observations, autonomous observing platforms, Artificial Intelligence and ecosystem modelling** for marine-resource assessment and spatial planning.

7. Sustainable Fisheries and Blue Economy

Scientific information generated by CMLRE is used for **sustainable fisheries management, marine conservation and evidence-based policy formulation**. It also supports identification of **Ecologically and Biologically Significant Areas (EBSAs)**, biodiversity inventories and genomic reference libraries.

The work supports India's commitments under **SDG 14 – Life Below Water**,

the **Convention on Biological Diversity**, and the **UN Decade of Ocean Science for Sustainable Development**.

Conclusion

The National Report on **Deep-Sea and Distant-Water Fishery Resources of the Indian EEZ** provides a scientific assessment of India's underexplored marine resources, including **mesopelagic fishes, deep-sea demersal stocks, tunas, billfishes, oceanic squids and krill**. It combines resource utilisation with biodiversity conservation and provides an important scientific base for the sustainable expansion of India's **Blue Economy**.

8. Snow Leopard Conservation & Population Estimation

Why in News?

In August 2026, India participated in the **Russian–Indian Roundtable Meeting on Snow Leopard Study and Conservation** at Moscow. India highlighted advances in **snow leopard population estimation, radio telemetry and genetic analysis**, while strengthening international cooperation through the **International Big Cat Alliance (IBCA)** and Russian conservation institutions.

Background

The **Snow Leopard (Panthera uncia)** is a flagship species of the **high-altitude Himalayan and Trans-Himalayan ecosystems**. In India, it occurs across **Ladakh, Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh**. Its major natural prey includes **bharal or blue sheep and Asiatic ibex**.

India launched **Project Snow Leopard in 2009** to conserve the species and its high-altitude habitat through a landscape-based and community-oriented approach. The first nationwide **Snow Leopard Population Assessment in India (SPAI)** was conducted during **2019–2023**, while **SPAI 2.0**

was launched during Wildlife Week 2025 to continue systematic monitoring.

Key Features

1. First National Population Estimate

The first SPAI estimated **718 snow leopards in India**. The assessment covered around **1.20 lakh sq km of high-altitude habitat**, representing more than **70% of India's potential snow leopard range**. The **Wildlife Institute of India (WII)** served as the National Coordinator, working with snow leopard range States/UTs, **Nature Conservation Foundation** and **WWF-India**.

State/UT-wise population estimates were:

- **Ladakh – 477**
- **Uttarakhand – 124**
- **Himachal Pradesh – 51**
- **Arunachal Pradesh – 36**
- **Sikkim – 21**
- **Jammu & Kashmir – 9**

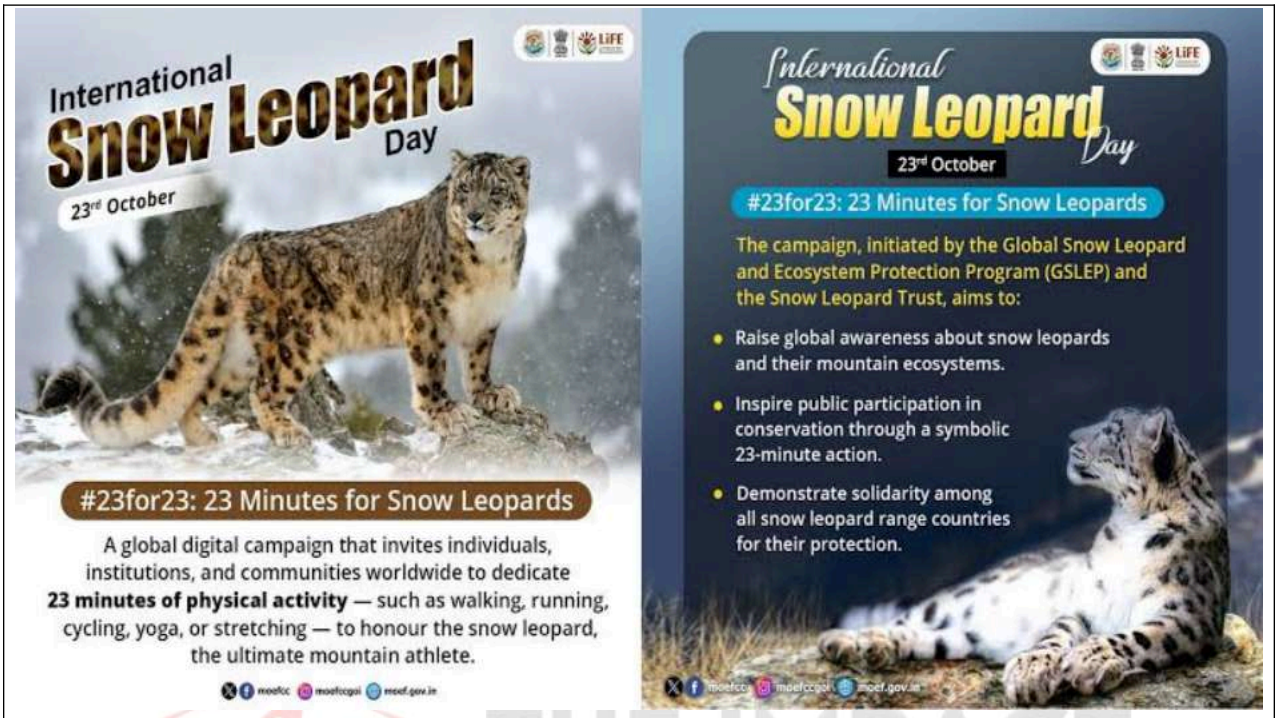
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2. SPAI Methodology

SPAI used a **two-stage scientific framework**. The first stage assessed snow leopard distribution using field signs, habitat variables and occupancy-based sampling. The second stage used **camera traps and statistical abundance estimation** in selected landscapes to estimate population size.

3. SPAI 2.0 and Project Snow Leopard Phase II

SPAI 2.0 was launched during **Wildlife Week 2025** to strengthen periodic population monitoring and conservation planning. In July 2026, **Project Snow Leopard Phase II**, including the second cycle of population estimation, was approved as part of new national wildlife-conservation projects.



4. Project Snow Leopard

Project Snow Leopard, launched in **2009**, follows a landscape-level approach rather than focusing only on protected areas. It seeks to conserve snow leopards, their prey base and associated high-altitude ecosystems while involving local communities in conservation and reducing human–wildlife conflict.

Three major conservation landscapes identified in India are:

- **Hemis–Spiti** – Ladakh and Himachal Pradesh
- **Nanda Devi–Gangotri** – Uttarakhand
- **Khangchendzonga–Tawang** – Sikkim and Arunachal Pradesh

5. Conservation Status

The Snow Leopard is classified as **Vulnerable** on the **IUCN Red List.** It is listed in **Appendix I of CITES**, restricting international commercial trade, and

receives the highest level of legal protection in India under **Schedule I of the Wildlife (Protection) Act, 1972**.

6. Scientific Conservation Tools

India increasingly uses **camera trapping, radio telemetry, satellite tracking and genetic analysis** for snow leopard monitoring. These tools help estimate population size, identify individual animals, study movement patterns, assess habitat use and understand genetic diversity across fragmented mountain landscapes.

7. International Cooperation

Snow leopard conservation is also supported through the **Global Snow Leopard and Ecosystem Protection Programme (GSLEP)** and the **International Big Cat Alliance**. India's conservation strategy therefore combines domestic initiatives such as Project Snow Leopard and SPAI with transboundary cooperation among snow leopard range countries.

Conclusion

India's snow leopard conservation programme combines **Project Snow Leopard, SPAI, SPAI 2.0, community participation and modern scientific monitoring**. The first national estimate of **718 snow leopards** provides a baseline for future population assessments and conservation planning across India's high-altitude Himalayan landscapes.

9. Glaw Lake – Arunachal Pradesh's First Ramsar Site

Why in News?

In **August 2026, Glaw Lake in Arunachal Pradesh** was designated as a **Wetland of International Importance under the Ramsar Convention**. It became **Arunachal Pradesh's first Ramsar Site** and **India's 101st Ramsar Site**. The site is listed as **Ramsar Site No. 2597**.



Background

Glaw Lake, also known as **Glaw Tuwi**, is a natural freshwater lake located within the **Kamlang Tiger Reserve and Wildlife Sanctuary** in the Eastern Himalayas of Arunachal Pradesh. The lake is fed by **perennial mountain streams** and is surrounded by dense forest vegetation, making it an important freshwater and forest biodiversity landscape.

The **Ramsar Convention on Wetlands** was adopted at **Ramsar, Iran, in 1971** and entered into force in **1975**. India became a Contracting Party on **1 February 1982**. Ramsar Sites are wetlands recognised internationally for their ecological importance and are managed according to the principle of **wise use of wetlands**.

Key Features

1. India's 101st Ramsar Site

Glaw Lake became **India's 101st Wetland of International Importance** and the first Ramsar Site from Arunachal Pradesh. India's Ramsar network increased

from **26 sites in 2014 to 101 sites by August 2026.**

2. Location and Wetland Type

Glaw Lake is a **freshwater lake in the Eastern Himalayas**, located inside the **Kamlang Tiger Reserve and Wildlife Sanctuary** in Arunachal Pradesh. It is supplied by perennial mountain streams characteristic of the Himalayan foothill landscape.

3. Floral Diversity

The lake and its catchment support rich vegetation. More than:

- **150 tree species**
- **49 orchid species**

have been recorded within the Ramsar Site and its surrounding catchment.

4. Faunal Diversity

The wider Kamlang landscape supports **four species of big cats:**

- **Tiger (Panthera tigris)**
- **Leopard (Panthera pardus)**
- **Clouded Leopard (Neofelis nebulosa)**
- **Snow Leopard (Panthera uncia)**

The wetland also supports more than **20 species of reptiles and amphibians.**

5. White-bellied Heron

Glaw Lake provides habitat and wintering grounds for several water-dependent birds, including the **White-bellied Heron (Ardea insignis)**, which is classified as **Critically Endangered.**

6. Cultural Importance

Glaw Lake is considered **sacred by the local Mishmi community.** A site-

specific restoration plan is being prepared with emphasis on the participation of Mishmi communities in conservation and sustainable management of the wetland.

7. Ramsar Convention

The Ramsar Convention focuses on the **conservation and wise use of wetlands**. A country joining the Convention must designate at least one wetland for inclusion in the **List of Wetlands of International Importance**. In India, the **Wetlands Division of the Ministry of Environment, Forest and Climate Change** acts as the nodal point for implementation of the Convention.

Conclusion

The designation of **Glaw Lake as India's 101st Ramsar Site** gives Arunachal Pradesh its first internationally recognised wetland. Located within the **Kamlang Tiger Reserve and Wildlife Sanctuary**, the lake is significant for its **freshwater ecosystem, orchid and tree diversity, four big-cat species, Critically Endangered White-bellied Heron and cultural importance to the Mishmi community**.

DEFENCE

1. AGNI-4 BALLISTIC MISSILE

Why in News?

India successfully test-fired the Agni-4 Intermediate Range Ballistic Missile (IRBM) on 6 August 2026 from the Integrated Test Range (ITR), Chandipur, Odisha.
The test was conducted under the aegis of the **Strategic Forces Command (SFC)** and validated the missile's operational and technical parameters.

Historical Background

Agni Missile Series

The Agni series is a family of indigenously developed **surface-to-surface ballistic missiles** designed primarily by the Defence Research and Development Organisation **(DRDO)**. These missiles form an important component of India's strategic missile capability.

The development of the Agni series reflects a gradual enhancement in range, technological sophistication and strategic capability. The broad progression of the series is:
Agni-I → Agni-II → Agni-III → Agni-IV → Agni-V

Among these variants, **Agni-IV** was developed to bridge the capability gap between the earlier Agni missiles and the longer-range **Agni-V**.

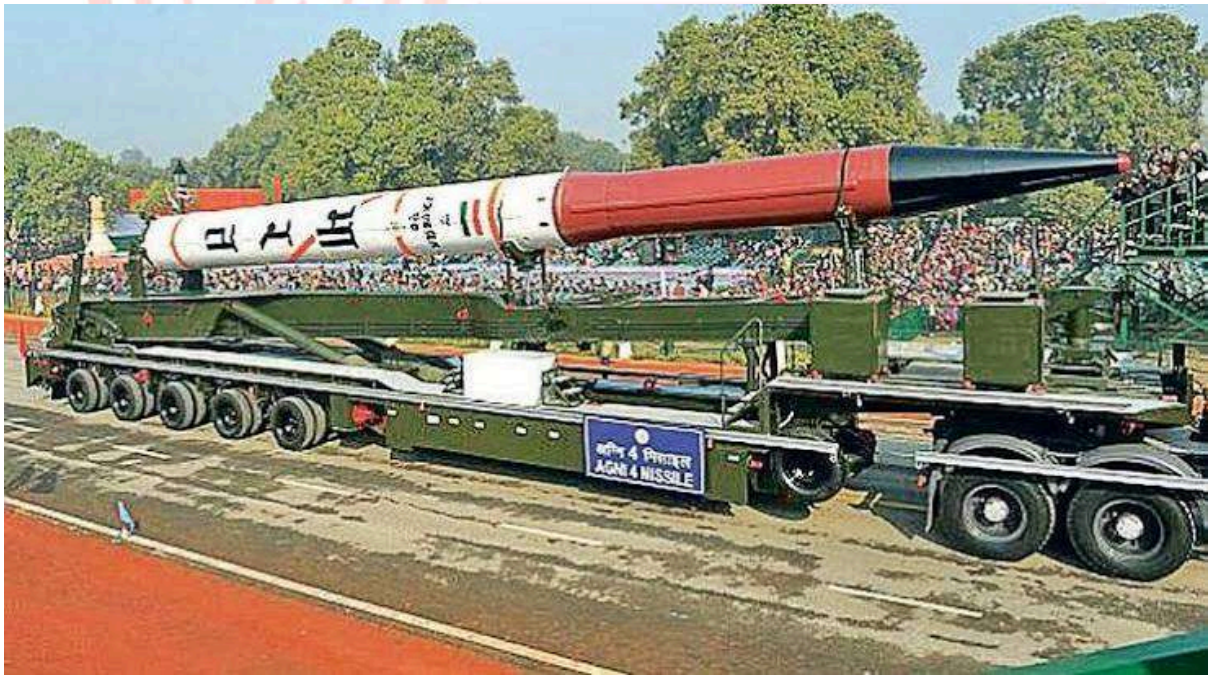
During its developmental trials, **Agni-IV demonstrated a range of approximately 4,000 km**, significantly extending India's medium- to long-range ballistic missile capability.

Missile	Approx. range	Broad category
Agni-I	~700–1,000 km	Short Range Ballistic Missile
Agni-II	~2,000 km	Medium Range Ballistic Missile
Agni-III	~3,000–3,500 km	Intermediate Range Ballistic Missile
Agni-IV	**~4,000 km**	**Intermediate** Range Ballistic Missile

Agni-V	5,000+ km	Long-range/strategic ballistic missile

Key features

Feature	Agni-4
Type	Intermediate Range Ballistic Missile (IRBM)
Range	~4,000 km
Launch	Surface-to-surface
Propulsion	Solid propellant
Developer	DRDO
Strategic role	Nuclear deterrence
Launcher	Road-mobile
Recent test	6 August 2026
Launch site	ITR, Chandipur, Odisha
Conducted under	Strategic Forces Command



Conclusion

The successful testing of **Agni-IV** highlights India's growing indigenous capability in advanced missile technology and strengthens the credibility of

its **strategic deterrence architecture**. With its long range, solid-fuel propulsion, advanced guidance systems and road-mobile launch capability, Agni-IV remains an important component of India's strategic missile arsenal.

2. 6th Positive Indigenisation List – Defence

Why in News?

On **18 August 2026**, the Department of Defence Production (DDP), Ministry of Defence, notified the **6th Positive Indigenisation List (PIL)**.

It contains **405 strategically important items** with an estimated **business potential of ₹3,070 crore**.

Of these, **389 items relate to DPSUs** and **16 to the Indian Coast Guard (ICG)**.

Background

What is a Positive Indigenisation List?

A Positive Indigenisation List (PIL) is a strategic defense **procurement roster** issued by India's Ministry of Defence that **bans the import of specific military items,** forcing their development and production within India.

Key Features

- **Import Ban:** Once an item joins this list, the armed forces and defense public sector undertakings (DPSUs) cannot source it from foreign vendors after a set deadline.
- **Domestic Focus:** All listed equipment, weapon systems, sub-assemblies, and raw materials must be procured from Indian manufacturers, including private firms, startups, and MSMEs.
- **Gradual Timelines:** Each item is given a specific sunset date for imports (staggered over several years) to allow local industry enough time to develop, test, and manufacture the replacement technology.
- The 6th PIL includes:
    - Line Replaceable Units (LRUs)
    - Sub-systems & sub-assemblies
    - Spares

- Components
- Raw materials.



Items Covered

The list covers components used in major platforms such as:

- **Air platforms:** Advanced Light Helicopter, Light Utility Helicopter, Su-30MKI, Light Combat Aircraft and **AL-31FP engine**.
- **Armoured platforms:** T-72, T-90 and BMP-II.
- **Naval platforms:** Warships.

- **Missile systems:** Konkurs-M, Invar and MRSAM.
- **Defence electronics:** Radars, sonars, fire-control systems and satellite communication systems.
- **Ammunition:** High Explosive Anti-Tank ammunition

SRIJAN Portal

- **SRIJAN Defence Portal** was launched in **August 2020** by – The Department of Defence Production (DDP), Ministry of Defence.
- The item details and indicative timelines for indigenisation are uploaded on the SRIJAN Defence Portal.
- It connects DPSUs and Service Headquarters with Indian industry, including **MSMEs and start-ups**, for indigenous development.
- Till **June 2026**, more than **33,000 items** had been offered for indigenisation.
- More than **15,700 items** had already been successfully indigenised, resulting in an estimated **₹9,000 crore import substitution** over the last five years.

Conclusion

The **6th Positive Indigenisation List** strengthens India's push towards **self-reliance in defence manufacturing** by reducing dependence on imports and creating greater opportunities for domestic industries. It also supports the broader objective of **Atmanirbhar Bharat** by promoting indigenous production, technological capability and a stronger domestic defence industrial base.

3. Defence Export SOP & Open General Export Licence (OGEL)

Why in News?

The **Department of Defence Production (DDP), Ministry of Defence** simplified the **Defence Export SOP and OGEL framework** in August 2026 to ease defence exports and expand access to global markets.

About

Defence Export SOP

- The **Defence Export SOP** lays down the procedure for obtaining authorisation for the export of specified defence equipment, components and technologies from India.
- The export authorisation system is administered by the **Department of Defence Production under the Ministry of Defence** for relevant defence items.

Key Features

- **OGEL = Open General Export Licence.**
- It is a **one-time standing export authorisation** that permits eligible exporters to export multiple consignments of specified defence items without seeking separate approval each time.
- Thus, OGEL differs from normal export authorisation by reducing the need for repetitive approvals for eligible exports.
- Three earlier OGEL SOPs have been merged into **one unified SOP.**
- Thus, OGEL differs from normal export authorisation by reducing the need for repetitive approvals for eligible exports.
- OGEL validity increased from **2 years → 3 years.**
- Country coverage expanded from **41 countries to all countries**, except:
    - Negative/sensitive countries
    - Countries under **UN Security Council sanctions**
    - Countries facing arms embargoes.
- Stakeholder consultation has been removed for most exports of **non-lethal defence items.**
- Consultation has also been removed for exports meant for **international tenders and exhibitions.**
- OGEL coverage includes major platforms, equipment, parts, components and specified technology transfers.
- Defence exports reached a record **₹38,424 crore in FY 2025–26.**
- Defence production reached about **₹1.78 lakh crore.**

Simplified export rules can help India emerge as a **global defence manufacturing hub**. Faster approvals can particularly benefit **MSMEs and indigenous defence companies**. Export promotion must continue alongside safeguards for **national security and sensitive technologies**.

4. DRDO Technology Transfer to Indian Defence Industry

Why in News?

On **25 August 2026**, Raksha Mantri **Rajnath Singh** approved the **Transfer of Technology (ToT) of DRDO-developed technologies of all conventional missile systems to the Indian defence industry** for domestic production.

The move aims to strengthen indigenous defence manufacturing, reduce import dependence and increase the participation of domestic industries in India's defence production ecosystem.

Background

About Transfer of Technology

- **Transfer of Technology (ToT)** refers to the process through which technical knowledge, manufacturing know-how, designs and related expertise developed by **DRDO** are transferred to qualified Indian industries for production.
- DRDO develops advanced defence systems and technologies, while large-scale production is increasingly undertaken through capable **public and private-sector industries**.
- This allows technologies developed through defence research to move from the **development stage to industrial-scale production** and eventual induction into the Armed Forces.
- DRDO has created a large industrial ecosystem for manufacturing defence systems, subsystems and equipment.

By **March 2026, 2,180 technology-transfer agreements** had been signed, and more than **2,780 Intellectual Property Rights (IPRs)** had been opened for use by Indian industry.

Key Features

- **DRDO = Defence Research and Development Organisation.**
- It functions under the **Department of Defence Research & Development, Ministry of Defence.**
- The new decision covers technologies relating to **all conventional missile systems developed by DRDO.**
- Indian industries can undertake production subject to prescribed:
  - Qualifications
  - Certifications
  - Regulatory requirements.
- The aim is to move technologies from the **development stage to industrial-scale production.**
- The initiative promotes participation of:
  - Indian private defence companies
  - **MSMEs**
  - Technology partners.
- Major objectives:
  - Increase indigenous defence manufacturing
  - Reduce import dependence
  - Increase domestic value addition
  - Strengthen defence supply chains
  - Improve operational capabilities.

DRDO–industry collaboration can convert indigenous research into **large-scale defence production.** Greater private-sector and MSME participation will strengthen **Aatmanirbharta in defence** India must simultaneously invest in **R&D, intellectual property and advanced manufacturing capabilities.**

DRDO TECHNOLOGY TRANSFER TO INDIAN DEFENCE INDUSTRY

From Research to Production | Strengthening Aatmanirbhar Bharat

DRDO
Technologies for a Safer and Stronger India

Azadi Ka Amrit Mahotsav

A STRONGER INDIA THROUGH INDIGENOUS DEFENCE TECHNOLOGY



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About

- Transfer of Technology (ToT) involves sharing of technical knowledge, manufacturing know-how, designs and related expertise developed by DRDO with qualified Indian industries.
- It enables the transition from development to industrial-scale production and eventual induction into the Armed Forces.

Objective

- Strengthen indigenous defence manufacturing.
- Reduce import dependence.
- Enhance participation of domestic industries, including MSMEs.
- Allow DRDO to focus more on development of newer and advanced technologies.

Key Features

- Transfer of technologies of all conventional missile systems developed by DRDO.
- Participation of capable Indian defence industries, subject to qualifications and regulatory requirements.
- Facilitates transition from DRDO-led R&D to industrial production.
- Creates opportunities for MSMEs and other domestic technology partners.
- ToT provided at zero ToT fee to eligible Development-cum-Production Partners, Development Partners and Production Agencies.
- Reduces import dependence and increases domestic value addition.
- Strengthens India's defence industrial base and supports Aatmanirbhar Bharat.

Conclusion

The transfer of DRDO-developed conventional missile technologies to Indian defence industries is a significant step towards Aatmanirbharta in defence manufacturing. It will strengthen the domestic defence industrial ecosystem, enhance the role of Indian industry and MSMEs, reduce dependence on imports and enable DRDO to focus on next-generation technologies for a stronger and safer India.

MAKE IN INDIA
INDIAN INGENUITY FOR A SECURE TOMORROW

GOVERNMENT SCHEMES & INITIATIVES

1. Rare Earth Permanent Magnet Manufacturing Scheme

Why in News

The Government's scheme to promote domestic manufacturing of **sintered NdFeB rare-earth permanent magnets** has attracted significant industry interest; the ₹7,280-crore initiative reportedly received multiple bids.

Background:

Rare Earth Permanent Magnets (REPMs)

They are among the strongest permanent magnets and retain their magnetic properties without requiring a continuous external power supply.

The scheme primarily focuses on **sintered Neodymium-Iron-Boron (NdFeB) magnets**, which are widely used where high magnetic strength is required in a compact size.

Sintered NdFeB (Neodymium-Iron-Boron) magnets, commonly known as modern rare-earth permanent magnets are the most powerful commercial permanent magnets available today. The term **"Sintered"** refers to their manufacturing process

REPMs are important components in:

- Electric vehicle motors
- Wind turbine generators
- Consumer and industrial electronics
- Aerospace and defence systems
- Precision sensors and actuators

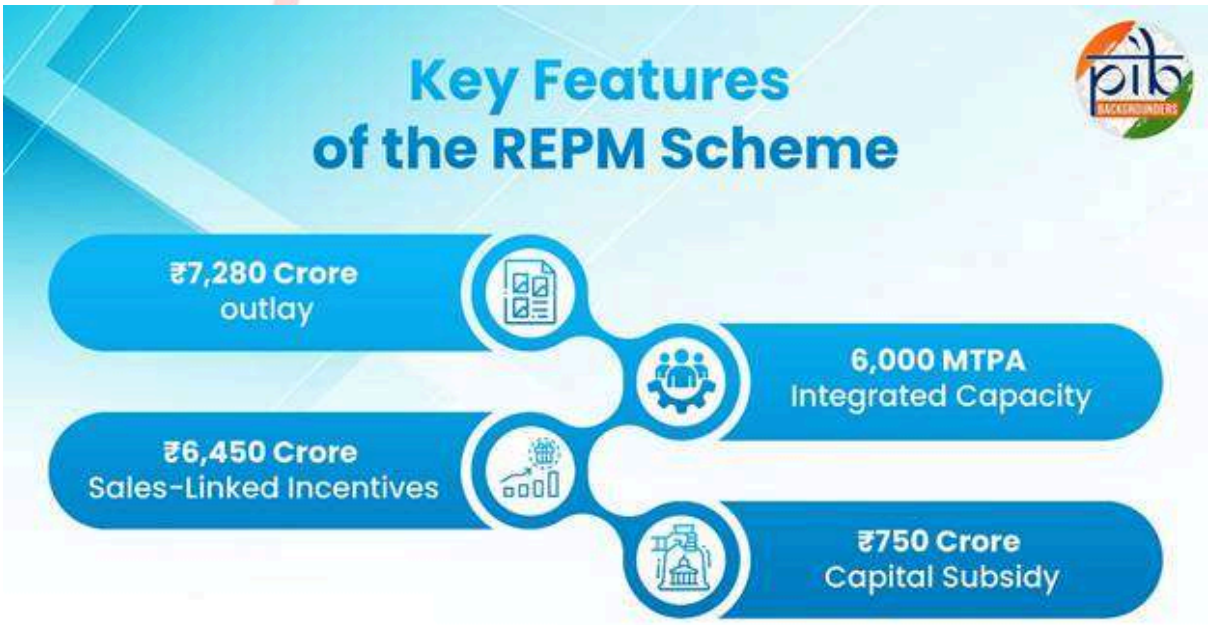
Key Features:

Scheme Overview

- **Total Outlay:** ₹7,280 Crore
    - **Sales-Linked Incentives:** ₹6,450 crore disbursed over a 5-year

operational period.
    - **Capital Subsidy:** ₹750 crore to offset initial CAPEX for integrated plant setup.

- **Target Capacity:** Establish **6,000 Metric Tonnes Per Annum (MTPA)** of integrated REPM production capacity.
- **Duration: 7 years** from award (2-year setup/gestation period + 5-year incentive payout period).
- **Selected Beneficiaries:** Up to **5 entities** selected through global competitive bidding, each allocated up to **1,200 MTPA** capacity.
- Executed by the **Ministry of Heavy Industries (MHI)**, the scheme aims to build an end-to-end domestic supply chain for critical rare earth magnets, moving India away from heavy import reliance (principally on China).



Strategic Importance

- **Downstream Sectors:** Sintered Neodymium-Iron-Boron (NdFeB) magnets are critical inputs for **Electric Vehicles (EV motors), wind**

energy turbines, **defense electronics**, **aerospace**, and **medical equipment**.

- **Supply Chain Security:** Addresses global critical mineral bottlenecks and insulates Indian OEMs from foreign export curbs or price spikes.
- **Economic Goal:** Aligns with Atmanirbhar Bharat, the National Critical Minerals Mission (NCMM), and India's target to achieve Net Zero emissions by 2070.

Conclusion

The **Rare Earth Permanent Magnet Manufacturing Scheme** seeks to fill an important gap in India's critical-mineral value chain by developing domestic capacity for high-performance permanent magnets. The scheme is expected to reduce import dependence, strengthen supply-chain security.

2. AgriStack & Digital Agriculture Mission

Why in News?

In **August 2026**, the Government reviewed the progress of **AgriStack under the Digital Agriculture Mission** and called for faster saturation of Farmer IDs, digital crop surveys and integration of AgriStack with agricultural services.

As of **3 August 2026**, more than **10.31 crore Farmer IDs** had been created across India. During **Rabi 2025–26**, the **Digital Crop Survey (DCS)** covered **648 districts and over 31.3 crore agricultural plots**.

Background

About Digital Agriculture Mission

The **Digital Agriculture Mission (DAM)** was approved by the Government of India on **2 September 2024** with a total outlay of **₹2,817 crore**.

It is implemented by the **Ministry of Agriculture & Farmers Welfare** and seeks to create a robust digital agriculture ecosystem through reliable agricultural data and farmer-centric digital services.

The Mission primarily envisages the development of:

- **AgriStack**
- **Krishi Decision Support System (KDSS)**
- **Comprehensive Soil Fertility and Profile Map**
- Other digital initiatives of the Central and State Governments.

About AgriStack

AgriStack is a **Digital Public Infrastructure (DPI) for agriculture** and is one of the core components of the Digital Agriculture Mission.

It seeks to **create reliable and interoperable databases** relating to farmers, agricultural land and crops, enabling targeted and efficient delivery of agricultural schemes and services.

AgriStack follows a **federated architecture**. Its registries are created, owned and maintained **by the respective States and Union Territories**, while being interoperable at the national level.

Key Components of AgriStack

Three Core Registries of AgriStack

1. **Farmers Registry:**
    - Provides farmers with a unique digital identity known as the **Farmer ID**.
    - It connects verified farmer details with land records and other agriculture-related information.
    - The Government had set a target of creating **11 crore Farmer IDs by 2026–27**. By **3 August 2026, more than 10.31 crore Farmer IDs** had already been generated.
2. **Geo-Referenced Village Maps:**
   Digitally maps agricultural land parcels and their geographical boundaries.
3. **Crop Sown Registry:**

Records plot-level information regarding crops cultivated through the **Digital Crop Survey**.



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Conclusion

AgriStack and the Digital Agriculture Mission seek to create a reliable digital foundation for Indian agriculture by linking verified information on farmers, land and crops with government services. The initiative aims to improve the efficiency, transparency and agricultural service delivery while supporting data-driven agricultural planning.

3. GOBARdhan – National Unified Scheme for Compressed Biogas

Why in News?

On **6 August 2026**, the Union Cabinet approved **GOBARdhan as India's National Unified Scheme for Compressed Biogas (CBG)** with a total financial

outlay of **₹23,731 crore**.

The scheme will be implemented from **FY 2026–27 to FY 2035–36** and seeks to scale up domestic CBG production by nearly **ten times** through an integrated framework covering assured offtake, pricing support, capital assistance, pipeline connectivity, credit support and technology development.

Background

About GOBARdhan

GOBARdhan stands for **Galvanizing Organic Bio-Agro Resources Dhan**.

It was originally launched in **2018 under the Swachh Bharat Mission-Grameen** as part of solid and liquid waste management. Its objective was to convert biodegradable waste such as **cattle dung, agricultural residue, kitchen waste and market waste** into useful products such as **biogas and bio-slurry**.

In 2026, the Government consolidated the CBG-related ecosystem under the **Ministry of Petroleum and Natural Gas (MoPNG)** to provide a unified approach to policy, financing and implementation.

About Compressed Biogas

Compressed Biogas (CBG) is produced by purifying biogas generated from the anaerobic digestion of organic waste and compressing the resulting methane-rich gas.

CBG is **chemically comparable to natural gas** and can therefore be used through the existing gas infrastructure for applications such as transport, domestic consumption and industry.

Key Features

Aspect	Details

Objective	Promote production and use of Compressed Bio-Gas (CBG)
Major feedstock	Cattle dung, agricultural residues, municipal organic waste and other biomass



Core process	Organic waste → anaerobic digestion → biogas → purification/upgrading → CBG
CBG	Renewable gaseous fuel that can substitute/blend with conventional CNG **(Calorific Value)**
Major benefits	Waste management, renewable energy, rural income, employment and reduced fossil-fuel dependence

Economic significance	Converts agricultural/livestock waste into a marketable energy resource
Environmental significance	Supports circular economy and reduces unmanaged organic waste
Recent outlay	₹23,731 crore
Recent approval	6 August 2026

Conclusion

GOBARdhan marks a decisive step in transforming India's abundant organic resources into clean energy, rural prosperity and economic value. Building on the progress already achieved, GOBARdhan will take India's CBG journey from a strong foundation to a nationally scaled clean energy industry, reflecting the Government's commitment to energy security, farmers and rural enterprises, waste-to-wealth, Atmanirbhar Bharat and the vision of Viksit Bharat.

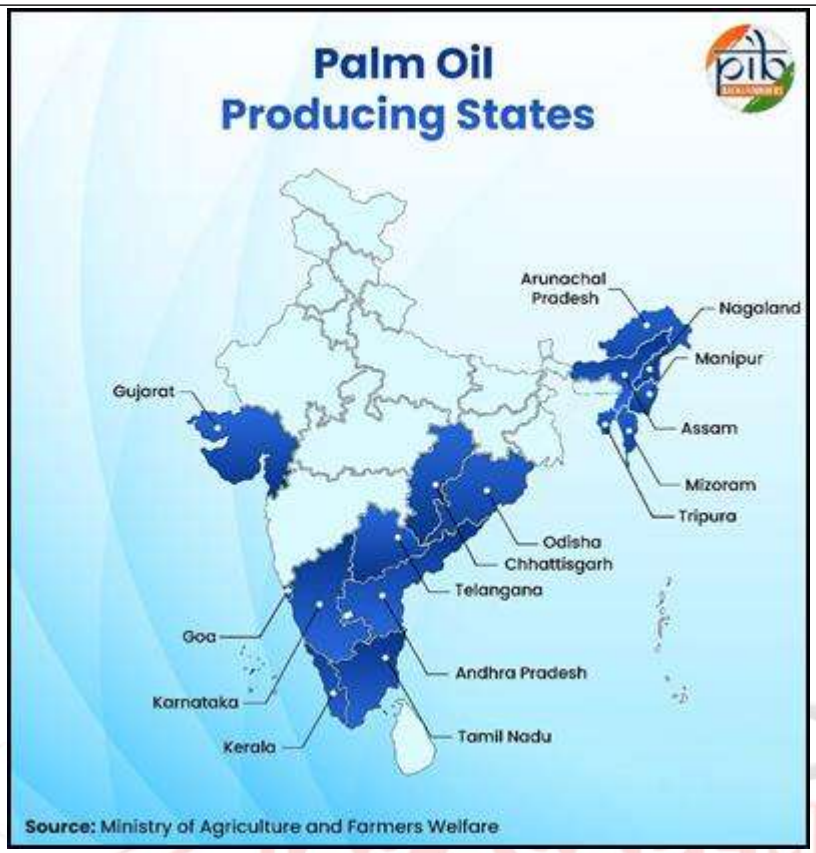
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4.National Mission on Edible Oils – Oil Palm(NMEO-OP)

Why in News?

The scheme is currently relevant because the Government has recently reviewed/reported its implementation and outcomes. As of **7 August 2026**, the government continues to implement NMEO- aimed at expanding oil-palm cultivation, raising productivity and reducing India's dependence on imported edible oils.

The scheme was originally approved in **2021** with an outlay of **₹11,040 crore** and a target of bringing an additional **6.5 lakh hectares** under oil palm by 2025-26



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Background

About NMEO-OP

- The **National Mission on Edible Oils – Oil Palm (NMEO-OP)** was launched in **2021–22** as a **Centrally Sponsored Scheme** under the **Ministry of Agriculture & Farmers Welfare.**
- Its main objective is to increase the **area and productivity of oil palm,** enhance domestic production of edible oils and reduce India's dependence on edible-oil imports.
- The Mission was approved with a total financial outlay of **₹11,040 crore**, comprising:
    - **Government of India share – ₹8,844 crore**

- **State share – ₹2,196 crore**

The Mission originally aimed to bring an **additional 6.5 lakh hectares** under oil palm cultivation by **2025–26**, taking the total area towards about **10 lakh hectares.**

Targets for Crude Palm Oil

The Mission envisaged increasing **Crude Palm Oil (CPO)** production to:

- **11.20 lakh tonnes by 2025–26**
- **28 lakh tonnes by 2029–30**

Why Oil Palm?

Oil palm is a **high oil-yielding crop**. According to the original Cabinet approval, it can produce substantially more oil per hectare than conventional oilseed crops.

India has significant agro-climatic potential for oil palm cultivation, particularly in the **North-Eastern region and the Andaman & Nicobar Islands.**

Key Features

Implementation in 15 States

NMEO-OP is currently being implemented in **15 States:**

Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Goa, Gujarat, Karnataka, Kerala, Manipur, Mizoram, Nagaland, Odisha, Tamil Nadu, Telangana and Tripura.

Financial Assistance to Farmers

The Mission provides assistance for several activities related to oil palm cultivation, including:

- planting material,
- maintenance of plantations,
- intercropping,
- drip irrigation,
- farm machinery,
- replanting of old plantations,

- establishment of seed gardens and nurseries, and
- oil palm processing infrastructure.

Price Assurance through Viability Gap Payment

- One of the important features of NMEO-OP is a **price-assurance mechanism** for oil palm farmers.
- Oil palm farmers sell **Fresh Fruit Bunches (FFBs)** to processing industries. Since FFB prices are linked to international Crude Palm Oil prices, farmers can face price volatility.
- To protect them, the Mission introduced a **Viability Price (VP)**.
- The VP is based on the **five-year average CPO price**, adjusted for the Wholesale Price Index and linked to a prescribed percentage of CPO value.
- If the market-linked price falls below the assured viability price, the difference can be provided as a **Viability Gap Payment**, including through **Direct Benefit Transfer (DBT)**.

India's edible-oil problem

India has historically had a **large gap between domestic edible-oil production and consumption**, leading to substantial imports.

This makes edible oils an important issue for:

- Food security
- Agricultural income
- Foreign-exchange expenditure
- Inflation
- Import dependence

In **2020-21**, India imported about **133.5 lakh tonnes of edible oils**, with palm oil accounting for around **56%** of edible-oil imports.

Challenge	Explanation
Long gestation	Farmers wait several years for significant returns

Price volatility	CPO prices are linked to global markets
Water requirement	Not suitable for all regions
Environmental concerns	Possible biodiversity/ecological impacts
Processing infrastructure	FFBs need timely processing
Farmer adoption	Requires confidence in long-term returns
Import competition	Cheap imported palm oil can affect domestic producers
Geographic concentration	Production remains concentrated in a few states

Conclusion

The National Mission on Edible Oils – Oil Palm seeks to strengthen India's edible-oil security by expanding domestic oil-palm cultivation, improving productivity and providing price protection to farmers. Through support for planting material, irrigation, processing infrastructure and Viability Gap Payment, the Mission aims to increase domestic Crude Palm Oil production, improve farmers' incomes and reduce India's dependence on imported edible oils

5. Jal Jeevan Mission 2.0 & Swachh Bharat Mission–Gramin 2.0

Why in News?

In August 2026, the **Department of Drinking Water and Sanitation (DDWS), Ministry of Jal Shakti**, in collaboration with the **Ministry of Rural**

Development, asked States and Union Territories to converge works under **Jal Jeevan Mission (JJM) 2.0** and **Swachh Bharat Mission–Gramin [SBM(G)] 2.0** with the **Viksit Bharat – Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025**. The convergence seeks to integrate rural drinking-water security, groundwater recharge, greywater management and solid and liquid waste management through **Viksit Gram Panchayat Plans (VGPPs)**.

Background & UPSC-Relevant Facts

About

Jal Jeevan Mission (JJM) was launched in **August 2019** to provide every rural household with a **Functional Household Tap Connection (FHTC)**. **JJM 2.0**, approved on **10 March 2026**, extends the Mission up to **December 2028** and shifts the focus from creation of tap infrastructure to **reliable, safe and sustainable drinking-water service delivery**.

Swachh Bharat Mission–Gramin [SBM(G)] was launched on **2 October 2014** to achieve Open Defecation Free rural India. **SBM(G) Phase II**, implemented from **2020–21 to 2026–27**, focuses on sustaining ODF status and achieving **ODF Plus** through solid and liquid waste management. Both programmes are implemented by the **Department of Drinking Water and Sanitation, Ministry of Jal Shakti**.

Key Features

1. Jal Jeevan Mission 2.0

JJM 2.0 has been extended up to **December 2028**, with the total Mission outlay increased to **₹8.69 lakh crore** and Central assistance to **₹3.59 lakh crore**. It seeks to provide sustainable tap-water services to all **19.36 crore rural households**.

A Functional Household Tap Connection is expected to provide:

- **55 litres per capita per day (LPCD)**

- Drinking water conforming to **BIS:10500**
- Regular and long-term water supply



2. Har Ghar Jal and Sujalam Bharat

Under JJM 2.0, **Har Ghar Jal certification** requires not only household tap connections but also adequate arrangements for **operation and maintenance (O&M)** and sustained service delivery.

Sujalam Bharat provides the digital framework for JJM 2.0 through:

- Source-to-tap digital mapping
- Unique digital identities for water-supply schemes and service areas
- Monitoring of infrastructure and service delivery
- Participation of **Gram Panchayats and Village Water and Sanitation**

Committees (VWSCs)

3. Reform-Linked Implementation and Water Sustainability

Central assistance under JJM 2.0 is linked with reforms by States/UTs, including a **reform-linked MoU**, creation of digital IDs, financial reconciliation and notification of a **State O&M Policy**.

JJM 2.0 also emphasises:

- Groundwater recharge
- Water conservation
- Greywater management
- Source sustainability
- Sustainable operation and maintenance of rural water systems

4. Swachh Bharat Mission–Gramin Phase II

SBM(G) Phase II focuses on sustaining **Open Defecation Free status** and moving villages towards comprehensive sanitation. Its major components include:

- Individual Household Latrines
- **Community Sanitary Complexes**
- Solid Waste Management
- Liquid Waste Management
- Plastic waste management
- Greywater management
- Faecal sludge management
- IEC and behaviour-change activities

Eligible households can receive an incentive of up to **₹12,000** for construction of an **Individual Household Latrine (IHHL)**.

5. ODF Plus Categories

Under SBM(G) Phase II, villages are classified into three ODF Plus categories:

- **ODF Plus Aspiring** – ODF status plus either Solid Waste Management or Liquid Waste Management.
- **ODF Plus Rising** – ODF status plus both Solid and Liquid Waste Management.
- **ODF Plus Model** – ODF status, both waste-management systems, **visual cleanliness**, absence of major litter or stagnant wastewater, and display of ODF Plus IEC messages.

ODF Plus Model is the highest category.

6. Funding Pattern of SBM(G)

SBM(G) Phase II is a **Centrally Sponsored Scheme** with the following Centre-State sharing pattern:

- **60:40** – other States
- **90:10** – North-Eastern States, Himachal Pradesh and Uttarakhand
- **90:10** – Union Territory of Jammu & Kashmir
- **100% Central funding** – other Union Territories

SBM(G) Phase II therefore represents a transition from **toilet construction and ODF achievement to comprehensive rural sanitation and waste management.**

7. JJM 2.0 and SBM(G) Phase II – Difference

Jal Jeevan Mission 2.0

SBM(G) Phase II

- Rural **drinking-water supply**
- Rural **sanitation**
- Functional Household Tap Connections
- Sustaining ODF status
- **55 LPCD** potable water
- Solid and liquid waste management

- Source sustainability
- ODF Plus villages
- **Sujalam Bharat** digital framework
- SBM-G digital platforms
- Extended till **December 2028**
- Implemented during **2020–21 to 2026–27**

Both programmes converge at the Gram Panchayat level for integrated **water, sanitation and hygiene (WASH)** management.

Conclusion

Jal Jeevan Mission 2.0 and Swachh Bharat Mission–Gramin Phase II represent an integrated approach to rural **WASH — Water, Sanitation and Hygiene**. JJM 2.0 shifts the focus from creating tap-water infrastructure to reliable and sustainable service delivery, while SBM(G) moves beyond ODF achievement towards **ODF Plus and scientific waste management**. Their convergence at the Gram Panchayat level seeks to strengthen water security, sanitation, public health and climate resilience in rural India.

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SCIENCE AND TECHNOLOGY

1. Mission Mausam & AI/Geospatial Technologies

Why in News: Mission Mausam is being strengthened through advanced technologies, including **AI/ML, high-performance computing, satellite observations and geospatial systems**, to improve weather forecasting.

Background: Increasing frequency of heatwaves, floods, cyclones and extreme rainfall has increased the need for accurate, localised early-warning systems.

About:

- Mission Mausam a **Central Sector umbrella scheme of the Ministry of Earth Sciences** (MoES) was launched to make India **"weather-ready and climate-smart"** by improving observation, modelling, forecasting and dissemination.
- It is implemented primarily through **India Meteorological Department (IMD)**, the **Indian Institute of Tropical Meteorology (IITM)**, and the **National Centre for Medium-Range Weather Forecasting (NCMRWF)**.
- At the heart of Mission Mausam lies the **deep integration of Artificial Intelligence (AI), Machine Learning (ML), and Geospatial Technologies** to upgrade traditional numerical weather prediction (NWP) physics models

Key Features:

- **Advanced weather observation:** Expansion of radars, satellites and ground-based sensors.
- **AI & Machine Learning:** Analysis of large meteorological datasets for improved forecasting.
- **Geospatial technologies:** Integration of satellite imagery, GIS and spatial data for location-specific forecasts.
- **High-performance computing:** Supports advanced weather and

climate modelling.

- **Early-warning systems:** Better prediction of cyclones, heavy rainfall, heatwaves and other extreme events.
- **Decision-support systems:** Provides actionable information for agriculture, disaster management, aviation, water resources and urban planning.



Significance:

- Improves **forecast accuracy and lead time**.
- Strengthens **disaster preparedness and climate resilience**.
- Reduces losses to lives, crops, infrastructure and livelihoods.
- Promotes technology-driven, climate-resilient governance.

Conclusion

Mission Mausam aims to make India **weather-ready and climate-smart** by combining advanced forecasting systems with **AI/ML, satellite observations, high-performance computing and geospatial technologies**. Improved localised forecasts and early-warning capabilities can help reduce the impact of **cyclones, floods, heatwaves and extreme rainfall**, while strengthening disaster preparedness and climate resilience.

2. LEO Satellite Constellations & Space Debris Management

Why in News?

In **August 2026**, the Government informed Parliament that the rapid proliferation of large **Low Earth Orbit (LEO) satellite constellations**, particularly satellite-internet constellations consisting of thousands of satellites, is increasing congestion and collision risks in near-Earth space.

ISRO has therefore strengthened measures relating to **Space Situational Awareness (SSA), collision avoidance, post-mission disposal and debris prevention**. The issue was also highlighted in the **Indian Space Situational Awareness Report 2025 (ISSAR-2025)**.

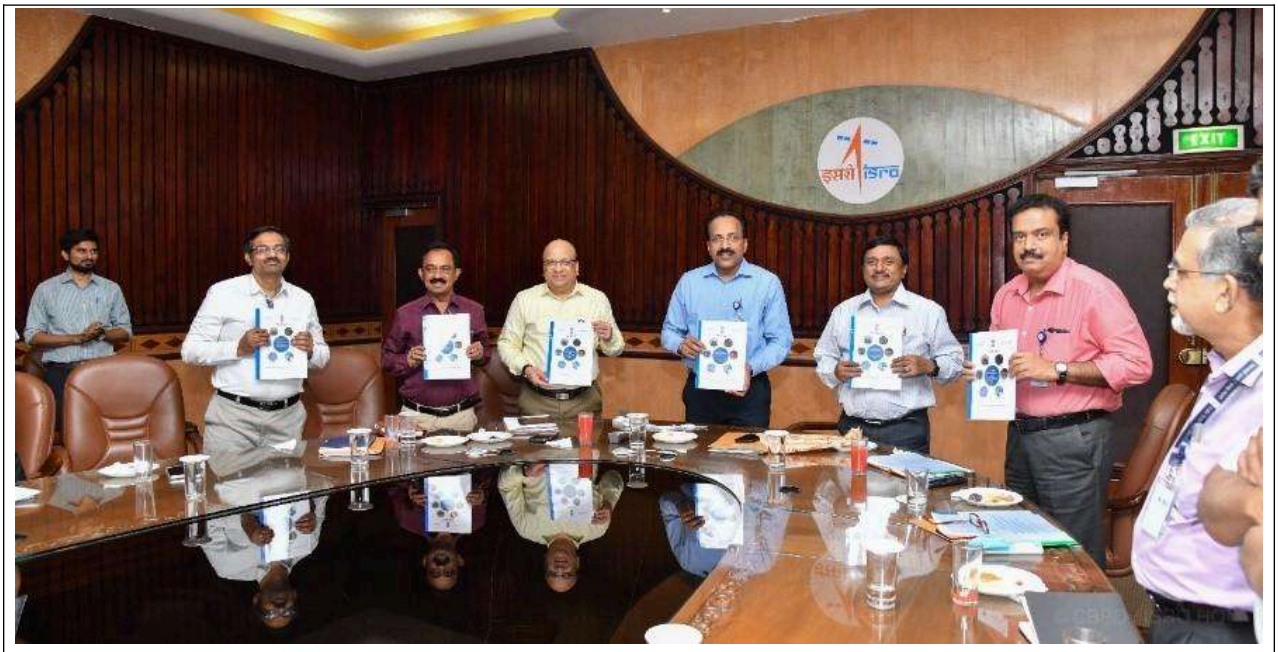
Background

About Low Earth Orbit

Low Earth Orbit (LEO) generally refers to Earth orbits below an altitude of about **2,000 km**.

Satellites in LEO are commonly used for:

Earth observation, Remote sensing, Scientific missions, Communication and broadband internet, Weather and environmental monitoring



LEO satellites experience relatively **low communication latency** because they orbit much closer to Earth than satellites in Geostationary Orbit.
However, LEO also contains a dense population of operational satellites and space debris, making satellites operating in this region comparatively more vulnerable to collisions.

About Satellite Constellations

A **satellite constellation** is a group of satellites operating in coordinated orbits to provide continuous or widespread coverage.
Modern satellite-internet constellations may consist of **thousands of satellites**. While such constellations can expand broadband connectivity, their rapid deployment substantially increases the number of objects sharing particular orbital regions.

About Space Debris

Space debris refers to non-functional human-made objects remaining in space, including:

- Defunct satellites

- Spent rocket stages
- Fragments generated by collisions or explosions
- Components released during space missions

Even relatively small debris travelling at high orbital velocities can cause serious damage to operational spacecraft.

Small debris that cannot be reliably tracked poses a particular challenge because satellites may be unable to perform collision-avoidance manoeuvres against it.

ISSAR-2025

The **Indian Space Situational Awareness Report (ISSAR)** is prepared annually by ISRO's **ISRO System for Safe and Sustainable Space Operations Management (IS4OM)**.

ISSAR-2025, released in **April 2026**, reported that:

- **328 launch attempts** took place globally during 2025.
- **315 launches were successful.**
- They placed **4,198 known operational satellites** into orbit.
- About **4,651 objects** were added to the global space-object population during the year.

By the end of 2025, the Government of India had **22 operational satellites in LEO**.

Key Features

Space Situational Awareness

Space Situational Awareness (SSA) involves detecting, tracking and assessing objects in space to understand potential threats to operational spacecraft.

ISRO's **IS4OM** serves as the nodal entity for India's space-sustainability and SSA activities.

Collision Avoidance Manoeuvres

When another space object is predicted to pass dangerously close to an operational satellite, its orbit may be changed through a **Collision Avoidance Manoeuvre (CAM)**.

ISRO carried out:

- **20 CAMs in 2025**
- **9 CAMs during 2026 up to 5 August**

Such manoeuvres help reduce the probability of collisions and the creation of additional debris.

India's Measures:

- **IS4OM (**Indian Space Situational Awareness and Management)**:** Monitors space objects, assesses collision risks and supports mitigation.
- **NETRA:** Builds indigenous space-object tracking capabilities using radars and optical telescopes.
- **Debris-Free Space Mission (DFSM):** India aims for debris-free missions by Indian space actors by **2030**.
- Post-mission disposal and collision-avoidance practices are being strengthened.

Debris Free Space Mission

India announced the **Debris Free Space Mission (DFSM)** initiative in **2024**.

It aims to achieve **debris-free space missions by all Indian governmental and non-governmental space actors by 2030**.

Important measures include:

- preventing debris generation during missions,
- avoiding accidental orbital collisions and break-ups,
- avoiding intentional creation of long-lived debris,
- ensuring post-mission disposal,
- maintaining satellite manoeuvrability and trackability, and
- promoting national and international data sharing.

For satellites and rocket bodies at the end of their operational life, DFSM envisages **controlled re-entry or de-orbiting to an orbit with less than five years of remaining orbital life**, with prescribed reliability requirements.

Conclusion

The rapid growth of **LEO satellite constellations** has made safe orbital

management increasingly important. India's emphasis on **Space Situational Awareness, collision avoidance, NETRA, post-mission disposal and the Debris Free Space Mission** seeks to protect operational satellites while limiting the creation of new debris. Effective national regulation, indigenous tracking capabilities and international cooperation will be essential for ensuring the **long-term sustainability of outer space activities**.

3. Chandipura Virus Outbreak

Why in News?

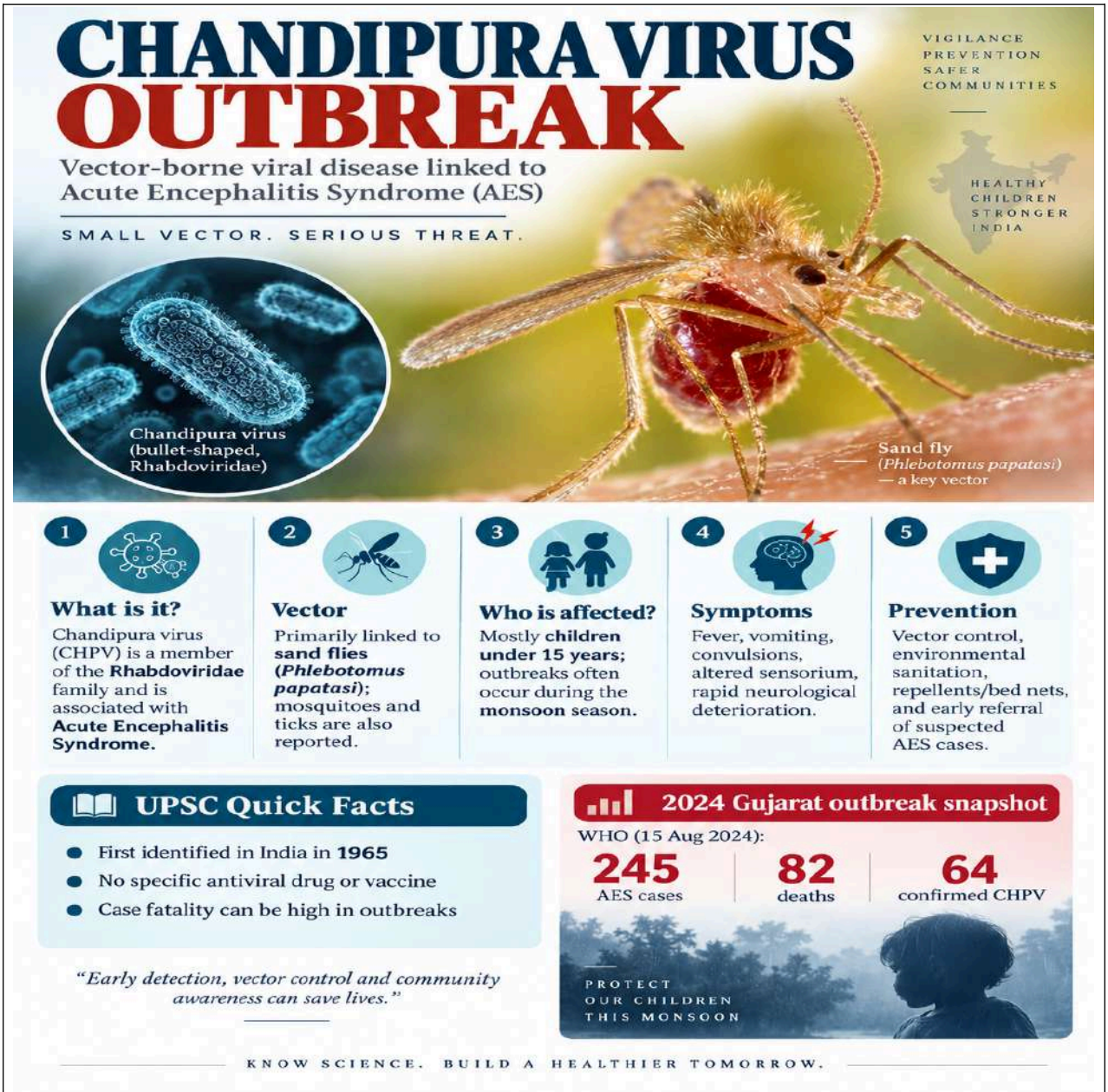
Chandipura virus (CHPV) has caused a fresh outbreak in **Gujarat**, with cases also reported in **Rajasthan**.
As of early August 2026, Gujarat reported **35 confirmed cases among 184 suspected cases**, with **22 reported child deaths**; a national joint outbreak response team has been deployed to Gujarat and Rajasthan.
The outbreak is particularly important because CHPV can cause **Acute Encephalitis Syndrome (AES)**, especially in children, and can progress rapidly.

What is Chandipura Virus?

- **Chandipura virus (CHPV)** is an **RNA virus**.
- **Family:** Rhabdoviridae
- **Genus:** Vesiculovirus
- It is a **neurotropic virus**, meaning it can affect the nervous system.
- It is particularly associated with **acute encephalitis in children**.

Historical Background

- First isolated in **1965** from patients in **Chandipura village, Maharashtra**.
- Major outbreaks have subsequently occurred in parts of **Gujarat, Andhra Pradesh and Maharashtra**.
- A significant outbreak occurred in **Andhra Pradesh in 2003**, while Gujarat experienced major outbreaks in the following years.
- The **2024 outbreak** was India's largest CHPV-associated AES outbreak in about two decades, with 64 laboratory-confirmed CHPV cases among 245 AES cases.



Transmission

- **Primary vector: Sandflies**, particularly Phlebotomus species.
- Other vectors have been investigated, but **sandflies are the principal epidemiologically important vector**.
- Chandipura virus is **vector-borne**; it is not primarily spread through person-to-person transmission.

Diagnosis

- **RT-PCR**
- **IgM ELISA**

The Centre has deployed a **National Joint Outbreak Response Team (NJORT)** to Gujarat and Rajasthan.

Who is Most Affected?

The disease predominantly affects **children below 15 years of age.**
The infection can progress very rapidly from an acute febrile illness to **Acute Encephalitis Syndrome (AES).** Previous outbreaks have recorded high mortality, with severe cases sometimes progressing within **48–72 hours.**

Key Features

Clinical Symptoms

Chandipura Virus infection may initially resemble an acute viral fever but can rapidly involve the central nervous system.
Important symptoms include:

- Sudden high fever
- Headache
- Vomiting
- Altered consciousness
- Convulsions or seizures
- Encephalitis
- Coma in severe cases

Rapid identification and hospital referral are therefore important, particularly in children presenting with **fever accompanied by neurological symptoms.**

Acute Encephalitis Syndrome

Acute Encephalitis Syndrome (AES) is a broader clinical syndrome characterised by acute fever accompanied by neurological manifestations such as altered mental status or seizures.
AES is not synonymous with Chandipura Virus infection. Several viruses and other infectious agents can cause AES. Laboratory testing is required to confirm CHPV as the causative agent.

Treatment and Vaccine

- There is currently **no approved specific antiviral treatment or vaccine for Chandipura Virus**.
- Treatment is mainly **supportive**, including management of fever, seizures, hydration, respiratory support and complications associated with encephalitis.

Conclusion

The **Chandipura Virus outbreak** highlights the importance of strong **vector surveillance, early detection of Acute Encephalitis Syndrome and rapid clinical referral**, especially among children. Strengthening laboratory capacity, integrated disease surveillance and the **One Health approach** will be crucial for controlling outbreaks and improving preparedness against emerging vector-borne diseases.

4. National Animal Disease Control Programme (NADCP)

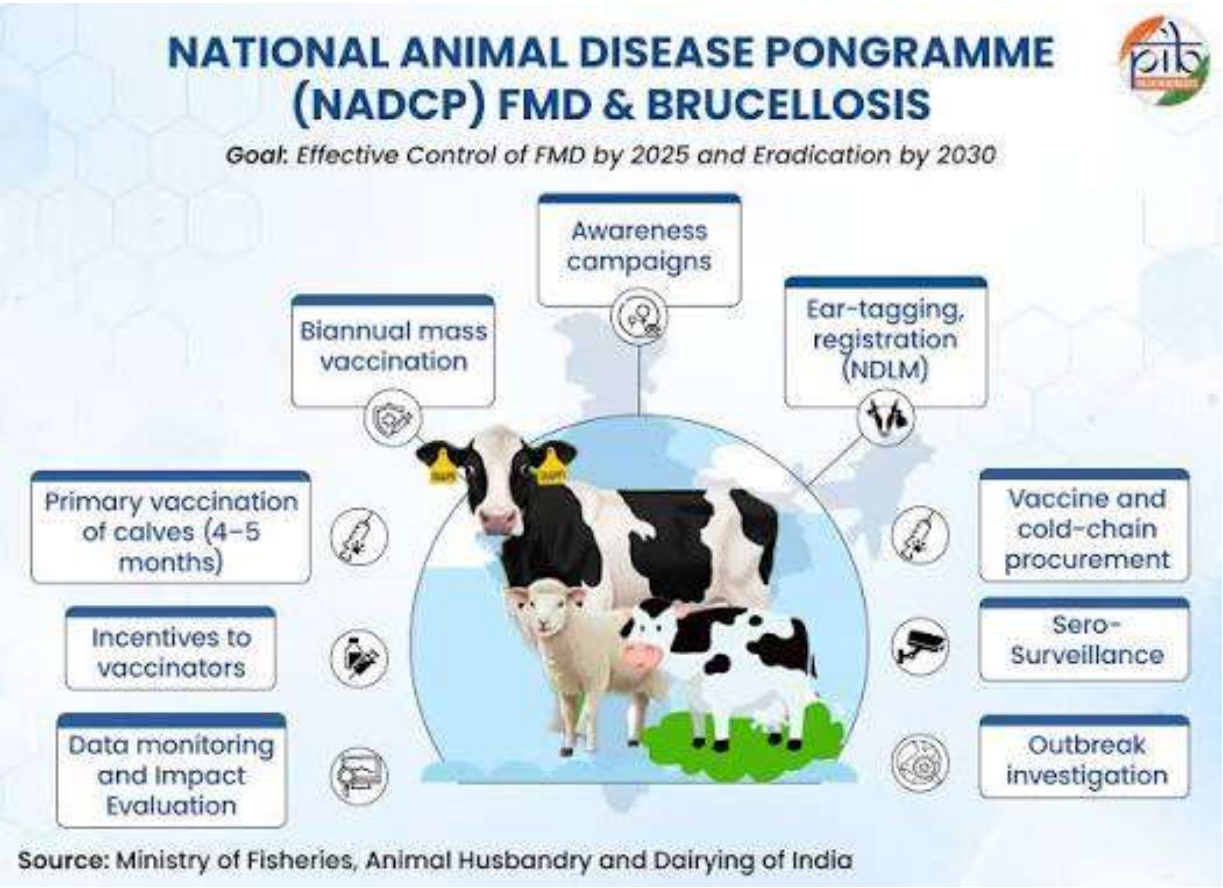
Why in News?

- **NADCP has completed seven years** since its launch in 2019 and remains a major component of India's livestock-health strategy.
- As of 2026, **147.16 crore FMD vaccine doses** have been administered, benefiting **8.04 crore farmers**. FMD outbreaks declined from **132 in 2019 to 40 in 2025.**
- The programme has also expanded FMD vaccination to **pastoral sheep and goats**, including migratory populations, since 2024.

About NADCP

- **Launched:** September 2019.
- **Ministry:** Ministry of Fisheries, Animal Husbandry & Dairying.
- **Nature: Central Sector Scheme** with 100% Central funding.
- **Core objective:** Control and eventually eradicate:
  - **Foot and Mouth Disease (FMD)**
  - **Brucellosis**

- The long-term target is **FMD eradication by 2030**.
- It is now implemented within the broader **Livestock Health and Disease Control Programme (LHDCP)** framework.



Key Features

FMD Control

- **Biannual vaccination** of susceptible livestock:
  - Cattle
  - Buffaloes
  - Sheep
  - Goats
  - Pigs

- Target: **100% vaccination coverage.**
- Includes **ear-tagging, registration and disease surveillance.**

Brucellosis Control

- **One-time vaccination** of **female bovine calves aged 4–8 months.**
- Important because brucellosis causes **infertility, abortion and reduced milk production.**
- **Brucellosis** is primarily a **bacterial reproductive disease** caused in cattle and buffaloes by Brucella abortus. It can cause abortion, infertility and reduced milk production in animals.
- Brucellosis is also a **zoonotic disease**, meaning it can spread from animals to humans. Vaccination therefore has importance from both an **animal-health and One Health perspective**

Disease Surveillance

- Serological monitoring to assess immunity.
- Investigation and laboratory confirmation of outbreaks.
- Monitoring of animal movement and quarantine.
- Cold-chain infrastructure for vaccines.

Recent Achievements

- **147.16 crore FMD vaccine doses** administered cumulatively.
- FMD outbreaks: **132 → 40 (2019–2025).**
- Brucellosis outbreaks: **22 → 15** over the same period.
- No FMD outbreak caused by **Asia-1 serotype for the last three years.**
- FMD vaccination has been extended to **migratory pastoral sheep and goats**, helping prevent disease transmission along migration routes.

Conclusion

The National Animal Disease Control Programme strengthens India's livestock -health system through mass vaccination, disease surveillance, digital livestock identification and veterinary infrastructure. By controlling FMD and Brucellosis, the programme can improve livestock productivity, protect

farmers' livelihoods and strengthen India's One Health and animal-disease preparedness framework.

5. Digital Bharat Nidhi (DBN) & Amended BharatNet Programme

Why in News?

- **Digital Bharat Nidhi (DBN)** is being used to finance the rollout of the **Amended BharatNet Programme (ABP)** to strengthen rural broadband infrastructure.
- In 2026, State-led implementation agreements were signed for **Andhra Pradesh and Gujarat**, with DBN providing financial support.
- The latest DBN dashboard shows continued expansion of upgraded Gram Panchayats, optical fibre and FTTH connections.

Digital Bharat Nidhi (DBN)

- **DBN** is the successor to the **Universal Service Obligation Fund (USOF)** under the **Telecommunications Act, 2023**.
- It is administered by the **Department of Telecommunications (DoT), Ministry of Communications**.
- **Objective:** Promote universal access to affordable telecom and digital services in **rural, remote and underserved areas**.
- Funds can support projects for:
    - Rural broadband
    - Mobile connectivity in uncovered areas
    - BharatNet
    - Submarine optical fibre connectivity
    - Telecom technology development.

DBN vs USOF

USOF → DBN

The basic objective of universal connectivity continues, but DBN operates under the newer **Telecommunications Act, 2023**, with a broader framework for supporting digital connectivity and infrastructure.

Amended BharatNet Programme (ABP)

- **Approved:** August 2023.
- It is an upgraded version of **BharatNet Phase I & II.**
- **Objective:** Provide reliable, high-speed broadband connectivity to **all Gram Panchayats and villages on demand.**
- **BSNL** has been designated as the Project Management Agency.

What is being upgraded?

Old BharatNet → Amended BharatNet

- Existing fibre network → **upgraded, more reliable network**
- Linear architecture → **Ring architecture**
- Conventional O&M → **SLA-based O&M**
- Fragmented implementation → **single Project Implementation Agency for each package**
- Limited monitoring → **Network Operations Centre + Remote Fibre Monitoring System.**

Key Features of ABP

Ring Architecture

- Creates alternate routes for data transmission.
- If one fibre route fails, traffic can be rerouted through another route.
- Hence, improves **network resilience and uptime.**

Last-Mile Connectivity

- BharatNet is not limited to laying fibre up to Gram Panchayats.
- The programme aims to extend connectivity to **rural households, institutions and enterprises** through FTTH.

BharatNet Udyami Model

- Last-mile connectivity is facilitated through local entrepreneurs, ISPs, SHGs and other entities.
- Creates a **local business model for rural broadband delivery.**

Technology Upgrade

- IP-MPLS-based network.
- Higher-capacity links at Blocks and Gram Panchayats.
- Remote monitoring and dedicated Network Operations Centres.

Service-based approach

- Emphasis on **network uptime and quality of service**, rather than merely laying optical fibre.

Conclusion

Digital Bharat Nidhi (DBN) plays an important role in financing the expansion of the **Amended BharatNet Programme**, helping extend reliable and affordable broadband connectivity to rural India. By strengthening **optical-fibre networks, Gram Panchayat connectivity and FTTH services**, the initiative supports **digital inclusion, e-governance and last-mile delivery of digital services**, thereby helping bridge India's rural–urban digital divide.

6. Nuclear Energy Technology in India

Why in News?

PIB highlighted India's push towards **indigenous nuclear technology, thorium utilisation and Small Modular Reactors (SMRs)**.India aims to increase nuclear power capacity to **100 GW by 2047** as part of its clean-energy and energy-security strategy.

India's Nuclear Power Programme

- India currently operates **24 nuclear power reactors** with an installed capacity of about **8.78 GW**.
- **9 reactors (7.5 GW)** are under construction.
- India mainly uses **Pressurised Heavy Water Reactors (PHWRs)** fuelled by **natural uranium**.
- PHWRs do **not require enriched uranium**.

Three-Stage Nuclear Programme

Proposed by **Dr Homi J. Bhabha in 1954** to utilise India's limited uranium and

abundant thorium resources.

Stage I – PHWRs

- Fuel: **Natural Uranium**
- Produces electricity and **Plutonium-239** from spent fuel.

Stage II – Fast Breeder Reactors (FBRs)

- Use plutonium recovered from Stage I.
- Breed additional fissile material.
- Help convert **Thorium-232 → Uranium-233.**

Stage III – Thorium-based Reactors

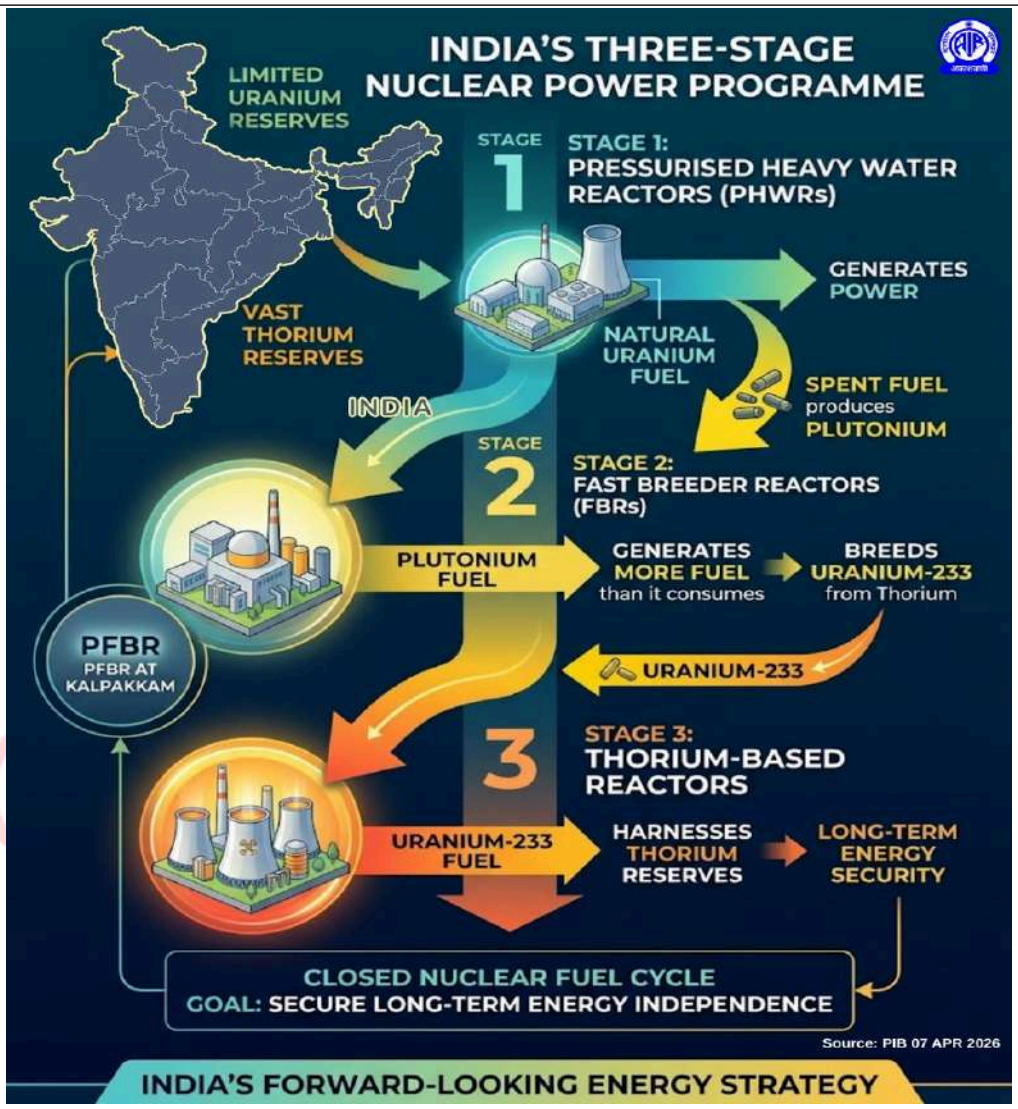
- Use **Uranium-233** as fissile fuel.
- Aim to exploit India's large **thorium reserves.**

Prototype Fast Breeder Reactor (PFBR)

- Located at **Kalpakkam, Tamil Nadu.**
- Capacity: **500 MW.**
- Developed mainly by **Indira Gandhi Centre for Atomic Research (IGCAR).**
- Achieved **first criticality in April 2026,** marking an important step towards Stage II.
- Nearly **90% of its equipment and systems were domestically manufactured.**

Thorium

- India possesses abundant **Thorium-232,** particularly in coastal monazite sands.
- Major deposits occur in **Kerala, Tamil Nadu, Andhra Pradesh, Odisha and West Bengal.**
- **Thorium-232 is fertile, not fissile.**
- It absorbs a neutron and is eventually converted into fissile **Uranium-233.**



Small Modular Reactors (SMRs)

SMRs generally produce up to **300 MWe.**

Nuclear Energy Mission has an allocation of **₹20,000 crore** for indigenous SMR development.

Target: At least **5 indigenous SMRs operational by 2033.**

India is developing:

220 MWe Bharat Small Modular Reactor (BSMR-200) – BARC + NPCIL

55 MWe SMR-55

High-Temperature Gas-Cooled Reactor for hydrogen production.

Nuclear Fuel Cycle & Waste

- India follows a **closed nuclear fuel cycle**—spent fuel is reprocessed to recover reusable nuclear material.
- India uses **vitrification technology** to convert high-level radioactive waste into stable glass form for safer storage.
- Nuclear power provides **low-carbon, round-the-clock baseload electricity**.

India's three-stage programme seeks to convert its **thorium advantage into long-term energy security**. Indigenous **FBRs and SMRs** can strengthen clean baseload power while reducing technological dependence. Future expansion must balance **energy security, nuclear safety, waste management and public confidence**.

7. Critical Minerals Innovation Hackathon 2026

Why in the News?

The **Ministry of Mines** launched the **Critical Minerals Innovation Hackathon 2026 (CMiH 2026)** on **25 August 2026**. It aims to support the **National Critical Mineral Mission (NCMM)** by encouraging innovative technological solutions for India's critical-mineral ecosystem.

Background

- **Organising Ministry:** Ministry of Mines.
- **Host Institute: Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC), Nagpur**.
- JNARDDC is an **autonomous body under the Ministry of Mines**.

Key Features

Two Major Problem Statements

The Hackathon focuses on **two technology challenges**.

1. Mineral Prospectivity Mapping from Open Data

Participants are expected to develop models capable of identifying areas with potential deposits of **lithium-bearing pegmatites or Rare Earth Elements (REEs)**.

The exercise can use datasets such as:

- **GSI Bhukosh**
- **National Geoscience Data Repository (NGDR)**
- **Sentinel-2 satellite data**
- Aeromagnetic data
- Geochemical data

The objective is to develop **mineral prospectivity heat maps** that can assist exploration activities.

2. Smart Technology and Patent Tracker

Participants will develop a **software or web-based Smart R&D and Patent Tracking System** for critical minerals.

The platform is expected to analyse publicly available information relating to:

- Indian patents
- Research and development activities
- Technology trends
- Leading research organisations
- Emerging technologies
- Technology gaps

Such a system can support **technology intelligence, R&D planning and policy decisions** in the critical-minerals sector.

Participation

The Hackathon is open to:

- Students
- Researchers
- Start-ups
- Academic institutions
- R&D institutions
- Innovators

Critical Minerals – Important Facts

- Critical minerals are minerals that are **economically important but vulnerable to supply disruptions.**
- They are essential for:
    - **Electric vehicles and batteries**
    - Renewable energy technologies
    - Semiconductors and electronics
    - Defence and aerospace
    - Advanced manufacturing.
- India identified **30 critical minerals** in 2023.
- Examples: **Lithium, Cobalt, Nickel, Graphite, Copper, Gallium, Germanium, REEs and Platinum Group Elements (PGEs).National Critical Mineral Mission (NCMM)**
- Approved by the Union Cabinet in **2025.**
- Covers the entire value chain:
  Exploration → Mining → Beneficiation → Processing → Recycling/recovery from end-of-life products.
- Total financial framework: **₹34,300 crore over seven years,** including government expenditure and expected PSU investment.
- Objective: Reduce import dependence and create a **secure and resilient critical-mineral supply chain.**

Critical minerals are central to India's **energy transition, high-tech manufacturing and strategic security.** Innovation in exploration, processing and recycling can reduce India's dependence on vulnerable foreign supply chains. India must combine **domestic exploration, technological innovation and international mineral partnerships** for long-term mineral security.



8. India's Malaria Elimination Target – 2030

Why in News?

The Union Health Ministry reviewed India's progress towards achieving **malaria elimination by 2030.**

Background

About Malaria

Malaria is a life-threatening parasitic disease transmitted primarily through the bite of an infected **female Anopheles mosquito**.

It is caused by parasites belonging to the genus **Plasmodium**.

Important malaria parasites infecting humans include:

- **Plasmodium falciparum**
- **Plasmodium vivax**
- P. malariae
- P. ovale
- P. knowlesi

Among these, **P. falciparum** can cause severe and potentially fatal malaria.

National Framework for Malaria Elimination

- India launched the **National Framework for Malaria Elimination (NFME) 2016–2030** in **2016**.
- It is aligned with the **WHO Global Technical Strategy for Malaria 2016–2030** and provides the overall framework for progressively reducing malaria transmission and achieving elimination.
- The framework is currently supported by the **National Strategic Plan for Malaria Elimination 2023–2027**, implemented through

the **National Centre for Vector Borne Diseases Control (NCVBDC)** under the Ministry of Health and Family Welfare.

India's Targets

India has adopted a two-stage objective:

By 2027: Achieve **zero indigenous malaria cases** throughout all States and Union Territories.

By 2030: Sustain malaria-free status and **prevent re-establishment of local transmission** throughout the country.

An **indigenous case** refers to a malaria infection acquired through **local transmission**, rather than a case imported from another malaria-endemic areas.

Key Features

Test, Treat and Track

India follows a **"Test, Treat and Track"** approach for malaria elimination.
It involves:
early detection of suspected cases,
confirmed diagnosis,
prompt and complete treatment, and
tracking of individual cases and transmission areas.



The objective is not merely to treat malaria but to identify and interrupt every remaining chain of transmission.

Vector Control

Malaria prevention includes measures aimed at reducing contact between humans and malaria-carrying mosquitoes.

Major interventions include:

- **Long-Lasting Insecticidal Nets (LLINs)**
- **Indoor Residual Spraying (IRS)**
- Larval-source management
- Entomological surveillance
- Community-level vector-control measures

These are particularly important in high-transmission and vulnerable areas.

The high-burden areas were located in **Mizoram, Odisha, Tripura, Assam, Andhra Pradesh, Andaman & Nicobar Islands, Chhattisgarh, Jharkhand and Maharashtra.**

District and Village Action Plans

The Government has emphasised **District Action Plans** for all high-burden districts and **Village Action Plans** for high-burden villages.

Interventions are tailored according to local factors such as:

- malaria epidemiology,
- mosquito-vector behaviour,
- geography,
- tribal and forest populations, and
- accessibility of health services.

Real-Time Digital Surveillance

The **Integrated Health Information Platform (IHIP)** is being used for real-time monitoring of vector-borne diseases, including malaria.

All **36 States and Union Territories** have been onboarded onto the IHIP vector -borne disease platform, strengthening case reporting and surveillance.

Progress Towards Elimination

India has made substantial progress:

- **Nearly 80% decline** in malaria cases and deaths between **2015 and 2025**
- High-burden districts declined from **155 to 33**
- **160 districts** reported zero indigenous malaria cases during **2022–2025**.

India also exited the WHO's **High Burden to High Impact (HBHI)** group in **2024**, reflecting the substantial reduction in malaria burden.

Elimination vs Eradication

Malaria elimination means interrupting **local transmission within a defined geographical area**, while continuing measures to prevent its return.

Malaria eradication means the **permanent global reduction of malaria transmission to zero**, after which interventions are no longer required.

Therefore, India's **2030 target is malaria elimination, not global eradication**.

For **WHO malaria-free certification**, a country must demonstrate that indigenous malaria transmission has been interrupted nationwide for at least **three consecutive years** and that an effective surveillance system exists to prevent its re-establishment.

Conclusion

India's **Malaria Elimination Target 2030** represents a transition from broad disease control towards identifying and interrupting every remaining chain of local transmission. Strengthened **case-based surveillance, Test-Treat-Track strategy, vector control, digital monitoring and targeted interventions in high-burden districts** will be essential to achieve **zero indigenous cases and sustain a malaria-free India**.

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