

NEXT IAS THE CRUX

October Issue;
2025

Chief Editor

B. Singh (Ex. IES)

CMD, NEXT IAS & MADE EASY Group



MADE EASY Publications Pvt. Ltd.

Corporate Office: 44-A/4, Kalu Sarai, New Delhi-110016

Visit us at: www.madeeasypublications.org

☎ 011-45124660, 8860378007

E-mail: infomep@madeeasy.in

© Copyright 2025

MADE EASY Publications Pvt. Ltd. has taken due care in collecting the data before publishing this book. In spite of this, if any inaccuracy or printing error occurs then MADE EASY Publications owes no responsibility. MADE EASY Publications will be grateful if you could point out any such error. Your suggestions will be appreciated. © All rights reserved by MADE EASY Publications Pvt. Ltd. No part of this book may be reproduced or utilized in any form without the written permission from the publisher.

Disclaimer: The views and opinions expressed in this magazine are those of the authors and do not necessarily reflect policy or position of CURRENT AFFAIRS Magazine or MADE EASY Publications. They should be understood as the personal opinions of the author/ authors. The MADE EASY assumes no responsibility for views and opinions expressed nor does it vouch for any claims made in the advertisements published in the Magazine. While painstaking effort has been made to ensure the accuracy and authenticity of the informations published in the Magazine, neither Publisher, Editor or any of its employee does not accept any claim for compensation, if any data is wrong, abbreviated, cancelled, omitted or inserted incorrect.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without either the prior written permission of the Publisher.

Compilation of UPSC relevant news from 1st October to 31st October 2025

Contents



Cover Story

Alternative Dispute Resolution (ADR).....	6
Decline of Maoist Insurgency in India	8
India-UK Relations.....	10
India-Afghanistan Relations.....	12



Feature Articles

22nd India-ASEAN Summit	14
Women's Role in Agriculture Sector.....	16
NITI Aayog Tax Policy Working Paper.....	18
India-European FTA and TEPA	20
Agricultural Credit in India	22
Post-Harvest Losses in India	23
Fertilizer Subsidy	24
India's Services Sector.....	26
E-Waste in India	28
STEM Brain Drain in India: Beyond Incentives, Towards Ecosystem.....	30
Lightning Strikes	31
World Mental Health	33

Disclaimer:

MADE EASY Publications Pvt. Ltd. has taken due care in collecting the data before publishing this book. In spite of this, if any inaccuracy or printing error occurs then MADE EASY Publications owes no responsibility. MADE EASY Publications will be grateful if you could point out any such error. Your suggestions will be appreciated. © All rights reserved by MADE EASY Publications Pvt. Ltd. No part of this book may be reproduced or utilized in any form without the written permission from the publisher.

Contents | In-Shorts

THE CRUX

October Issue; 2025

1. Polity & Governance

NCRB Released Crime in India 2023 Report.....	36
Swachh Shehar Jodi (SSJ) Initiative.....	36
100 Years of UPSC.....	37
PM-SETU Yojana.....	37
DigiLocker.....	38
Supreme Court on Surrogacy Act.....	38
Appointment of District Judges.....	38
Prime Minister Internship Scheme.....	39
Ladakh Delegates Offered Terms of Article 371 ..	39
DAY-NRLM.....	39
Freedom of Religion and Right to Privacy.....	40
8th Central Pay Commission.....	40
Model Youth Gram Sabha Initiative.....	41
53rd Chief Justice of India.....	41
Online National Drugs Licensing System.....	41

2. International Relations

Centre invokes Mutual Legal Assistance Treaty...	42
India-Bhutan Railway Projects.....	42
India Re-Elected to ICAO Council.....	42
Moscow Format Talks.....	43
Polar Silk Road.....	43
Plutonium Management and Disposition Agreement (PMDA).....	43
Africa's Great Green Wall project.....	43
India Elected to UN Human Rights Council.....	44
India-Mongolia Sign MoUs to Boost Ties.....	44
India Elected Co-Chair of UN-GGIM Asia-Pacific Committee.....	45
India and Brazil (Mercosur).....	45
Iran Ratifies UN Convention Against Terror.....	45
Saudi Arabia Ends Kafala System.....	46
East Timor 11th Member of ASEAN.....	46

3. Economy

The Updated Rangarajan Poverty Line.....	47
PKVY: Nurturing Organic Farming in India.....	47
Prime Minister Dhan-Dhaanya Krishi Yojana.....	48
Electronics Component Manufacturing Scheme ..	49
Securities Transaction Tax.....	49
Reserve Bank Integrated Ombudsman Scheme.....	49
Vishwas Scheme.....	50
LEAPS 2025.....	50
Ways and Means Advances (WMA).....	50
Payments Regulatory Board (PRB).....	51
RoDTEP.....	51
Nobel Prize in Economics 2025.....	53
India's Biotech and Bioeconomy Sector.....	54
State Mining Readiness Index.....	54
SAIME Model.....	54
Per Drop More Crop (PDMC) Scheme.....	56
Critical minerals.....	56
India Faces Highest CBAM Levy.....	57
Net FDI.....	57
Sevilla Forum.....	57

National Makhana Board.....	58
China's Complaint Against India at WTO.....	58
National Seeds Corporation.....	59
India's Maritime Sector.....	59
EPF New Withdrawal Provisions 2025.....	60

4. Environment

Microplastics Pollution.....	61
Red Sanders (Pterocarpus Santalinus).....	61
Climate Change Spurs Growth in Amazon.....	61
Coral Larvae Cryobank.....	62
National Red List Vision 2025-2030.....	63
IUCN World Heritage Outlook 2025.....	63
Updated IUCN's New Red List.....	63
State of Finance for Forests (SFF) Report.....	64
CAQM Invokes Stage-II of GRAP in the NCR.....	64
Invasive Alien Species (IAS).....	65
The UN's Early Warnings for All Initiative.....	66
5th Edition of "An Eye on Methane".....	66
Conservation Concerns Over the Western Ghats ..	67
Vivek Menon becomes First Asian to Chair Key IUCN Panel.....	67
REDD+ Programme.....	68
Intrusion Detection System to Protect Elephants.....	68
India Unveils Major Global Solar Initiatives at ISA Assembly.....	68
Global Emission Cuts Fall Short of Paris Goals.....	69
India Moves up to 9th Position Globally in Forest Area.....	69
Nauradehi Sanctuary in Madhya Pradesh.....	70

5. Geography

Amazon's 'Flying Rivers'.....	75
Sir Creek.....	75
Mud Volcano.....	75
Durand Line.....	76
Sawalkote Hydroelectric Project.....	76
Pasni Port.....	76
Madagascar.....	77
Tipping Point.....	77
Namchik-Namphuk Coal Block.....	77

6. Internal Security

US Tomahawk Missiles.....	78
President's Bodyguard.....	78
93rd Air Force Day.....	78
Saksham.....	79
Seventh NSG Hub to Come up in Ayodhya.....	79
Gallantry Awards.....	79
Police Commemoration Day.....	79
ICGS Ajit and ICGS Aparajit.....	80
Russia Tested Poseidon Drone.....	80

7. Science & Technology

SODAR System.....	81
Maitri II: India's New Frontier in Antarctica.....	81

Interstellar Mapping and Acceleration Probe.....	81
Crew Escape System.....	83
Nobel Prize in Physiology or Medicine 2025.....	83
2025 Nobel Prize in Physics.....	84
Nobel Prize in Chemistry 2025.....	85
Prussian Blue Capsules.....	86
Google's Data Centre Investment in India.....	86
Time Rondeau Crystal.....	87
Rotavirus Vaccine.....	87
Impact of a Coronal Mass Ejection.....	87
New Monoclonal Antibody.....	88
Scientists uses 'Atomic Stencils'.....	88
Quantum Echoes Algorithm.....	89
Telecommunications Amendment Rules, 2025 ..	89
Maha MedTech Mission.....	90
UN Convention against Cybercrime.....	90
Rashtriya Vigyan Puraskar 2025.....	91
Digital Arrest.....	91
14th Round of Commercial Coal Mine Auctions...	92
Delhi Declaration on 6G.....	92
Dopamine.....	93

8. Society

Civil Registration System.....	95
SC Forms Panel on Transgender Persons.....	95
We Rise Initiatives.....	96

9. Cultural & History

150th Anniversary of Vande Mataram.....	97
UNESCO's new Virtual Museum of Stolen Cultural Objects.....	97
Traditional Ritual Theatres of India.....	97
Bathukamma Festival.....	101
Bathou Religion.....	101
Rani Chennamma.....	101

10. Miscellaneous

Schedule M Norms.....	102
MY Bharat-National Service Scheme Awards.....	102
ISSA Award 2025.....	102
World Para Athletics Championships 2025.....	103
Nobel Prize in Literature, 2025.....	103
Operation HAECHI-VI.....	103
Nobel Peace Prize, 2025.....	103
Kenton R. Miller Award.....	103
Abel Prize 2025.....	104
Henley Passport Index.....	104
Commonwealth Games.....	104
Sakharov Prize-2025.....	105
International Convention against Doping in Sport.....	105
Rampur and Mudhol Hound Dog Breeds.....	106
Climate Inequality Report 2025.....	106

11. Data Recap..... 107

Test Yourself..... 108

MADE EASY

Leading Institute for ESE, GATE & PSUs

Announcing

Classroom Courses & Live-Online Courses for GATE 2027 • ESE 2027

- ✓ Classes by experienced & renowned faculties.
- ✓ Systematic subject sequence & timely completion.
- ✓ Comprehensive & updated books (Optional).
- ✓ Efficient teaching with comprehensive coverage.
- ✓ Regular performance assessment through class tests.
- ✓ Facility for doubt removal.
- ✓ Concept practice through workbook solving.
- ✓ Exam oriented learning ecosystem.
- ✓ Proper notes making & study concentration.
- ✓ Similar teaching pedagogy in offline & online classes.

**Classroom
Courses**



**Live-Online
Courses**



16th Dec 2025

15th Dec 2025

Streams : CE, ME/PI, EE, EC/IN, CS

MADE EASY is the most trusted and preferred institute which has consistently produced **Top Rankers** in **ESE & GATE** with largest number of selections.

Our ESE 2024 Toppers



Classroom Course



Classroom Course



Classroom Course



Test Series & IGP

**AIR-1 in all 4 streams
(CE, ME, EE, E&T)**

**40 Out of 40 in Top 10
from all courses**

**95% of Total Selections
from all courses**

Our GATE 2025 Toppers



Classroom Course



Classroom Course



Classroom Course



Classroom Course



Test Series

**5 All India Rank 1
(CE, ME, IN, ES & EE)**

**46 in Top 10
Including all streams**

**401 in Top 100
Including all streams**

Corporate Office : 44 - A/1, Kalu Sarai, Near Hauz Khas Metro, New Delhi - 110016 | **Ph :** 9021300500

MADE EASY Centres :

Delhi

Hyderabad

Jaipur

Bhopal

Pune

www.madeeasy.in

GENERAL STUDIES : FIRST STEP

Step-up for CSE after Class XII

This course is especially designed for undergraduate college going UPSC aspirants.

Key Features

- ✓ **NCERT Based Curriculum:**
NCERT is a proven best resource to start building one's base in General Studies. It not only offers in-depth knowledge in easy language and helps in building fundamental concepts but is also closely aligned with syllabus of many competitive examinations.
- ✓ **Offline / Online Mode:**
Classes will be conducted in Offline as well as online mode keeping in mind the requirements of college going students. Moreover, extra doubt clearing sessions and tests will be conducted at regular intervals during the course.
- ✓ **High Quality Teaching:**
Lectures will be delivered by experienced and knowledgeable faculties. Lecture plan is designed to cover the basics from scratch in order to cater the requirements of fresher students.
- ✓ **Focus on Concepts and Analytical Ability:**
Conceptual clarity and analytical ability is an essential condition for laying a strong foundation for success in Civil Services Examination. FIRST STEP course is designed to clear concepts and develop analytical ability of the students for the basic subjects which are part of Civil Services Exam.
- ✓ **Answer Writing & Strategy Sessions:**
Good answer writing skill is essential to clear Mains (Stage-II) of CSE. FIRST STEP course aims to improve answer writing skills through specially designed sessions by CSE qualified rank holders at periodic intervals.
- ✓ **Provision of Academic Coach:**
The course provides facility of interaction with highly qualified Academic Coaches for personalized and dedicated academic support, mentor-ship and guidance.
- ✓ **Performance Assessment:**
Students will be assessed regularly through objective and subjective questions based tests at regular intervals for performance evaluation and continuous improvement.
- ✓ **Exclusive Study Materials.**
High quality lectures will be supplemented with latest and updated study materials, made exclusively for FIRST STEP course students.

Subjects Covered: History, Geography, Economy, Polity, General Science & Technology, Environment & General Knowledge

Course Duration: 12 Months • Classes 4 days in a week (Tuesday, Wednesday, Saturday & Sunday)

Admission Open • For more details, visit : www.nextias.com

Delhi Centre (Vivekananda House) :
6-B, Pusa Road, Metro Pillar No. 111,
Near Karol Bagh Metro, New Delhi - 110006
Ph : 8081300200

Delhi Centre (Mukherjee Nagar) :
637, Banda Bahadur Marg,
Mukherjee Nagar, Delhi-110009
Ph : 9311667076

Prayagraj Centre :
31/31 Sardar Patel Marg, Civil Lines
Prayagraj, Uttar Pradesh - 211001
Ph : 9958857757

Jaipur Centre :
Plot No. 6 & 7, 3rd Floor, Sree Gopal Nagar,
Gopalpura Bypass, Jaipur - 302015
Ph : 9358200511



www.nextias.com



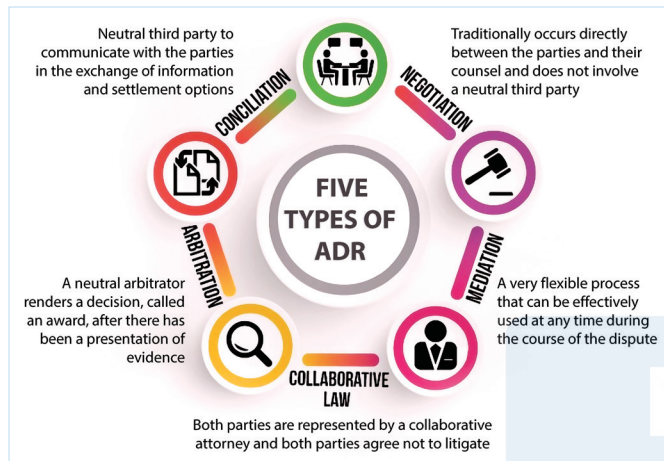
info@nextias.com

ALTERNATIVE DISPUTE RESOLUTION (ADR)

India's judicial system is grappling with an unprecedented backlog underscoring the urgent need for alternative mechanisms to ensure timely delivery of justice.

About ADR

- It refers to a set of processes that allow parties to resolve disputes outside the formal court system. These include **Arbitration, Conciliation, Mediation** etc.



Need of ADR

- **Judicial Pendency Crisis**: Over **5 crore pending cases** in Indian courts as of March 2025, a burden courts alone cannot handle (*National Judicial Data Grid – NJDG, 2025*).
 - ♦ **81,734 cases** pending as of May 2025, slowing delivery of constitutional justice (*Supreme Court Observer, 2025*).
 - ♦ More than **62 lakh cases pending** in High Courts, weakening appellate justice (*India Justice Report – IJR 2025*).
- **Judicial Vacancy Challenge**: **33% vacancy** in High Courts and **21% in District Courts** directly increasing pendency (*India Justice Report 2025*).
- **Low Judge-to-Population Ratio**: India has only **15 judges per million population** vs. **50 recommended** by the Law Commission of India (1987) (*IJR 2025*).
- **Long-Delayed Cases**: In several jurisdictions, **20–30% cases** are pending for **5–10+ years**, denying substantive justice.
- **Faster & Less Costly Resolution**: ADR cuts procedural delays and litigation cost — helping citizens and businesses avoid multi-year trials (*General legal analysis based on Arbitration & Conciliation Act, 1996*).
- **Boost to Economic Competitiveness**: ADR strengthens **contract enforcement** and supports **Ease of Doing Business**, crucial for investment and trade (*Policy rationale: DPIIT & WTO*).
- **Preserves Social Harmony**: Mediation & conciliation promote **relationship-based, participatory** settlements, especially in family and community disputes (*Legal Services Authorities Act, 1987*).

- **Confidentiality & Autonomy**: ADR ensures **private, tailor-made procedures**, protecting business reputation and commercial secrets (*Arbitration & Conciliation Act, 1996*).
- **Expert-Driven Justice**: Arbitrators with domain expertise offer **technical, high-quality** dispute resolution, reducing appeals (*Commercial Courts Act, 2015*).
- **Supports India's Global Arbitration Hub Vision**: Recent amendments aim to position India as a **global arbitration center** competing with Singapore, London.
- **Filters Frivolous Litigation**: Mandatory mediation resolves **avoidable disputes** before reaching court, lowering pendency (*Commercial Courts (Amendment) Act, 2018*).
- **Digital Justice Expansion**: **Online Dispute Resolution (ODR)** improves access in remote areas, especially post-COVID-19 (*NITI Aayog ODR Policy 2021*).
- **Culturally Accepted Approach**: Traditional dispute-resolution practices (panchayats, village elders) make ADR **socially familiar and trusted**.

Constitutional and Legal Basis of ADR

Constitutional Basis:

- **Article 39A**: It mandates the State to ensure equal justice and free legal aid.

Legal Basis:

- **The Arbitration and Conciliation Act, 1996 (Amended in 2021)**: It provides the legal framework for arbitration and conciliation in India.
 - ♦ It establishes the **Indian Arbitration Council** to regulate procedures.
 - ♦ Fixes a **maximum resolution period of 180 days**, ensuring time-bound justice.
 - ♦ Permits **exit from mediation** after two sessions if parties are dissatisfied.
 - ♦ Promotes **pre-litigation mediation** for civil and commercial disputes to ease judicial backlog.
- **Mediation Act, 2023**: It mandates pre-litigation mediation for civil and commercial disputes.
- **Lok Adalats**: These are **statutory dispute-resolution forums** under the Legal Services Authorities Act, 1987, where disputes are settled **amicably through conciliation** with **no court fee** and **awards having the force of a civil court decree**.
- **Gram Nyayalayas**: These are **mobile village courts** established under the Gram Nyayalayas Act, 2008 to deliver **speedy, affordable justice** at the grassroots, especially for **minor civil and criminal cases** in rural areas.

NITI Aayog's "Online Dispute Resolution (ODR) Policy Plan for India" (2021)

- **Phased Implementation:** The policy proposes a three-phase rollout — building infrastructure, mainstreaming ODR use, and ultimately making it a primary mode of dispute resolution in India.
- **Light-Touch Regulation:** Encourages innovation through a flexible, self-regulatory model with design and ethical guidelines instead of heavy government control.
- **Technology Integration:** Promotes extensive use of ICT tools for end-to-end digital resolution, ensuring accessibility, efficiency, and reduced dependence on physical courts.
- **Legal and Policy Reforms:** Calls for amending existing laws (like Arbitration, Consumer Protection Acts) and introducing mediation and data protection laws to support ODR.
- **Ethical and Design Principles:** Establishes standards for transparency, neutrality, accessibility, and data security to build trust and fairness in online dispute platforms.
- **Capacity Building & Awareness:** Focuses on training professionals, developing ODR infrastructure, supporting legal-tech startups, and raising public awareness about ODR.

Challenges

- **Low Public Trust & Awareness:** Many litigants believe only courts deliver "real justice," reducing voluntary participation in mediation and arbitration.
- **Capacity Constraints:** Lack of **uniform training standards** for mediators/arbitrators affects the quality and acceptance of ADR outcomes.
- **Expensive Arbitration:** High professional fees often make arbitration **as costly as long court cases**, discouraging MSMEs (Micro, Small and Medium Enterprises).
- **Weak Institutional Arbitration:** **Ad-hoc arbitration dominates**; India lacks sufficient world-class institutional centres to

match SIAC (Singapore International Arbitration Centre) or LCIA (London Court of International Arbitration).

- **Interference by Courts Under Section 34:** **Section 34** of the Arbitration and Conciliation Act, 1996 allows courts to **set aside arbitral awards**, reducing finality and causing delays.
 - ♦ Section 34 provides a **limited judicial review** mechanism where a party may apply to **set aside an arbitral award**
- **Appeal Provisions Under Section 37:** **Section 37** enables appeals against orders under Section 34, further **prolonging the enforcement process** of ADR decisions.
- **Government as Major Litigant:** Government entities often **challenge arbitral awards instead of honouring them**, weakening ADR efficiency.
- **Digital & Cyber Barriers:** Online Dispute Resolution (ODR) faces **digital divide issues, data privacy risks, and weak infrastructure** in rural areas.

Way Forward

- **Institutionalizing Mediation & Arbitration:** Expand court-annexed mediation centres and global-standard arbitration hubs to reduce reliance on ad-hoc processes.
- **Capacity Building & Accreditation:** Establish national-level certification and continuous training for mediators and arbitrators to ensure quality and trust.
- **Limiting Judicial Interference:** Narrow the scope of Section 34 and Section 37 interventions to uphold finality and speed of arbitral awards.
- **Mainstreaming Online Dispute Resolution (ODR):** Invest in digital infrastructure, cybersecurity, and multilingual platforms for nationwide access.
- **Government as a Model Litigant:** Mandate timely enforcement of ADR outcomes by ministries and PSUs to set a compliance benchmark.
- **Strengthening Grassroots Justice:** Empower Lok Adalats and Gram Nyayalayas with better staffing, funds, and awareness drives to extend justice to rural communities.

Global ADR Case Studies

Country	ADR Mechanism	Key Features
Singapore	Singapore International Arbitration Centre (SIAC)	Highly institutionalized arbitration; strict timelines; minimal court interference
United Kingdom (UK)	Mandatory Mediation in civil & family disputes	Pre-action mediation requirements; trained mediators
United States (USA)	Court-Annexed ADR: Mediation & Early Neutral Evaluation	Used in Federal & State courts; reduces adversarial nature
Japan	Conciliation Committees	Culturally rooted in harmony; informal setting; consensus focus
South Africa	CCMA – Commission for Conciliation, Mediation, Arbitration	Specialized statutory ADR for labour issues

DECLINE OF MAOIST INSURGENCY IN INDIA

210 Maoists surrendered in the Dandakaranya region of Chhattisgarh as a part of a broader strategy by the Union and state governments to abandon violence and embrace rehabilitation.

About Maoism

- Maoism is a variant of communist ideology conceptualized by **Mao Zedong** in China, centered on **seizing state power through armed revolution**.
- It advocates a **Protracted People's War**, combining **guerrilla warfare, rural mass mobilization**, and tactical alliances to overthrow the existing political order.
- The ideology places primary focus on the **"military line"**—asserting that the **use of violence is essential and non-negotiable** for revolutionary transformation.

Maoism in India

- The most dominant Maoist outfit in India is the **Communist Party of India (Maoist)**, established in 2004 following the merger of the People's War Group and the Maoist Communist Centre.
- The CPI (Maoist) has been designated a **terrorist organization** under the **Unlawful Activities (Prevention) Act, 1967** due to its involvement in armed insurgency and violence against the State.
- The group also operates through **front organizations**—entities that function under separate identities to influence civil society, mobilize support, and evade legal accountability while advancing the Maoist agenda.
- The insurgency gained traction in tribal belts marked by **resource extraction, land alienation, and historical neglect**.
- Maoists established **Janatana Sarkars** in forest regions under the concept of a "Liberated Zone."
- Ideologically rooted in **Marxism-Leninism-Maoism**, the movement positioned itself as a revolutionary class struggle against the Indian state.

Current Situation: Clear Decline

- Decimation of high-command structures: **Central Committee and Politburo significantly reduced** in strength and capacity.
- Surrenders, arrests, and targeted operations have **neutralised camps and supply chains** in Dandakaranya and Bastar belts.
- Insurgency now **survives only in scattered pockets** across Jharkhand, Odisha, Bihar, and border zones of Chhattisgarh.

Key Drivers of Decline

- **Leadership vacuum and cadre fatigue** after the loss of commanders.
- **Erosion of ideological appeal** as coercion replaced mobilisation.
- **Enhanced counter-insurgency capabilities**: CoBRA, DRG, satellite mapping, drones, better intelligence.

- **Expansion of governance and welfare infrastructure** in tribal districts roads, schools, telemedicine, banking.
- Attractive rehabilitation policies providing dignified reintegration pathways.
- **Crackdown on urban networks** and foreign funding channels.
- **Social media counter-propaganda** weakening digital recruitment attempts.

Related Facts

- According to the MHA, the number of **LWE-affected districts** has dropped from **126 in 2010 to just 11 in 2025**, with **only three districts—Bijapur, Sukma, and Narayanpur in Chhattisgarh**—marked as **'most affected'**.
 - ◆ 81% reduction in violent incidents and an 85% drop in fatalities between 2010 and 2024.
- Between 2014 and 2024, India constructed **544 fortified police stations** in LWE-affected areas.
- The Union Government has approved **₹14,367 crore** for development in LWE-impacted districts, with **over ₹12,000 crore already utilized** for crucial infrastructure such as roads, bridges, mobile connectivity, education and health facilities.

Broad Underlying Challenges

- **Ideological Factors:**
 - ◆ **Revolutionary appeal of Maoist ideology:** Promises of equality, justice, and land redistribution attracted marginalized communities who felt neglected by the state.
 - ◆ **Distrust of democratic institutions:** Perceived corruption, elitism, and failure to deliver justice made extremist ideology appear as a legitimate alternative.
- **Socio-Economic Factors:**
 - ◆ **Persistent poverty and unemployment:** Lack of livelihood opportunities in tribal and rural regions created fertile ground for radical mobilisation.
 - ◆ **Poor access to education, healthcare, and connectivity:** Isolation and deprivation strengthened alienation from mainstream development.
- **Governance Deficit:**
 - ◆ **Weak state presence in remote areas:** Absence of regular administration and poor implementation of welfare schemes led to governance vacuum.
 - ◆ **Slow justice delivery:** Delay and corruption in grievance redressal fostered frustration and distrust toward the state.

➤ Social Factors:

- ♦ **Caste and ethnic discrimination:** Persistent social exclusion of Dalits, Adivasis, and backward classes nurtured resentment and anger.
- ♦ **Alienation of tribal communities:** Loss of traditional rights over land and forests eroded cultural identity and trust in state institutions.

➤ Land and Resource Issues:

- ♦ **Land alienation and displacement:** Industrial, mining, and development projects displaced large tribal populations without adequate rehabilitation.
- ♦ **Loss of Common Property Resources (CPRs):** Shrinking access to forests, grazing land, and water bodies undermined local livelihoods.

Steps taken by Government	
Category	Measures Taken
Legal Framework	<ul style="list-style-type: none"> ➤ Unlawful Activities (Prevention) Act (UAPA), 1967 ➤ National Investigation Agency (NIA) Act, 2008 to empower central agencies
Strategic Doctrine	SAMADHAN Strategy including: <ul style="list-style-type: none"> ➤ S – Smart Leadership: Skilled officers with local understanding and operational autonomy ➤ A – Aggressive Strategy: Proactive and offensive operations against Maoist networks ➤ M – Motivation and Training: Specialised training, welfare, and incentives for forces ➤ A – Actionable Intelligence: Real-time intel sharing using local sources and technology ➤ D – Dashboard KPIs & Monitoring: Performance-based monitoring for accountability ➤ H – Harnessing Technology: Drones, satellite imaging, GPS, secure communications ➤ A – Action Plans for Each Theatre: Region-specific plans reflecting local terrain & dynamics ➤ N – No Access to Financing: Cracking down on extortion, illegal mining, & urban networks
Funding Support	<ul style="list-style-type: none"> ➤ Security Related Expenditure (SRE) Scheme ➤ Assistance to Central Agencies for LWE Management Scheme (ACALWEMS)
Specialized Security Forces	<ul style="list-style-type: none"> ➤ Greyhounds (1989) – Elite Anti-Naxal Force ➤ CoBRA (Commando Battalion for Resolute Action) ➤ Indian Reserve Battalions (IRBs) ➤ Bastariya Battalion (Chhattisgarh) ➤ CAPFs like CRPF
Development & Governance Initiatives	<ul style="list-style-type: none"> ➤ Aspirational Districts Programme (2018) ➤ Roshni Initiative (2013) – skilling rural youth ➤ Strengthened local self-governance under PESA
Infrastructure Development	<ul style="list-style-type: none"> ➤ Over 9,000 km of roads constructed in LWE areas ➤ 2,343 mobile towers installed/upgraded to 4G ➤ Expanded banks, ATMs, and post offices ➤ Skill training via ITIs and Skill Development Centers (SDCs) ➤ 245 Eklavya Model Residential Schools approved; 121 functional
Youth & Community Outreach	<ul style="list-style-type: none"> ➤ Youth Exchange Program exposed 22,000+ tribal youth to developed regions ➤ Cultural integration and sports promotion to counter Maoist influence

Way Forward

- Expand rehabilitation and reintegration focusing on mental health, skills, and community acceptance.
- Promote inclusive development, ensuring PESA and FRA compliance for genuine tribal empowerment.
- Strengthen local governance through tribal Panchayats and women's collectives.
- Ensure zero-tolerance for human rights violations to rebuild state legitimacy.
- Counter extremist ideology by fostering constitutional activism and grassroots participation.
- Encourage sustainable livelihoods through eco-based tourism, forest produce value chains, and entrepreneurship.

INDIA-UK RELATIONS

The Prime Ministers of India and the UK have reaffirmed the India-UK Comprehensive Strategic Partnership during the recent official UK PM visit to India, announcing significant progress across multiple sectors.

Key Outcomes

- **Natural Partners in a Changing Global Order:** India and the UK are bound by shared values of democracy, freedom, and rule of law, making them reliable partners in an unstable world.
- Both emphasise dialogue and diplomacy to address major global crises such as Ukraine and Gaza, supporting long-term peace and stability.
- The UK acknowledges India's rising global stature and supports its role in G20, Commonwealth, and UN reforms, including India's bid for a permanent UNSC seat.
- The two countries aim to uphold a rules-based international order and deepen cooperation in the Global South.
- Commitment to Indo-Pacific maritime security remains a priority, focusing on freedom of navigation and countering regional assertiveness.

Recent Defence Related Outcomes

Green Defence Technologies

Initial investment in eco-friendly defence solutions

Air Force Collaboration

A new training arrangement enables IAF instructors to train with the Royal Air Force, enhancing operational learning and interoperability.



Army Capabilities

Procurement of Lightweight Multirole Missiles (LMMs) to enhance ground forces

Naval Collaboration

Investment in electric-powered engines for ships, with an initial £250 million investment

- **Expanding Trade and Economic Partnership:**
 - ♦ The signing of the India-UK FTA (2025) has improved trade and technology cooperation.
 - ♦ A 126-member trade delegation, the largest ever from the UK, highlights strong business interest in India.
 - ♦ Indian firms have committed £1.3 billion investment in the UK, creating thousands of jobs in sectors like clean energy, e-mobility, engineering, and tech.
 - ♦ UK companies have shown growing interest in making India a manufacturing and defence production hub.
- **Critical Minerals and Supply Chain Security:**
 - ♦ Both nations are working to secure reliable critical mineral supply chains, limiting dependency on single sources.
 - ♦ India will set up an Industry Guild and Supply Chain Observatory, with research support from ISM Dhanbad.
- **Technology and Fintech Collaboration:** The partnership combines the UK's research strength with India's digital scale and skilled workforce. The India-UK Technology Security Initiative focuses on cooperation in AI, advanced communications, and cybersecurity.

- ♦ A UK-India Fintech Corridor will link LSE with GIFT City, enabling joint startup development and financial innovation.
- **Education and Knowledge Exchange:** Up to nine UK universities will open campuses in India, beginning with the University of Southampton in Gurugram.
 - ♦ This supports NEP 2020, improves research collaboration, and strengthens industry-academia linkages.
- **Cultural and People-to-People Connectivity:** A stronger cultural partnership is promoted through filmmaking, with multiple Bollywood productions planned in the UK from 2026.

Significance

➤ Geo-Political:

- ♦ Strategic bilateral visits and discussions regularly review progress and set new priorities under the **Comprehensive Strategic Partnership**.
- ♦ A Comprehensive Strategic Partnership refers to an advanced level of bilateral relationship in which two nations work closely across multiple sectors — such as defense, economy, technology, energy, education, and culture — and share a long-term vision for cooperation and mutual trust.
- ♦ The India-UK Roadmap 2030 provides a long-term vision to strengthen cooperation across defence, economic growth, technology, climate, and societal links.

➤ Geo-Economic:

- ♦ India and the UK share a strong, expanding economic partnership strengthened through frameworks such as **JETCO** and the Economic & Financial Dialogue.
- ♦ The **India-UK FTA** concluded in 2025 covers wide-ranging sectors such as goods, services, IPR, digital trade, labour, and public procurement.
- ♦ Bilateral trade has reached significant momentum, with services contributing more than goods.
- ♦ The UK remains among India's leading foreign investors, while Indian companies in the UK contribute substantially to employment and manufacturing.
- ♦ Both sides focus on building resilient supply chains, boosting investment in innovation, and enhancing market access.

➤ Geo-Strategic and Defence Cooperation:

- ♦ Engagement in the Indo-Pacific is growing due to shared concerns over China's assertiveness and the need to safeguard a rules-based maritime order.
- ♦ Defence engagement includes regular military exercises such as KONKAN (Navy), AJEYA WARRIOR (Army), and COBRA WARRIOR (Air Force).

- ♦ Key areas of cooperation involve defence industrial collaboration, technology transfer, intelligence sharing, and maritime security.
 - ♦ Both sides work on strengthening Make in India opportunities in defence equipment and joint development initiatives.
- **Science, Technology and Innovation:**
- ♦ Collaboration continues under the Science and Innovation Council with focus areas including AI, quantum technologies, cybersecurity, and clean energy solutions.
 - ♦ The Net-Zero Innovation Virtual Centre enhances cooperation on industrial decarbonisation and green hydrogen development.
 - ♦ Joint research programs and startup partnerships support mutual technology development and commercialization.
- **Health Cooperation:**
- ♦ Cooperation during COVID-19 was significant, including joint research and mass production of vaccines.
 - ♦ A health workforce mobility framework enables the training and recruitment of Indian healthcare professionals in the UK.
 - ♦ India's contribution to the NHS workforce reflects the depth of health ties and enhances the provision of medical services in the UK.
- **Education and Research Collaboration:**
- ♦ India is a major source of international students in UK institutions, reinforcing academic and cultural ties.
 - ♦ The mutual recognition of academic qualifications promotes student and faculty mobility.
 - ♦ UK universities, including the University of Southampton, are establishing campuses in India to expand research and innovation.
- **People-to-People and Diaspora Ties:**
- ♦ A large and economically successful Indian diaspora contributes to the UK's development in sectors such as healthcare, business, science, and sports. Indian-origin political leaders and MPs strengthen representation and influence bilateral policymaking.
 - ♦ Indian communities play a major role in enhancing socio-cultural linkages between the two nations.
- **Migration and Mobility Partnership:**
- ♦ A structured agreement enables legal and smoother movement of skilled workers and professionals.
 - ♦ The Young Professionals Scheme grants work opportunities for young graduates from both countries.
 - ♦ These mechanisms foster talent mobility, entrepreneurship, and innovation.
- **Climate and Clean Energy Cooperation:**
- ♦ Cooperation is aligned with India's renewable energy targets and the UK's net-zero goals.
 - ♦ Joint initiatives include collaboration in offshore wind, solar energy, green hydrogen, and climate finance.
- ♦ Both countries also work together in global climate coalitions on infrastructure resilience and clean energy expansion.
- Issues**
- **Trade Negotiation Gaps:** Differences persist over services access, labour mobility, intellectual property, and tariff reduction on products like automobiles, dairy, and Scotch whisky.
- **Visa & Mobility Restrictions:** Post-Brexit rules have tightened student and skilled-worker visas, slowing movement of talent and professionals.
- **Pakistan-related Security Issues:** The UK's historical ties and engagement with Pakistan occasionally create divergence on South Asian geopolitics, especially on **terrorism and cross-border security concerns**.
- **Extremist Activities in the UK:** Episodes of **Khalistani separatist protests**, vandalism near the Indian High Commission in London, and hostile diaspora elements strain trust and challenge India's sovereignty concerns.
- **Human Rights Narratives & Political Posturing:** Some British lawmakers and civil society groups raise issues related to **Kashmir, minority rights, and domestic Indian laws**, creating diplomatic discomfort and perceptions of external interference.
- **Defence Collaboration Limitations:** Despite improvements, **technology transfer, joint R&D, and procurement levels** remain limited compared to other defence partners.
- **Digital Governance Differences:** Data protection regulations and norms on cross-border data flows do not yet fully align, affecting digital trade and cybersecurity cooperation.
- **Strategic Alignment Gaps:** UK's alignment with US-led security structures and evolving China policy may not always converge with **India's strategic autonomy** approach.
- Way Forward**
- **Accelerate High-Technology and Digital Cooperation:** Focus on joint development in areas like semiconductors, quantum tech, AI governance, and cybersecurity, while harmonizing data protection frameworks to enable seamless digital trade.
- **Deepen Defence Industrial Collaboration:** Move beyond buyer-seller dynamics towards co-design and co-production of advanced systems including propulsion systems, missiles, and naval platforms under Make in India.
- **Strengthen Counter-Extremism Coordination:** Enhance intelligence-sharing and law-enforcement cooperation to curb activities of extremist and separatist groups operating from UK soil, ensuring respect for India's sovereignty and security concerns.
- **Ease Mobility and Skilled Workforce Pathways:** Expand mutually beneficial visa mechanisms, recognize qualifications faster, and reduce administrative barriers to support student exchanges, scientific mobility, and fintech-startup collaboration.

INDIA-AFGHANISTAN RELATIONS

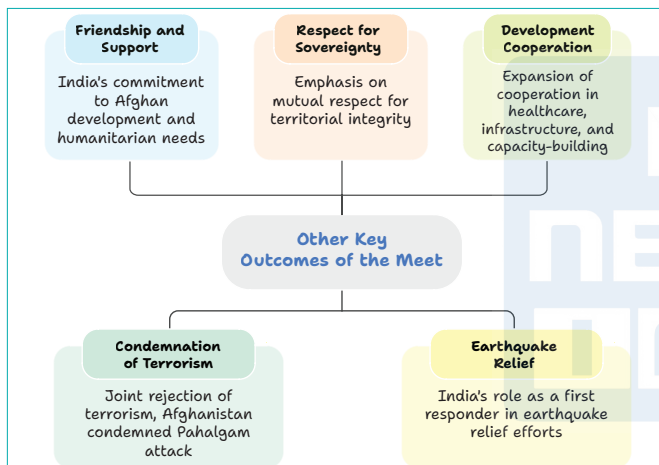
Afghanistan's Taliban foreign minister met external affairs minister S. Jaishankar in New Delhi.

About

- It is the **first high-level diplomatic engagement** between India and the Taliban regime since it took power in 2021.
- His visit follows participation in a **regional meeting on Afghanistan in Russia**, attended by representatives from India, China, Pakistan, Iran, and Central Asian countries.

Key Outcomes

- India has upgraded its **Technical Mission in Kabul to a full-fledged Embassy** with immediate effect, following the recent visit of the Taliban administration's acting Foreign Minister Amir Khan Muttaqi to India.



- **Ongoing and new projects include:** Thalassemia and Modern Diagnostic Centres, upgraded systems at IGICH
 - ♦ New 30-bed hospital, Oncology and Trauma Centres in Kabul
 - ♦ Five maternity clinics in Paktika, Khost, and Paktia
 - ♦ Prosthetic limb support and continued medical treatment in India
- **Other Initiatives:**
 - ♦ India gifted 20 ambulances and will continue scholarship programs such as e-ICCR to support Afghan students.
 - ♦ India is open to assisting reconstruction of houses damaged by recent earthquakes.
 - ♦ Humanitarian aid such as food, school supplies, and disaster relief will continue.
 - ♦ Cooperation in sports, especially cricket, will be strengthened to boost cultural ties.
 - ♦ Launch of the **India-Afghanistan Air Freight Corridor** will improve direct trade connectivity and economic engagement.
 - ♦ Both sides highlighted the importance of sustainable water management and future work on hydroelectric projects including support around Salma Dam.

India's "Engagement without Recognition" Policy towards the Taliban

- India follows a **dual-track approach** in Afghanistan, treating **recognition** (de jure acceptance of a government's legitimacy) and **engagement** (de facto operational relations) as distinct diplomatic actions.
- New Delhi has **not formally recognized** the Taliban regime due to concerns over terrorism, human rights, and lack of inclusive governance, but continues **pragmatic engagement** through its diplomatic presence in Kabul.
- The aim is to **protect India's strategic interests**, maintain communication channels, ensure security assurances, sustain humanitarian aid, and safeguard long-standing development projects.
- This approach is consistent with **international legal norms**, particularly the **Vienna Convention on Diplomatic and Consular Relations**, which allows diplomatic missions to function irrespective of the international status of the host's rulers.
- India's position reflects a **realist foreign policy posture**, balancing moral principles with geopolitical necessities.
- Similar frameworks have been used earlier such as **engaging Taiwan without formal recognition**, and maintaining working ties with **Myanmar's military rulers** demonstrating continuity in India's diplomatic practice.

Need of India-Taliban Engagement

- **Security Concerns:** Engagement helps ensure that Afghan soil is not used for anti-India terrorism and allows India to closely monitor regional security developments.
- **Protection of Indian Investments:** India has invested over USD 3 billion in Afghan infrastructure, education, and health — including the Zaranj-Delaram highway, Salma (India-Afghanistan Friendship) Dam, and Parliament building.
- **Regional Stability and Connectivity:** A stable Afghanistan is vital for India's access to Central Asia, expansion of trade routes, and progress on initiatives like the Air Freight Corridor and Chabahar-linked connectivity.
- **Strategic Realism and Geopolitical Relevance:** China and Pakistan are increasing their presence in Afghanistan. India's engagement prevents strategic isolation and counters adversarial influence in the region.
- **Humanitarian and People-to-People Support:** India has strong cultural ties with the Afghan people. Continued engagement allows India to deliver humanitarian assistance, education, and health support.

- **Role as a Responsible Regional Power:** Engaging with the authorities in Kabul strengthens India's image as a stabilising and trustworthy partner in the extended neighbourhood.
- **Diplomatic Recognition:** While India has not officially recognized the Taliban government, the engagement indicates de facto acknowledgment of its control over Kabul.

Issues

- **Non-Recognition and Limited Diplomatic Leverage:** India has not formally recognized the Taliban regime, creating a gap between **pragmatic engagement** and **sovereign legitimacy**, which restricts India's influence over political outcomes in Kabul.
- **Terrorism and Regional Security Concerns:** India remains wary of terror groups like **LeT and JeM** exploiting Afghan territory. Ensuring that Afghanistan does not become a **safe haven** for anti-India actors is a core challenge.
- **Human Rights and Normative Constraints:** The Taliban's governance approach, especially regarding **women's rights, minority protection and inclusive institutions**, clashes with India's democratic values, affecting public diplomacy and cooperation.
- **Strategic Competition and Balance of Power:** Pakistan's deep links with the Taliban and China's expanding footprint through investment and infrastructure pose a **geopolitical challenge** for India's **strategic influence** in Afghanistan.

- **Uncertain Political Stability and Governance Vacuum:** Weak state capacity, factional tensions, and **absence of a broad-based political structure** hinder long-term developmental planning and protection of Indian assets and investments.
- **Connectivity and Access Limitations:** India lacks a **direct land route** to Afghanistan, making regional connectivity dependent on **external transit routes** and reducing India's operational ability in economic and humanitarian engagement.

Way Forward

- **Strategic Hedging with Conditional Engagement:** India can adopt a **calibrated, interest-driven engagement** with Taliban authorities while keeping recognition conditional on progress in counter-terrorism and inclusive governance.
- **Enhance Counter-Terrorism Cooperation:** Institutionalize **security dialogues, intelligence-sharing mechanisms, and border threat monitoring** to ensure Afghan territory is not used for cross-border terrorism against India.
- **Leverage Soft Power and Humanitarian Diplomacy:** Continue **healthcare, education, scholarships, and food security support** to sustain India's **positive narrative and people-centric influence** in Afghanistan.
- **Economic and Connectivity Partnerships through Alternative Routes:** Deepen cooperation via **Chabahar Port, Air Freight Corridors, and future Central Asia connectivity projects** to strengthen Afghanistan's economic sovereignty and align Kabul's interests with India.



INDIA-AFGHANISTAN RELATIONS

- **Political Relations:** India and Afghanistan share strong historical, cultural, and civilizational ties. The Strategic Partnership Agreement (2011) lays the foundation for cooperation in security, trade, development, and institution-building.
- **Economic Relations:** India is one of Afghanistan's largest markets in South Asia. Key trade initiatives include the India-Afghanistan Air Freight Corridor (2017) and use of Chabahar Port, improving connectivity and access to Central Asia.
 - ♦ Bilateral trade had crossed USD 1 billion, with scope for further expansion.
 - ♦ Major Indian contributions include the Afghan Parliament building, Salma Dam (Afghan-India Friendship Dam), and Stor Palace restoration, demonstrating India's commitment to reconstruction.
- **Cultural Cooperation:** Strong people-to-people links marked by regular cultural exchanges, festivals, and cooperation through India-Afghanistan Foundation. Deep appreciation for Indian films, music, and cultural traditions enhances goodwill.
- **Sports Cooperation:** Cricket has emerged as a major connector, with Afghanistan using home grounds in India and training support from BCCI. Football youth teams regularly participate in Subroto Cup tournaments in India.
- **Development Partnerships:** India has completed hundreds of community development projects across all Afghan provinces in areas like education, health, irrigation, and sports. These small-to-medium projects directly benefit local communities.
- **Capacity Building & Human Resource Development:** India provides training to thousands of Afghan students and officials every year through scholarships and ITEC programs. Agricultural education support through institutions like ANASTU and IARI enhances capacity in critical sectors.
- **Humanitarian Assistance:** India has extended major humanitarian support including food aid, medical supplies, wheat, and pulses. A Medical Diagnostic Centre in Kabul provides vital healthcare services.
- **Indian Community:** Around 1,700 Indians work in Afghanistan in sectors like banking, IT, healthcare, construction, and development projects, contributing to Afghanistan's progress.



22nd INDIA-ASEAN SUMMIT

The 22nd Association of Southeast Asian Nations (ASEAN)-India Summit was held in Malaysia.

Key Highlights of the Summit

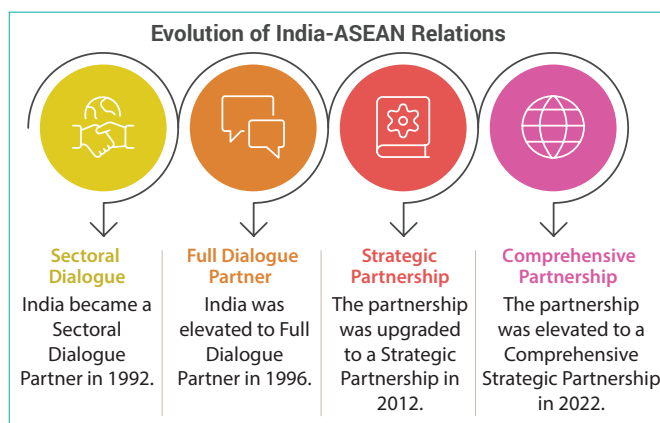
- Reviewed progress in ASEAN-India relations and discussed new initiatives to strengthen the Comprehensive Strategic Partnership. This marked his 12th participation in the India-ASEAN Summit.
- The summit called for the early review of the ASEAN-India Free Trade Agreement (AITIGA).
- In line with the Malaysian Chair's theme of "Inclusivity and Sustainability," the Prime Minister announced a series of initiatives to deepen cooperation:
 - ♦ implementation of the ASEAN-India Plan of Action (2026–2030),
 - ♦ adoption of the ASEAN-India Joint Leaders' Statement on Sustainable Tourism,
 - ♦ and designation of 2026 as the "ASEAN-India Year of Maritime Cooperation."
 - ♦ Holding East Asia Summit Maritime Heritage Festival at Lothal, Gujarat.
- PM Modi proposed organising the Second ASEAN-India Defence Ministers' Meeting and the Second ASEAN-India Maritime Exercise to promote a secure and open maritime environment.

Association of Southeast Asian Nations (ASEAN)

- It was established in 1967 in Bangkok, Thailand.
- It was founded by five countries: Indonesia, Malaysia, the Philippines, Singapore, and Thailand.
- Aim: To promote regional cooperation and stability amid Cold War tensions.
- Headquarters: Jakarta, Indonesia.
- Current Member States: ASEAN currently consists of 11 member countries: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Vietnam and East Timor.
- ASEAN maintains dialogue partnerships with multiple countries and organizations, including India, China, the USA, Japan, Australia, the EU, and others.

Significance of India-ASEAN Relations

- Geo-Political Relations:
 - ♦ The cooperation began in the 1990s. It is driven by shared economic and strategic interests. It was also a response to China's growing influence in the region.
 - ♦ Policy Framework: "Look East Policy" initiated in the 1990s, it was transformed into the "Act East Policy" in 2014, marking a more action-oriented approach to deepen ties with ASEAN.



- Geo-Economic Relations:
 - ♦ ASEAN, with a population of over 650 million and a combined GDP of USD 3.2 trillion, is a key market for India. Bilateral trade reached USD 122.67 billion in 2023–24 (11% of India's global trade).
 - ♦ Singapore stands out as India's top ASEAN trading partner and a major FDI contributor.
 - ♦ Improved utilization of AIFTA and swift conclusion of the AITIGA review can enhance investment, value-chain integration, and services exports.
- Strengthening Defence Cooperation: India is emerging as a credible security provider through arms exports and capacity-building, highlighted by the BrahMos missile deal with the Philippines.
 - ♦ Technical training, joint development, and maintenance support advanced modernization needs of ASEAN militaries and complement India's Act East defence outreach.
- Strategic and Security Convergence in the Indo-Pacific: ASEAN acts as a critical pillar for India's Indo-Pacific strategy.
 - ♦ Engagement through East Asia Summit and maritime drills such as the 2023 ASEAN-India Maritime Exercise supports ASEAN Centrality while advancing freedom of navigation, disaster response, and maritime security under India's SAGAR doctrine.
- Connectivity and Infrastructure Linkages: Projects like the India-Myanmar-Thailand Trilateral Highway and the Kaladan Multi-Modal Transit Transport initiative will boost regional connectivity and uplift the Northeast as India's key gateway to Southeast Asia.
 - ♦ Collaboration in digital connectivity, smart cities, and cybersecurity diversifies options beyond China's Belt and Road Initiative.

- **Technology, Energy and Innovation Ecosystems:** Cooperation in startups, IT, fintech, AI, and clean energy is expanding through dedicated innovation funds and science partnerships.
 - ♦ Enhanced collaboration in renewables and semiconductors can strengthen regional energy transition and technology security.
- **Cultural and Tourism Cooperation:** Shared civilizational ties, cultural exchanges, university networks, and the ASEAN-India Year of Tourism 2025 promote people-centric diplomacy.
 - ♦ Initiatives showcasing Ramayana linkages highlight historical bonds and enhance soft-power projection.

India-ASEAN FTA

- **The Framework Agreement on Comprehensive Economic Cooperation between ASEAN and India was signed in 2003**, establishing the legal foundation for subsequent agreements.
 - ♦ These agreements include the trade in goods agreement, trade in services agreement, and investment agreement, which together form the **ASEAN-India Free Trade Area (AIFTA)**.
- **The ASEAN-India Trade in Goods Agreement** was signed and came into effect in 2010.
 - ♦ Under this agreement, ASEAN member states and India committed to gradually open their markets by reducing and eliminating tariffs on 76.4% of goods.
- **The ASEAN-India Trade in Services Agreement**, signed in 2014, includes provisions on transparency, domestic regulations, market access, national treatment, recognition, and dispute settlement.
- **The ASEAN-India Investment Agreement**, also signed in 2014, ensures protection of investments, including fair and equitable treatment for investors, non-discriminatory practices in cases of expropriation or nationalization, and guarantees of fair compensation.

Issues

- **Widening Trade Deficit and RCEP Concerns:** India's trade imbalance with ASEAN has grown sharply due to import surges and tariff asymmetry. Slow progress in AITIGA reforms and India's cautious stance on RCEP continue to create economic friction.
- **Delays in Connectivity Projects:** Security issues in Myanmar, funding constraints, and bureaucratic hurdles slow execution of cross-border highways and port projects, affecting India's credibility and limiting regional integration.
- **Divergent Strategic Postures toward China:** ASEAN states maintain deep economic interdependence with China, making collective resistance difficult. This creates uneven support for India's Indo-Pacific vision, with only a few nations aligned geopolitically.
- **Non-Tariff Barriers (NTBs):**
 - ♦ ASEAN members often impose complex standards, licensing requirements, and other regulatory barriers.
 - ♦ These nullify tariff concessions and restrict Indian exports, especially in agriculture and pharmaceuticals.
- **Rules of Origin Issues:** Lax rules of origin enable third countries (like China) to route goods via ASEAN to India, exploiting tariff benefits.
- **Policy Differences on Myanmar:** ASEAN backs the Five-Point Consensus while India follows a pragmatic engagement with the junta to secure border interests and connectivity, resulting in differing diplomatic approaches.
- **Digital Governance Challenges:** ASEAN advocates liberal digital trade, while India emphasizes data sovereignty and governance under its Digital Personal Data Protection law, slowing harmonization of digital markets.

Way Forward

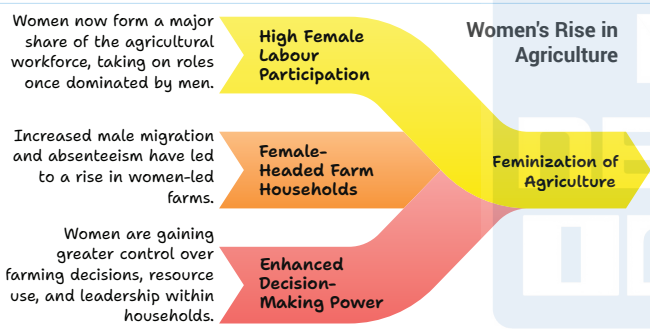
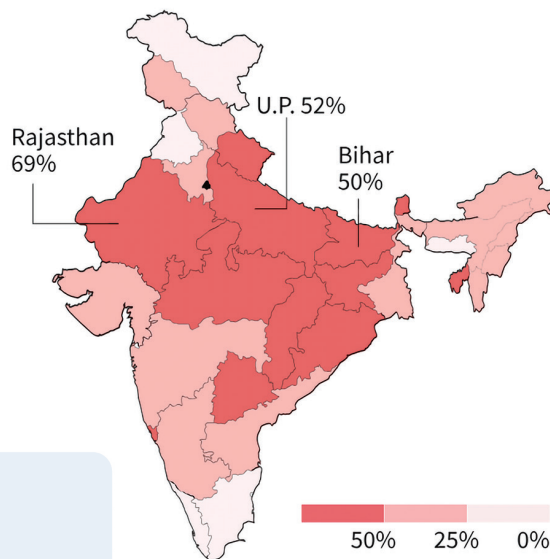
- **Accelerated Connectivity and Digital Integration:** Fast-tracking highway, multimodal, and maritime projects together with regional QR-based digital payment systems can unlock trade and mobility.
 - ♦ Interoperable digital frameworks must balance India's data security provisions with ASEAN's open norms.
- **Maritime Security and Blue Economy Collaboration:** Enhanced underwater domain awareness, logistics agreements, and cooperation on non-traditional challenges such as smuggling and illegal fishing can secure maritime commons. Joint initiatives in marine technology and renewable offshore energy will build a sustainable blue economy.
- **Climate Resilience and Supply Chain Diversification:** India can offer green energy corridors, climate-smart agriculture, and resilient value chains in critical technologies, strengthening self-reliance and reducing over-dependence on China-centric networks.
- **Non-Tariff Barriers (NTBs):** India must push for a transparent mechanism to address NTBs, particularly in sectors like pharmaceuticals and agricultural products.
- **Rules of Origin (RoO):** Tighter and clearer RoO criteria can prevent circumvention and ensure that genuine ASEAN-India trade flows are promoted.
- **Institutional and People-Driven Partnerships:** Leveraging platforms like EAS, ARF, ADMM-Plus, and Quad-ASEAN cooperation—along with cultural exchanges, scholarships, and academic networks—can reinforce India's regional leadership role.
- **Space Cooperation as a Strategic Lever:** A dedicated ASEAN-India satellite for climate and disaster monitoring can elevate space partnership from symbolic to strategic, positioning India as a dependable high-technology provider in Southeast Asia.

WOMEN'S ROLE IN AGRICULTURE SECTOR

India's agriculture is rapidly feminising, but the Periodic Labour Force Survey (PLFS) 2023–24 shows that despite rising participation, nearly half of women remain unpaid, revealing deep gender inequality.

About

- **Agriculture:** It is a backbone of India's economy & largest employer of women.
- **Workforce shift:** Rural men are moving to non-farm jobs leading to women replacing them in agriculture.
- **Feminisation of Agriculture:**
 - ♦ Feminization of Agriculture refers to the growing reliance on women to perform agricultural work and sustain rural economies, marking a key global trend in developing nations.
 - ♦ It reflects demographic changes, labour market transitions, and evolving gender roles that significantly impact rural development, productivity, food security, and gender equity.



Why Women's Shift towards Agriculture?

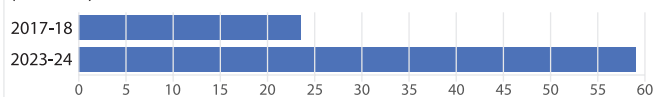


- **Economic Impact:** Women's greater participation has not translated into higher income for the economy, as agriculture's share of the national GVA fell from 15.3% in 2017-18 to 14.4% in 2024-25.

Status of Women in Agriculture

- Nearly half of the women in agriculture are unpaid family workers, with their numbers jumping 2.5 times from 23.6 million to 59.1 million in just eight years.
 - ♦ Employment in agriculture surged by 135% in a decade.
 - ♦ Women now account for 42% of the agricultural workforce.
 - ♦ 2 in 3 working women are engaged in agriculture.
- Today, one in three working women in India is unpaid.
 - ♦ In states such as **Bihar and Uttar Pradesh**, more than 80% of women workers are in agriculture, and over half of them receive no wages.

The number of women in agriculture who are unpaid family workers (in million)



Challenges Faced by Women in Agriculture

- **Restricted Land and Inheritance Rights:** Deep-rooted social norms and legal gaps often deny women equal rights to own or inherit land.
- **Limited Access to Finance and Credit:** Without land titles or collateral, women struggle to obtain formal loans, insurance, and government subsidies etc.
- **Technological and Skill Disparities:** Most agricultural training, extension, and modern tools target men, leaving women reliant on outdated, less efficient practices.
- **Digital Divide:** Barriers in digital literacy, language, affordability of devices limits the participation in modern agri-markets.
- **Health and Safety Vulnerabilities:** Prolonged exposure to pesticides, lack of protective gear, and absence of rural healthcare facilities put women's health at serious risk.
- **Time Poverty and Workload Stress:** Women juggle farm work with domestic chores, childcare, and caregiving, resulting in fatigue, lower productivity.

- **Patriarchal and Cultural Constraints:** Gender norms restrict women's mobility, leadership, and decision-making, confining them to supportive rather than managerial roles in farming.
- **Systemic Inequities:** Women as farmers, own only 13-14% of land holdings, and earn 20-30% less than men for equivalent work.
- **Limited Alternative Opportunities:** Gender norms restrict women's mobility and leadership, keeping them in supportive, not managerial, roles in farming.

Emerging Opportunities

- **Global Trade:** The India-U.K. The Free Trade Agreement (FTA) is projected to boost Indian agricultural exports by **20% within three years**, granting duty-free access to over **95% of agricultural** and processed food products.
 - ♦ Many of these export-oriented value chains employ a significant share of women.
 - ♦ It could enable women's transition from farm labourers to income-generating entrepreneurs.
- **High-Value Segments:** With global demand rising for organic products and superfoods, India's value chains for tea, spices, millets and certified organic produce are poised for expansion;
 - ♦ sectors where women are already strongly represented.

Government Initiatives for Women in Agriculture

- **Mahila Kisan Sashaktikaran Pariyojana (MKSP):** The scheme aims to empower women in agriculture through systematic investments that enhance their participation, productivity.
- **National Rural Livelihoods Mission (NRLM):** To strengthen women's Self-Help Groups (SHGs) and promote diversified, sustainable livelihoods in both farm and non-farm sectors.
- **Joint Land Titles:** States were encouraged to issue land pattas in joint names of husband and wife.
- **Priority Sector Lending (PSL):** Mandates credit flow to women farmers.
- **Agri-Clinics & Agri-Business Centres (ACABC):** To develop women agri-entrepreneurs by offering training, credit linkage, and business advisory support.

- **Maternity Benefits & Health Schemes:** Support women farmers' welfare indirectly.
- **Support for Women FPOs:** Encouraged under the 10,000 FPOs Scheme (2020) with special provision for women-led groups.
 - ♦ Focus on climate resilience and gender mainstreaming.
- **Export Facilitation:** Helps women producers in spices, tea, millets, organic produce.
- **National Food Security Mission (NFSM):** To increase crop productivity and ensure women's active participation in seed distribution and production processes.
 - ♦ Allocates **30% of funds** for women farmers to ensure inclusive access to agricultural inputs and support services.
- **Climate Adaptation Projects:** The **ENACT Project** in Assam, supported by the **World Food Programme (WFP)** and the **Government of Norway**.
 - ♦ It promotes flood-resistant rice varieties, digital farm advisories, and women-led seed banks for climate-resilient agriculture.

Way Forward

- **Gender Data & Land Rights:** Use gender-based data for agricultural planning and enact land reforms legally ensuring women's ownership.
- **Financial Inclusion:** Improve women's access to credit, insurance, banking, and secure rights over land, irrigation, and technology.
- **Policy Reforms:** Recognize women as independent farmers through joint/individual land ownership to boost eligibility for institutional support.
- **Social Security:** Provide universal social protection, maternity benefits, pensions, and disaster relief to ease women's climate and caregiving burdens.
- **Technology Access:** Expand women's access to mechanization, digital tools, and modern practices via targeted training and subsidies.
- **Land & Labour Reforms:** Advance land and labour reforms to fundamentally transform women's role in agriculture.

Kudumbashree Model

- To eradicate absolute poverty and empower women through community participation and local self-governance.
- **Structure:** Operates through a three-tier network:
 - ♦ Neighbourhood Groups (NHGs) at the base level,
 - ♦ Area Development Societies (ADS) at the ward level, and
 - ♦ Community Development Societies (CDS) at the local government level.
- **Ownership/Initiative:** Implemented by the State Poverty Eradication Mission (SPEM) of the Government of Kerala, with support from the Government of India and NABARD.
- **Key Activities:**
 - ♦ Promotes micro-credit and self-employment through micro-enterprises in agriculture and other trades.
 - ♦ Works towards social and political empowerment of women.
 - ♦ Engages in public health, sanitation, and education programs, especially for children from vulnerable families.

NITI AAYOG TAX POLICY WORKING PAPER

NITI Aayog's first Tax Policy Working Paper says that complicated Permanent Establishment (PE) rules in India make it difficult to bring more Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI) into the country.

About

➤ Permanent Establishment (PE):

- ♦ A **fixed place of business** through which a company carries out its operations, either fully or partly.
- ♦ It **determines a country's right to tax** the business income of **foreign or non-resident entities**, thus having a major impact on the **investment climate and capital flow**.

➤ In India, the **Income Tax Act, 1961** uses the term "**Business Connection**" to determine a **Permanent Establishment (PE)**, while detailed PE definitions are mainly provided in **Double Taxation Avoidance Agreements (DTAAs)**.

- ♦ India has broadened the scope of PE by introducing the Significant Economic Presence (SEP) criteria to tax digital businesses that earn income from India without having a physical presence in the country.
- ♦ Significant Economic Presence (SEP) is a tax nexus rule that allows a country to tax the business income of a non-resident enterprise if it has a substantial economic connection with that country, even in the absence of a physical presence.

➤ Profit Attribution:

- ♦ Profit Attribution refers to the process of identifying and allocating profits to different parts of a business or to entities within a multinational enterprise.
- ♦ It is based on the economic activities they perform, assets they use, and risks they assume.

- ♦ Retrospective tax amendments should be avoided and permitted only in rare, well-defined cases to ensure fairness and investor confidence.

➤ Enhanced Stakeholder Engagement:

- ♦ India should establish **formal and transparent consultations** with **industry bodies, tax experts, and foreign investor groups** for all major international tax policy changes.
- ♦ This will promote **transparency, trust, and better policy feedback**.

➤ Robust Dispute Resolution Mechanisms: Strengthen **Advance Pricing Agreement (APA)** and **Mutual Agreement Procedure (MAP)** systems, introduce **binding arbitration**, and adopt **OECD's TRACE** to ensure faster, fairer, and clearer tax dispute resolution.

➤ Capacity Building and Consistency:

- ♦ Provide continuous training for tax officers to ensure fair and consistent application of international tax rules, especially on Permanent Establishment (PE) and transfer pricing.
- ♦ India should actively engage in OECD Pillar One and Two discussions and align domestic measures like SEP and Equalisation Levy with global standards.

➤ Introduction of Optional Presumptive Taxation Scheme:

Introduce an optional presumptive taxation scheme with industry-specific profit rates to simplify tax calculation, reduce disputes, and provide revenue stability and investor certainty.

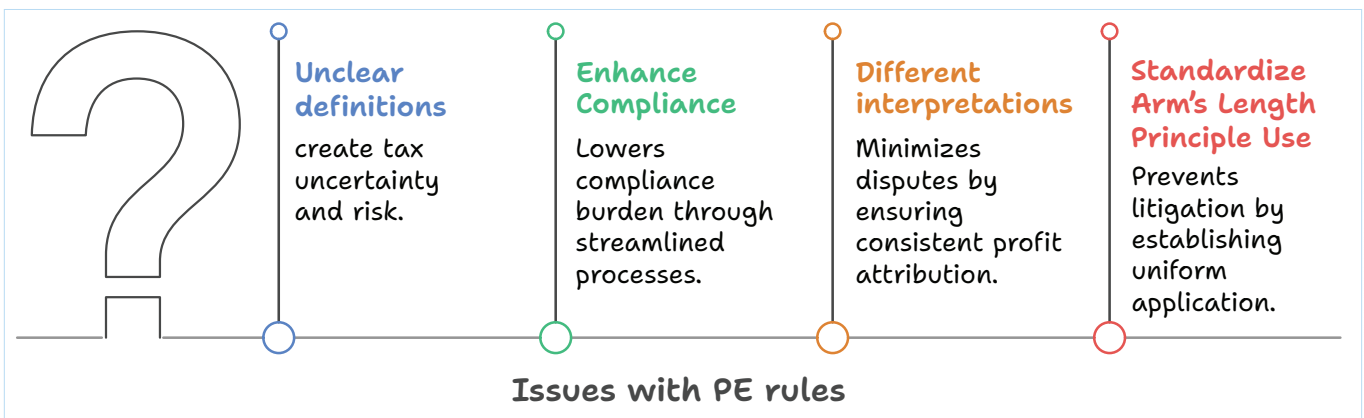
Recommendations of the Working Paper

➤ Legislative Clarity and Certainty:

- ♦ India should clearly define Permanent Establishment (PE) and profit attribution in domestic law, aligning with OECD/UN models while protecting source-based taxing rights.

India and International Tax Reforms

- India has taken part in the global Organisation for Economic Co-operation and Development (OECD) / G20-led initiative, which consists of 15 "Actions" designed to stop multinational companies from avoiding tax.



- ♦ One key Action, **Action 7**, deals with preventing the artificial avoidance of a status so that companies cannot evade tax by using agents instead of having an office.
- ➔ In 2021, countries agreed to further reform through the two-pillar approach to address the digital economy and global minimum tax.
- ♦ **Pillar One:** Allows a country like India to tax part of the profits of a multinational enterprise even if it does **not** have a physical presence in India — because revenue is earned from Indian customers.
- ♦ **Pillar Two:** Establishes a **global minimum corporate tax rate of 15%** for large multinational enterprises, to stop them shifting profits to very low-tax jurisdictions.
- ➔ **Supreme Court's Role in Tax Law:** Over the years, the Supreme Court has played a key role in shaping how PE and profit attribution are interpreted.
- ➔ **Formula One case (2017):** The Court held that even temporary arrangements, like a race track used by Formula One in India, could create a Permanent Establishment.
 - ♦ This showed that the **substance of business activity matters more than the legal form.**
- ➔ **e-Funds Corp 2017:**
 - ♦ **Clarified:** Subsidiary's premises ≠ PE unless parent has control.
 - ♦ Emphasized "place of business" and "right of disposal" test.
- ➔ **Hyatt International case (2025):** The Court held that even if a multinational is making a global loss, its Indian operations can still be taxed separately. This reflected the **"separate enterprise" principle** and expanded India's power to attribute profits to local activities.

Effects on India

BEPS Action 7 – Prevention of Artificial Avoidance of PE Status:

- ➔ **Wider Tax Base:** More foreign firms will be treated as having a taxable presence in India.
- ➔ **Curb on Tax Avoidance:** Stops MNEs from avoiding taxes through agents or commissionaire setups.
- ➔ **Higher Revenue Collection:** Increases corporate tax inflows from cross-border operations.
- ➔ **Compliance Burden:** Foreign entities must file Indian tax returns and maintain local accounts.
- ➔ **Increased Litigation Initially:** Broader PE definitions may trigger early-stage disputes.
- ➔ **Alignment with Global Standards:** Brings India in line with OECD/G20 BEPS reforms.
- ➔ **Encourages Substance-based Taxation:** Taxes profits where real business activities occur.

Pillar One – New Nexus and Profit Allocation Rules:

- ➔ **Expansion of Taxing Rights:** India can tax MNEs without physical offices if they earn from Indian users.

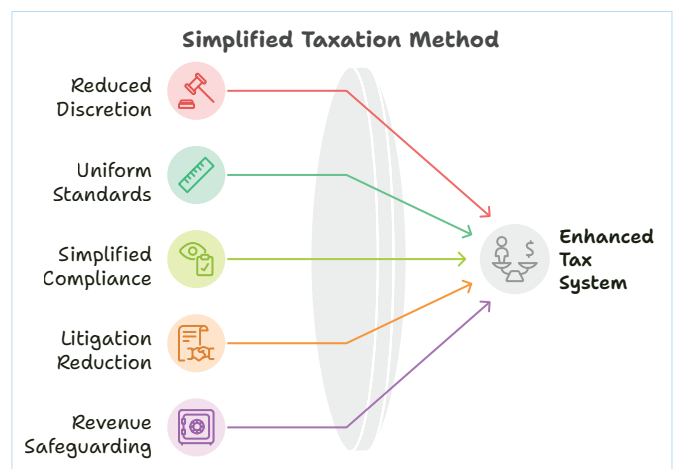
- ➔ **Higher Tax Revenue:** Large digital and consumer-facing MNEs' profits get partly taxed in India.
- ➔ **Transition from Equalisation Levy:** Digital taxes to be harmonized under Pillar One.
- ➔ **Greater Fairness:** Profits are taxed where consumers and markets exist, benefiting India.
- ➔ **Administrative Complexity:** Requires new systems for data, user base, and global coordination.
- ➔ **Policy Consistency:** Encourages India to align its digital economy taxation with global frameworks.
- ➔ **Boost to Fiscal Sovereignty:** Strengthens India's claim as a "market jurisdiction" in global taxation.

Pillar Two – Global Minimum Tax:

- ➔ **Revenue Protection:** Ensures MNEs can't shift profits to low-tax havens.
- ➔ **No Major Rate Impact:** India's corporate tax rate (22–25%) already above 15%.
- ➔ **Stability in Tax Collection:** Promotes uniform and fair global tax outcomes.
- ➔ **Reduced Incentive-based Appeal:** SEZ and tax holiday benefits may lose attractiveness.
- ➔ **Prevents Tax Competition:** Stops countries from undercutting India through lower rates.
- ➔ **Promotes Transparency:** Encourages open global reporting and consistent compliance.
- ➔ **Implementation Challenge:** Requires changes in domestic law and treaties for smooth adoption.

Way Forward

- ➔ The NITI Aayog's working paper paves the way for a **future-ready tax system** by introducing clear rules making India's tax regime fairer, more transparent, and globally competitive.
- ➔ By cutting litigation and attracting foreign investment, these reforms strengthen the tax base and accelerate the journey towards Viksit Bharat@2047.



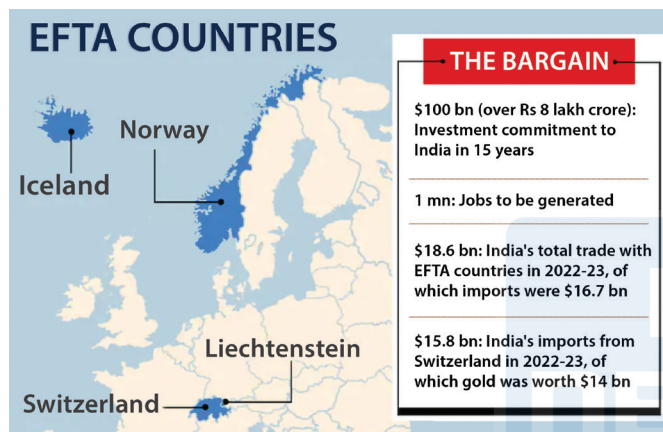
INDIA-EUROPEAN FTA AND TEPA

The India–European Free Trade Association (EFTA) Trade and Economic Partnership Agreement (TEPA) came into effect on 1st October 2025.

About

➤ EFTA:

- It is an Inter-governmental organization promoting free trade and economic integration among member countries.
- Established:** In 1960 under the Stockholm Convention.
- Founding Members:** Austria, Denmark, the United Kingdom, Norway, Portugal, Sweden, and Switzerland.

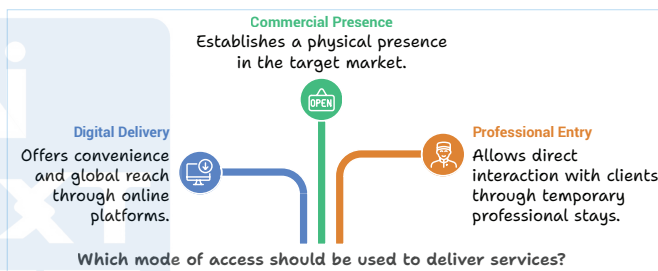


- India's Offer:** 82.7% tariff lines covering 95.3% of EFTA exports.
- Sensitive Sectors Protected:** Pharma, medical devices, dairy, soya, processed food, coal, and sensitive crops.
- Gold Imports:** Over 80% of EFTA exports to India are gold; no change in import duty.

➤ Boost for Services and Mobility:

- India's Commitments:** 105 sub-sectors.
- EFTA Commitments:** Switzerland (128), Norway (114), Liechtenstein (107), Iceland (110).
- MRAs (Mutual Recognition Agreements):** Nursing, architecture, and accountancy.

➤ Modes of Access:



Objectives of EFTA–India Partnership

- Enhanced Market Access:** EFTA has granted full (100%) market access to India's industrial and non-agricultural goods, along with tariff concessions on processed agricultural products.
- Investment and Employment Generation:** EFTA countries have pledged a binding investment commitment of USD 100 billion over the next 15 years, expected to create 1 million direct jobs in India.
- Trade Facilitation Mechanism:** A dedicated EFTA Desk, operational since February 2025, serves as a single-window system to facilitate investment.

India-EFTA & TEPA

➤ Investment and Employment Commitments:

- FDI Commitment:** EFTA nations will invest USD 100 billion in India; USD 50 billion within 10 years and another USD 50 billion in the next 5 years.
- Employment Generation:** These investments are expected to create around 1 million direct jobs in India.
- Focus Area:** Commitment excludes FPI (Foreign Portfolio Investment), emphasizing long-term capital and capacity building.

➤ Market Access for Goods:

- EFTA Offer:** 92.2% tariff lines covering 99.6% of India's exports (includes 100% non-agricultural goods).

- Sectors gaining:** IT, business services, education, cultural and audiovisual services.

➤ Intellectual Property Rights (IPR):

Aligns with TRIPS (Trade-Related Aspects of Intellectual Property Rights) standards.

➤ Sustainable and Inclusive Development:

- Promotes sustainability, social inclusion, and environmental protection.
- Aims for transparency, efficiency, and harmonization in trade procedures.

➤ Employment, Skills & Technology Collaboration:

Expected to create large-scale employment for India's youth.

- Focus on vocational and technical training.

Sector-Wise Gains under TEPA

➤ Agriculture and Allied Goods

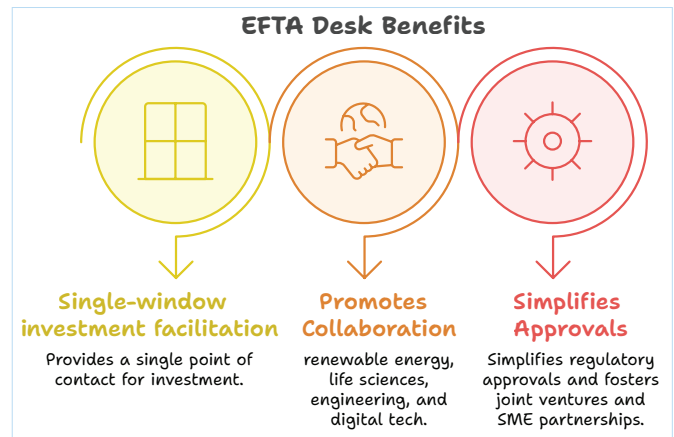
- Main Exports:** Guar gum (70% share), rice, fruits, pulses, vegetables.
- Major Markets:** Switzerland and Norway (99% of India's agri-exports).
- Gains:** Reduced tariffs, improved competitiveness for rice, guar gum, pulses, fruits, nuts, and millets.

➤ Marine Products:

- EPA will provide an opportunity to increase the export of the Marine products in addition to frozen shrimps from India to EFTA countries.

- ♦ **Norway:** Duty exemption up to 13.16% on fish/shrimp feed.
 - ♦ **Iceland:** Tariff elimination up to **55%** on fish feed and marine products.
 - ♦ **Switzerland:** **Zero duty** on fish oils.
- ➔ **Textiles and Clothing:**
- ♦ India's textiles and apparel exports to the EFTA stood at USD 0.13 billion in 2024.
 - ♦ Given India's total global textiles exports were USD 36.71 billion in 2024, TEPA offers the opportunity to capture the untapped market by leveraging tariff concessions.
- ➔ **Leather and Footwear:**
- ♦ The MFN is 0% in EFTA countries for leathers and footwear, an advantage to continue Post TEPA implementation.
 - ♦ TEPA consolidates and guarantees this preferential treatment, providing long-term certainty and stability for exporters.
- ➔ **Sports Goods and Toys:**
- ♦ TEPA would bring zero-duty access for a large share of tariff lines, enhancing competitiveness for Indian exporters.
 - ♦ Streamlined conformity assessment, mutual recognition of standards (MRAs), and simplified CE marking compliance under TEPA to lower compliance costs for exporters.
- ➔ **Engineering Goods:**
- ♦ **Focus sectors:** Electric machinery, aluminum, copper, precision tools.
 - ♦ Promotes sustainable and energy-efficient engineering exports.
- ➔ **Electronics and Software:**
- ♦ **Focus Areas:** Medical electronics, EV components, fintech tech, smart devices.
 - ♦ Strengthens **MSMEs and OEM exports** to Europe.
- ➔ **Plastics and Shellac Products:**
- ♦ **Zero tariffs** and better trade facilitation.
 - ♦ Boosts exports of **botanical and forest-based products**.
- ➔ **Services Sector Gains:**
- ♦ Services contribute 55% to India's GVA.
 - ♦ EFTA commitments ensure wider access for Indian services in IT, education, culture, recreation, and audiovisual fields.
 - ♦ **Modes of access:** Digital, commercial presence, and temporary professional movement.
 - ♦ MRAs open new opportunities for professionals in EFTA markets.
- ➔ **Investment Promotion:**
- ♦ **USD 100 billion investment goal (15 years)**, boost to *Make in India*.
 - ♦ **Dedicated EFTA Desk (since Feb 2025):**
 - ♦ Single-window investment facilitation.
 - ♦ Promotes collaboration in **renewable energy, life sciences, engineering, and digital tech**.

- ♦ Simplifies regulatory approvals and fosters **joint ventures and SME partnerships**.



Steps India can take to Strengthen its Position in Global Trade

- ➔ **Improve Export Quality and Competitiveness:** Upgrade technology, focus on product quality, and build strong global brands in manufacturing and agriculture.
- ➔ **Expand Trade Partnerships:** Sign more FTAs with new markets in Africa, Latin America, and the Asia-Pacific region.
- ➔ **Support MSMEs and Startups:** Make it easier for small businesses to get credit, logistics support, and access to e-commerce platforms for exports.
- ➔ **Develop Infrastructure:** Improve ports, logistics hubs, freight corridors, and cold chain systems to reduce export costs and delays.
- ➔ **Strengthen Global Standards Compliance:** Help exporters meet international quality, labor, and environmental standards through training and support.
- ➔ **Promote Digital Trade:** Encourage the use of online trade platforms, e-marketplaces, and virtual trade fairs to reach more global buyers.

Associated Concerns in India's Free Trade Agreements

- ➔ **Widening Trade Deficits:** Imports are rising faster than exports; for instance, the **India-ASEAN FTA** led to imports increasing to **\$44 billion in FY23**, while exports remained stagnant.
- ➔ **Impact on Small Farmers and MSMEs:** Influx of **cheap imports** threatens local industries — e.g., **rubber farmers** and small manufacturers affected under the ASEAN FTA.
- ➔ **Stringent Labor and Environmental Conditions:** New trade clauses like the **EU's Carbon Border Adjustment Mechanism (CBAM)** may increase costs and reduce India's export competitiveness.
- ➔ **Weak Dispute Resolution Mechanisms:** Many FTAs lack **efficient and balanced systems** to resolve trade disputes, as seen in issues with **palm oil and machinery tariffs** under the India-ASEAN pact.

AGRICULTURAL CREDIT IN INDIA

The Union Finance Minister urged rural banks to enhance agricultural credit disbursement to meet the evolving financial needs of New Rural India.

Meaning of Agricultural Credit

- Agricultural credit refers to the provision of short-term, medium-term, and long-term **loans** to farmers for crop production, purchase of inputs, machinery, and allied activities.

Role of Agricultural Credit in Strengthening Rural India

- **Timely Capital:** Provides funds for seeds, fertilisers, machinery, and irrigation; reduces dependence on informal lenders.
- **Increases Productivity:** Enables adoption of modern technology and high-yield crops, boosting farm income.
- **Promotes Crop Diversification:** Supports horticulture, cash crops, and aquaculture, increasing profitability.
- **Strengthens Rural Economy:** Credit indirectly supports allied sectors like processing, transport, and marketing.
- **Reduces Poverty & Indebtedness:** Prevents distress selling, enables loan repayment, and improves living standards.

Challenges to Agricultural Credit in India

- **Limited Access for Small and Marginal Farmers:** Small and marginal farmers often lack collateral or formal land titles and many rely on informal credit sources (*moneylenders*) with high interest rates.
- **Regional Disparities:** Northern and western states (Punjab, Haryana) have better credit access and eastern and northeastern states often face inadequate credit infrastructure.

Key Observation

- **Southern states** (TN, AP, Karnataka, Telangana, Kerala) receive ~48% of total agricultural credit despite having only ~17% of gross cropped area.
- **North-Eastern region** receives <1%, highlighting regional disparity in credit flow.
- **Over-reliance on Informal Credit:** About 30–40% of farmers still borrow from moneylenders and leads to high interest rates, debt cycles, and vulnerability.
- **Delayed Disbursement and Procedural Bottlenecks:** Government and bank schemes often suffer delays and complex documentation discourages small farmers from formal borrowing.
- **Low Coverage of Crop and Farm Loans:** Priority sector lending is often insufficient to meet total credit demand and loans are concentrated in cash crops, leaving marginal crop farmers underserved.
- **Credit Default and Recovery Issues:** High NPAs in agricultural loans discourage banks and recovery mechanisms are weak due to socio-political pressures.

- **Lack of Awareness and Financial Literacy:** Farmers often unaware of government schemes, interest subsidies, and insurance and leads to underutilization of institutional credit.
- **Climate Risk and Crop Failure:** Vulnerability to erratic monsoon and natural disasters increases loan default risk and farmers hesitate to borrow due to the risk of indebtedness.
- **Technological and Infrastructure Gaps:** Limited use of digital platforms for loan disbursement and monitoring and poor banking penetration in remote rural areas.

Government Measures

- **Kisan Credit Card (KCC, 1998; enhanced FY 2025-26)** – Loan limit ₹5 lakh, interest subvention, covers allied activities.
- **Targeted District Programmes** (100 Agri Districts Scheme, 2025) – Focus on low-productivity districts linking credit with productivity.
- **Post-Harvest & Infrastructure Finance:** Credit Guarantee Scheme for e-NWR Pledge Financing (CGS-NPF, 2024) – Loans against stored produce and agriculture Infrastructure Fund (AIF, 2020) – Loans for storage, cold chains, processing units.

Measures to Boost Agricultural Credit in India

- **Strengthen Institutional Credit:** Expand banks, Regional Rural Banks (RRBs), cooperatives; promote digital & mobile banking.
- **Enhance KCC Scheme:** Raise limits, ensure timely disbursement, cover allied activities, and continue interest subvention.
- **Link Credit with Sustainable Practices:** Lower rates for organic farming, water-efficient irrigation, climate-resilient crops.
- **Post-Harvest & Infrastructure Finance:** Loans for storage, cold chains, e-NWR-based pledge financing.
- **Risk Mitigation:** Crop insurance (PMFBY), credit guarantee schemes, flexible repayment during disasters.
- **Financial Literacy & Capacity Building:** Educate farmers on loans, insurance, and digital KYC.
- **Promote FPOs & Collective Farming:** Provide loans and infrastructure support to reduce individual risk.
- **Regional Focus:** Target low-credit districts (100 agri-district scheme), improve bank penetration.

Different Financing Entities Share in Agricultural Credit

- **Commercial Banks:** Largest share, 65–70% of institutional credit; linked with KCC and crop loans.
- **Cooperative Banks:** Around 20–25%; includes PACS and DCCBs, often refinanced by NABARD.
- **RRBs:** About 5–10%, serving small and marginal farmers.
- **Non-Institutional Sources:** Small share; includes moneylenders, traders, friends/relatives.

POST-HARVEST LOSSES IN INDIA

Post-harvest losses remain a major challenge in India, particularly for perishable commodities and there is a need for integrated cold chain and value addition infrastructure.

Meaning of Post-Harvest Loss

- Post-harvest loss refers to the reduction in quantity or deterioration in the quality of agricultural produce that occurs between harvest and consumption due to improper handling, storage, or processing.

Stages of Post-Harvest Losses

- **Harvesting Losses:** Caused by incorrect timing and inefficient harvesting techniques.
- **Handling and Transportation:** Result from rough handling, poor packaging, and inadequate road conditions.
- **Storage Losses:** Arise due to pest infestation, moisture damage, and a lack of modern cold storage facilities.
- **Processing and Distribution:** Occur because of inefficient processing, marketing delays, and weak distribution systems.

Impact of Post Harvest Losses

- **Overall post-harvest losses** in India are estimated at approximately ₹92,000 crore annually (**National Bank for Agriculture and Rural Development – NABARD, 2024**).
- **The average post-harvest loss** across major crops is 6–15%, while fruits and vegetables experience losses of 30–40% before reaching consumers.
- **India's cold storage capacity** stands at around 39–40 million tonnes, covering only 15–20% of total perishable produce (*Ministry of Food Processing Industries – MoFPI, 2024*).
- **About 13% of cereals, 10% of pulses, and 8% of oilseeds** are lost post-harvest (*Indian Council of Agricultural Research – Central Institute of Post-Harvest Engineering and Technology – ICAR-CIPHET, 2023*).
- **India ranks low** on the Global Food Loss Index (Food and Agriculture Organization – FAO, 2023), reflecting inefficiencies in the agri-supply chain.
- **These losses contribute to food inflation**, nutritional insecurity, and a 15–20% reduction in small farmers' income (*NITI Aayog, 2024*).

Major Causes

- **Inadequate Infrastructure:** Limited cold chain systems, pack houses, and refrigerated transport.
- **Fragmented Supply Chain:** Too many intermediaries and inefficient logistics systems.
- **Poor Storage Practices:** Traditional methods vulnerable to pests and moisture.
- **Low Farmer Awareness:** Limited knowledge and training in scientific post-harvest management.
- **Seasonal Gluts and Market Delays:** Lead to price crashes and distress sales.

- **Energy Deficiency:** High electricity costs and unreliable power supply in rural areas.

Government Initiatives to Reduce Post Harvest Losses

- **Integrated Cold Chain and Value Addition Infrastructure (ICCVAI):**
 - ♦ **Launched Under:** Pradhan Mantri Kisan Sampada Yojana (PMKSY) by the Ministry of Food Processing Industries (MoFPI).
 - ♦ **Objective:** To reduce post-harvest losses of perishable produce and ensure year-round availability of quality food products.
- **Operation Greens:**
 - ♦ **Objective:** To stabilize the supply and prices of Tomatoes, Onions, and Potatoes (TOP).
 - ♦ **Update:** Expanded in 2022 to cover 41 perishable crops under the "TOP to TOTAL" approach.
- **Mega Food Parks Scheme (MFPS):** Promotes cluster-based infrastructure for food processing and value addition.
 - ♦ **Status (2024):** 25 Mega Food Parks approved, with 22 operational (MoFPI).
- **Agri Infrastructure Fund (AIF):** Provides concessional credit for setting up warehouses, pack houses, and cold storages.
- **Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME):** Supports micro and small food processing units through credit-linked subsidies, skill development, and marketing assistance.
- **National Horticulture Mission (NHM):** Promotes post-harvest management, cold storage creation, and marketing infrastructure for horticultural produce.

Way Forward

- **Develop Integrated Cold Chain Infrastructure:** Establish renewable energy-based systems and decentralized rural cold storage facilities.
- **Promote Farmer Producer Organisations (FPOs):** Encourage collective post-harvest handling, storage, and marketing.
- **Encourage Public-Private Partnerships (PPP):** Attract investment from private and cooperative sectors in post-harvest infrastructure.
- **Enhance Research and Training:** Strengthen R&D in food preservation, packaging, and cold chain technologies.
- **Adopt Digital Technologies:** Implement Internet of Things (IoT), AI, and Blockchain for traceability and real-time monitoring.
- **Develop Crop-Specific Clusters:** Create region-specific post-harvest solutions for perishables such as onions, mangoes, dairy, and fisheries.

FERTILIZER SUBSIDY

The Union Cabinet approved fertilizer subsidy hike Nutrient-Based Subsidy (NBS) rates for Phosphatic and Potassic (P&K) fertilizers for Rabi crops (2025–26).

Concept of Subsidy

- A subsidy is financial support provided by the government to lower the cost of goods or services for consumers or to support producers.
- In agriculture, subsidies reduce the cost of inputs like fertilizers, seeds, irrigation, and electricity.

Meaning of Fertilizer Subsidy

- A fertilizer subsidy is financial assistance provided by the government to fertilizer manufacturers or directly to farmers so that fertilizers are sold at prices lower than their actual cost of production or import.

Objectives

- To make fertilizers affordable and accessible to farmers.
- To stabilize prices and protect farmers from global fluctuations.
- To maintain soil fertility, crop productivity, and food security.
- **Example (2024):** When global prices of Di-Ammonium Phosphate (DAP) increased by over 60 percent, the government raised the subsidy per bag from ₹1,350 to ₹1,650 to shield farmers.

Major Fertilizer Subsidy Schemes in India

- The Government of India provides fertilizer subsidies mainly through two schemes — **the Nutrient-Based Subsidy (NBS) Scheme and the Urea Subsidy Scheme**. Both aim to make fertilizers affordable and promote balanced nutrient use.

Nutrient-Based Subsidy (NBS) Scheme

- **Introduced in:** 2010
- **Applies to:** Non-urea fertilizers such as Phosphatic and Potassic (P&K) fertilizers like DAP, Muriate of Potash (MOP), and Single Super Phosphate (SSP).
- **How it works:** The government fixes a subsidy per kilogram of nutrient — Nitrogen (N), Phosphorus (P), Potassium (K), and

Sulphur (S) — in each fertilizer. Higher nutrient content earns higher subsidy support.

- **Objective:** To promote balanced fertilizer use, improve soil health, and reduce overdependence on urea.
- **Example (2025):** For Rabi 2025–26, the Cabinet fixed NBS rates to keep DAP prices near ₹1,350 per bag despite high international costs.

Urea Subsidy / Retention Price Scheme (RPS)

- **Covers:** Only Urea, India's most used fertilizer.
- **How it works:** The government fixes the Maximum Retail Price (MRP) of urea at ₹266.5 per 45-kg bag. Since production or import costs are higher, the difference is paid to companies as a subsidy.
- **Objective:** To ensure affordable and uninterrupted supply of urea to all farmers.
- **Example (2024):** Even when global urea prices rose due to high natural gas costs, Indian farmers paid the same fixed rate due to this subsidy.
- In short, the NBS scheme links subsidies to nutrient content, while the Urea Subsidy Scheme bridges the gap between market cost and government-fixed price.

Reasons behind the Subsidy Hike

- **Global Price Volatility:** Prices of urea, DAP, and MOP rose sharply due to the Russia-Ukraine conflict and export restrictions from China.
- **Rising Input Costs:** Natural gas, sulphur, and freight costs increased globally, raising production costs.
- **Import Dependence:** India imports nearly 50% of its DAP and almost all of its MOP.
- **Farmer Protection:** To prevent high input costs from affecting farmers and food prices, the government enhanced fertilizer subsidies.

Additional Information on Types of Fertilizers

Category	Description	Examples
Sole Fertilizers	Contain only one primary nutrient	Nitrogenous: Urea, Ammonium Sulphate, Calcium Ammonium Nitrate Phosphatic: Single Super Phosphate, Triple Super Phosphate Potassic: Muriate of Potash, Potassium Sulphate
Mixed / Complex Fertilizers	Contain two or more primary nutrients	Di-Ammonium Phosphate (18:46:0) Nitro-Phosphate (20:20:0) NPK (19:19:19, 20:20:20) Ammonium Phosphate Sulphate (16:20:0) Calcium Ammonium Nitrate (8% Ca, 21–27% N)
Micronutrient Fertilizers	Supply elements needed in small amounts	Chelated Compounds: Zn-EDTA, Fe-EDTA Inorganic Salts: Zinc Sulphate, Copper Sulphate, Ferrous Sulphate, Manganese Sulphate

Global Scenario of Fertilizer Subsidies

Fertilizer subsidies are widely used worldwide but differ in structure and purpose.

- ➔ **China:** Provides domestic production subsidies but restricts exports to maintain supply; promotes eco-friendly fertilizers under its **Green Development Policy (2024)**.
- ➔ **United States:** Offers no direct fertilizer subsidies but supports climate-smart agriculture through the **Farm Bill 2023**.
- ➔ **European Union (EU):** Through its Farm to Fork Strategy, aims to reduce chemical fertilizer use by 20 percent by 2030 and promote organic alternatives.
- ➔ **African Nations (Kenya, Nigeria, Ghana):** Use electronic voucher (e-voucher) systems to distribute subsidized fertilizers directly to smallholder farmers.
- ➔ **Indonesia:** Uses a digital platform for transparent fertilizer distribution.
- ➔ According to the World Bank (2025) and Food and Agriculture Organization (FAO), the global trend is toward digital, targeted, and sustainable subsidy models that encourage green ammonia and biofertilizer production.

Additional Information

- ➔ **Green Ammonia:** It is a Eco-friendly ammonia produced using renewable energy instead of fossil fuels. It cuts carbon emissions and can be used as clean fuel or fertilizer input.
- ➔ **Biofertilizers:** It is a Natural fertilizers with microbes like Rhizobium and Azolla that enhance soil fertility and nutrient uptake.
- ➔ **Significance:** Both promote sustainable farming, reduce chemical fertilizer use, and support India's green energy goals.

Impact of Fertilizer Subsidy in India

Positive Impacts:

- ➔ **Affordable Inputs:** Farmers can buy fertilizers at lower prices, ensuring continued cultivation.
- ➔ **Higher Productivity:** India's food grain output reached a record 330 million tonnes in 2024–25.
- ➔ **Support for Small Farmers:** Reduces cost burden and ensures income stability.
- ➔ **Food Security:** Strengthens national self-sufficiency in food production.
- ➔ **Encourages Modern Farming:** Promotes use of high-yield seeds and efficient practices.
- ➔ **Rural Employment:** Increases rural jobs through enhanced farm activity.
- ➔ **Price Stability:** Helps control food inflation, keeping it below 5 percent in 2024.

Negative Impacts:

- ➔ **Nutrient Imbalance:** Overuse of urea distorts the Nitrogen–Phosphorus–Potassium (N:P:K) ratio (8:3:1 instead of 4:2:1).
- ➔ **Soil Degradation:** Excess nitrogen reduces soil fertility and microbial balance.
- ➔ **Groundwater Pollution:** Nitrate leaching contaminates groundwater.
- ➔ **Greenhouse Gas Emissions:** Urea releases nitrous oxide (N_2O), a major greenhouse gas.
- ➔ **Fiscal Burden:** Fertilizer subsidy expenditure exceeds ₹2.2 lakh crore annually.
- ➔ **Leakages and Diversion:** Subsidized fertilizers are sometimes misused or smuggled.
- ➔ **Unsustainable Practices:** Over-reliance on chemical fertilizers harms long-term soil productivity.



Recent Government Initiatives to boost the Fertilizer Sector in India

- ➔ **Namrup IV Fertilizer Plant (Assam, 2025):** A 12.7 Lakh Metric Tonnes (LMT) urea–ammonia plant to boost domestic capacity.
- ➔ **SIGHT (Strategic Interventions for Green Hydrogen Transition) Programme (2025):** Produces 7.5 LMT of green ammonia to promote low-carbon fertilizers.
- ➔ **PM-PRANAM (Prime Minister Programme for Restoration, Awareness, Nourishment and Amelioration of Mother Earth) Scheme (2024):** Rewards states that reduce chemical fertilizer use and invest in organic inputs.
- ➔ **Digital Fertilizer Targeting Platform (2024–25):** Tracks fertilizer distribution using farmer IDs.
- ➔ **Kisan Credit Card (KCC) Enhancement:** Loan limit raised to ₹5 lakh to improve access to agricultural credit.

Way Forward

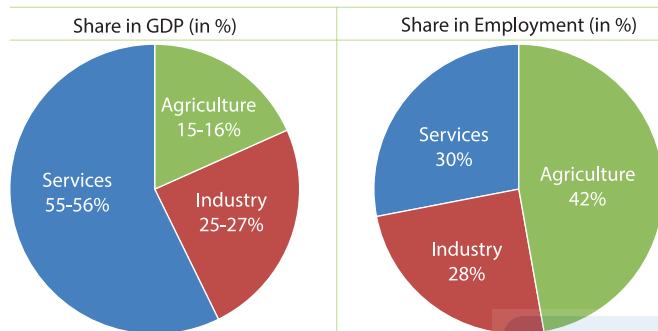
- ➔ Promote balanced fertilizer use through Soil Health Cards.
- ➔ Expand DBT for transparent subsidy delivery.
- ➔ Encourage biofertilizers, green ammonia, and neem-coated urea.
- ➔ Rationalize expenditure with targeted, need-based subsidies.
- ➔ Boost domestic production to reduce import dependency.
- ➔ Align policies with global climate-smart agriculture practices.

INDIA'S SERVICES SECTOR

In October 2025, NITI Aayog released two major reports analysing how India's service sector is evolving in output, employment, and inclusiveness across states.

Understanding the Sectors of the Economy

- The Indian economy consists of three main sectors — **primary, secondary, and tertiary** — each contributing differently to income and employment.



➤ Primary Sector (Agriculture and Allied Activities):

- ♦ This includes farming, forestry, fishing, and mining. It provides raw materials and sustains rural livelihoods.
- ♦ The sector contributes around 15–16% of India's Gross Domestic Product (GDP) and employs about 42% of the total workforce (2024–25), making it the largest employer but the least productive.

➤ Secondary Sector (Industrial or Manufacturing Sector):

- ♦ This covers manufacturing, production, and construction activities that turn raw materials into finished goods like textiles, automobiles, and steel.
- ♦ It contributes roughly 25–27% of GDP and employs about 28% of the workforce, driving industrialisation and urban growth.

➤ Tertiary Sector (Services Sector):

- ♦ This provides services instead of goods, such as banking, information technology (IT), education, healthcare, tourism, communication, and trade.
- ♦ It contributes nearly 55% of GDP and 40% of total exports (2024–25) while employing about 30% of the workforce. It has become India's largest contributor to growth, reflecting a shift toward a service-led economy.

- While agriculture still employs the most people, the services sector now drives India's economic output, export earnings, and innovation.

Significance of the Services Sector

- The services sector has been India's **main engine of economic growth since 2010**, driven by Information Technology–Business Process Management (IT–BPM), finance, trade, logistics, education, and communication.

- India contributes 13–14% of global digitally delivered service exports, ranking among the top countries worldwide. The sector generates urban jobs, earns foreign exchange, and promotes technological advancement, helping India become a knowledge- and skill-based economy.

Key Findings – (As per NITI Aayog's 2025 Reports)

GVA (Output) Trends:

Gross Value Added (GVA) measures the total value of goods and services produced in the economy.

➤ Rising but Uneven Growth:

- ♦ NITI Aayog reported that the share of services in GVA rose from 51% in 2013–14 to 55% in 2024–25.
- ♦ **Modern services** — such as IT, finance, real estate, and telecom — achieved high productivity but generated fewer jobs.
- ♦ **Traditional services** — such as trade, transport, and hospitality — created more employment but added less value.

➤ State-level Variation:

- ♦ According to the reports, southern and western states like Karnataka, Maharashtra, Tamil Nadu, and Telangana lead in service GVA and income.
- ♦ Northern and eastern states lag behind, reflecting uneven regional development and slower economic diversification.

➤ Export Linkages:

- ♦ NITI Aayog highlighted that India's services exports reached 340 billion US dollars (2024–25), helping reduce the trade deficit.
- ♦ Digital, financial, and professional services dominate exports, proving India's global strength in knowledge-based industries.

Employment Trends:

➤ Employment Share:

- ♦ About 188 million Indians work in the services sector, accounting for 29.7% of total employment.
- ♦ Employment grew by 40 million in six years, but India still trails the global average (~50%) for service-sector jobs.

➤ Job Quality and Informality:

- ♦ Over 75% of service workers are engaged in informal or low-productivity activities.
- ♦ **NITI Aayog notes a dual structure within the sector:**
 - ♦ **High-skill modern services:** High productivity but limited jobs.
 - ♦ **Low-skill traditional services:** Many jobs but low wages.

➤ Rural–Urban Disparity:

- ◆ Nearly 60% of urban workers are employed in services, compared with less than 20% in rural areas.
- ◆ Most service hubs are concentrated in metropolitan cities, creating regional imbalance and fewer rural opportunities.

Gender Dimensions:

Women's participation in services fell from 25.2% (2017–18) to 20.1% (2023–24).

- **Wage gap:** Rural women earn less than half of men's wages, while urban women earn about 84% of male earnings.
 - ◆ Women are mainly in informal and low-paying segments such as trade, hospitality, and caregiving, while their representation in IT and finance leadership remains below 10%.
- **Barriers:** safety concerns, mobility issues, digital skill gaps, unpaid care work, and occupational segregation.

Analytical Insights:

- India's services growth is output-rich but employment-poor, meaning it adds strongly to GDP but creates fewer jobs.
- Capital-intensive activities and informality limit job growth.
- Gender inequality continues despite educational gains, reflecting structural barriers.
- Regional concentration of service activity in advanced states restricts inclusive and balanced growth.

Policy Recommendations (From NITI Aayog Reports):

- **Promote Labour-intensive Sub-sectors:** Focus on tourism, logistics, healthcare, education, and retail to increase employment opportunities.
- **Encourage Formalisation:** Expand coverage under the Employees' Provident Fund Organisation (EPFO) and Employees' State Insurance (ESI) schemes.

- ◆ Simplify compliance for Micro, Small, and Medium Enterprises (MSMEs) in services.

- **Boost Regional Diversification:** Develop service clusters in Tier-II and Tier-III cities with strong infrastructure and digital connectivity.
- **Skill and Digital Empowerment:** Strengthen Skill India 2.0 and the Pradhan Mantri Kaushal Vikas Yojana (PM-KVY) for vocational and digital skilling.
- **Gender-responsive Policies:** Ensure equal pay, safe transport, childcare, flexible work options, and leadership mentoring for women.
- **Support Traditional Services:** Implement the Pradhan Mantri Vishwakarma Yojana and Shyama Prasad Mukherji Rurban Mission to uplift artisans and rural service providers.
- **Encourage Innovation and Exports:** Use Startup India, Digital India, and Production-Linked Incentive (PLI) schemes to connect Indian services to global value chains.

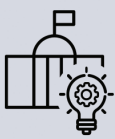
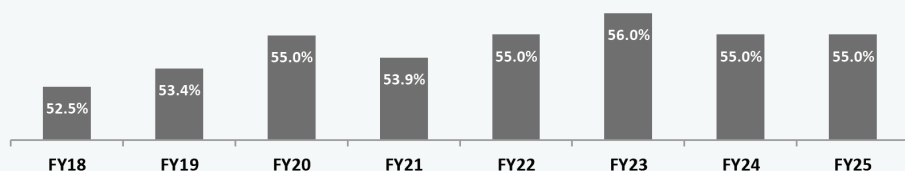
Way Forward

- To achieve inclusive and balanced economic growth, India must make the services sector more employment-oriented, formal, and regionally equitable.
- Strengthen linkages among the primary, secondary, and tertiary sectors for holistic development.
- Invest in education, digital skills, and women's empowerment to build a skilled workforce.
- Improve infrastructure and connectivity to expand service growth beyond metros.
- Foster a formal, innovative, and gender-equal service economy, aligned with the vision of Viksit Bharat @ 2047 (Developed India by 2047).



MARKET SIZE

India's Services GVA as a Percentage of Total GVA



GOVERNMENT INITIATIVES



E-WASTE IN INDIA

India struggles with e-waste collection despite high recycling potential; stronger policies and a formal system are crucial for health, environment, and metal recovery.

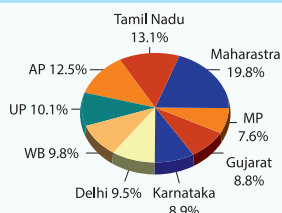
About e-Waste

- **"E-waste"** means waste electrical and electronic equipment, including all components, sub-assemblies, parts, and spares which are discarded as waste by the consumer or bulk consumer as well as rejects from manufacturing, refurbishment, and repair processes.
- Although these devices contain valuable materials, they are often disposed of improperly instead of being reused or recycled.
- Discarded electronic and electrical equipment.
- Contains valuable materials such as copper, aluminum, nickel, cobalt, lithium, gold, and rare earth elements (REEs).

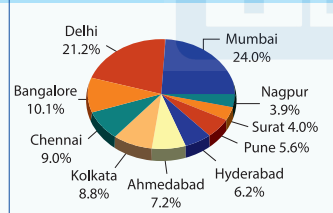
e-Waste in India

- **Total e-waste generated:**
 - ♦ India generated 1.398 million metric tonnes of e-waste in FY 2024–25.
 - ♦ It is driven by increased use of electronics, rapid obsolescence, and consumer upgrades.
- According to TRAI, India has over 93.9 crore mobile broadband connections, but accounts for only about 4% of global electronics consumption.

State wise E-waste Generation in India (Tonnes/year)



City wise E-waste Generation in India (Tonnes/year)



Gaps in Collection and Recycling

- A 2023 report by the **Indian Cellular and Electronics Association** highlights that e-waste recycling is **largely dominated by the informal sector**, which **handles up to 90–95% of e-waste** using unsafe methods such as open burning and acid leaching.
- **Key Challenges:**
 - ♦ Low formal collection (less than 10%) and recycling rates;
 - ♦ Health hazards for informal workers exposed to toxic substances;
 - ♦ Traceability issues in recovered materials, leading to leakage back into informal streams;
 - ♦ **Fake reporting and malpractices** in the EPR system — such as **'paper trading'** of recycling credits — have raised concerns over credibility.
 - ♦ Lack of standardized inventory systems and third-party audits.

E-Waste Management in India

- **Hazardous Waste (Management and Handling) Amendment Rules, 2003:** Marked the first inclusion of **hazardous materials** found in e-waste under India's waste management framework.
- **E-Waste (Management and Handling) Rules, 2011:** Introduced the concept of **Extended Producer Responsibility (EPR)**, making producers accountable for the collection and disposal of e-waste.
- **E-Waste (Management) Rules, 2016:** Brought in the idea of **Producer Responsibility Organizations (PROs)** to help producers meet their EPR targets.
- **E-Waste (Management) Rules, 2022:** Focused on promoting a **circular economy** through a strengthened **EPR framework**.

Resource Conservation

Recycling old devices recovers valuable materials like gold and silver, reducing pressure on natural resources.

Economic Growth

Boosts the circular economy, generates jobs, and encourages green entrepreneurship.

Environmental Protection

Prevents the release of toxic substances like lead, mercury, and cadmium from improper disposal.

Sustainable Development

Supports environmental, social, and economic balance through responsible waste management.

Need for E-Waste Management

- **E-Waste (Management) Second Amendment Rules, 2023:** Clarified exemptions related to the **reduction of hazardous substances**.
 - ◆ Specified the **conversion factors** for generating EPR certificates.
 - ◆ Added provisions for **management of refrigerants** by producers.
- **E-Waste (Management) Amendment Rules, 2024:** Granted **relaxation in filing timelines** for returns and reports (up to **nine months**) for manufacturers, producers, refurbishers, and recyclers.
- Allowed the government to create **platforms for trading or transferring EPR certificates**.
- Directed that **EPR certificate prices** must fall within a range set by the **Central Pollution Control Board (CPCB)**.

Global Efforts to Address E-Waste

- **Basel Convention:** An international treaty aimed at reducing the transboundary movement of hazardous waste, including e-waste, and promoting its environmentally sound management.
- **Global E-waste Statistics Partnership (GESP):** A joint initiative of the United Nations University (UNU) and the International Telecommunication Union (ITU) to enhance global data collection, reporting, and analysis on e-waste.
- **E-Waste Challenge:** A program by the World Economic Forum (WEF) that seeks to build a circular economy for electronics, encouraging recycling, reuse, and responsible production.
- **E-Waste Coalition (2018):** Formed through a Letter of Intent signed by seven UN organizations, this coalition coordinates global actions to tackle the environmental and health impacts of e-waste.

Other Challenges Associated with E-Waste in India

- **Informal Recycling:** Nearly **85% of e-waste** is handled by the **unorganized sector**, mainly small scrap dealers operating across the country.
- **Inadequate Infrastructure:** A significant gap exists between the **available recycling and collection facilities** and the **rapidly increasing volume of e-waste** generated.
- **E-Waste Imports:** A large portion of e-waste from **developed countries** — about **80%** — is shipped to developing nations like **India, China, Ghana, and Nigeria** for low-cost processing.
- **Low Awareness:** Public understanding of **safe e-waste disposal** and end-of-life management of devices remains poor.
- **Rapid Technological Change:** Frequent **product upgrades** and **shorter device lifespans** are accelerating e-waste generation.

- **Limited repair facilities,** unsafe recycling practices, and the **environmental hazards** of improper waste handling worsen the problem.

Policy and Industry Response

- **E-Waste (Management) Rules, 2022:** These rules aim to ensure environmentally sound management of e-waste, and strengthen the **Extended Producer Responsibility (EPR) regime**, requiring manufacturers, producers, refurbishers, and recyclers to register on the **CPCB portal**.
- **Key provisions include:**
 - ◆ Environmental compensation for violations;
 - ◆ Verification and audit mechanisms;
 - ◆ Circular economy promotion through scientific recycling.
- **Formal Recycling Infrastructure (February 2025):** India has 322 registered recyclers with a processing capacity of over 22 lakh metric tonnes per year.
 - ◆ 72 registered refurbishers with a capacity of 92,000 metric tonnes per year.
- **Public Awareness and Education:** MeitY, in collaboration with industry bodies like **MAIT and NASSCOM**.
- Innovative models like **'mandi-style' aggregation systems** are being piloted to link informal collectors with formal recyclers.

Way Forward

- **Corporate Responsibility:**
 - ◆ Encourage companies to adopt **eco-friendly practices**.
 - ◆ support **recycling initiatives**, and minimize electronic waste.
- **Strengthening the Informal Sector:** Upgrade skills and integrate informal workers through **training, indigenous technology use,** and **capacity building**.
- **Recycling and Disposal:**
 - ◆ Establish **modern recycling facilities** and partner with specialized firms.
 - ◆ **Co-locating e-waste management clusters** with existing manufacturing hubs.
- **Technological Advancement:** Assess and implement **advanced recycling technologies** used in India and abroad.
 - ◆ The **Ministry of Electronics and IT** has developed indigenous methods to recover **precious metals and plastics** from e-waste.
- **Monitoring and Enforcement:** Ensure strict implementation of the **E-Waste (Management) Rules, 2022** and **Extended Producer Responsibility (EPR)** targets with transparent reporting.
- **Public Awareness:** Promote **education campaigns** on responsible e-waste disposal, its environmental impact, and the importance of sustainable consumption habits.

STEM BRAIN DRAIN IN INDIA: BEYOND INCENTIVES, TOWARDS ECOSYSTEM

India has long faced the challenge of brain drain in STEM migration abroad for better research opportunities, which has led to a gap between India's intellectual potential and the resources available domestically.

Brain Drain in India

- **Brain Drain:** Refers to the emigration of highly skilled and educated individuals from one country to another, usually in search of better opportunities.
- **Emmigration: In India,** engineers, doctors, scientists, IT professionals, and academics move to developed countries like the USA, UK, Canada, and Australia.
- **Numbers:** According to the Ministry of External Affairs, **between 2015 and 2022, 1.3 million Indians left the country**, many of whom were highly educated professionals.
 - ♦ In 2022 alone, 225,000 Indians renounced their citizenship, the highest number recorded.
- **Top Destinations:** The United States, Canada, and Europe remain top destinations for these skilled workers.

Reasons for Brain Drain from India

- **Economic Factors:** Lower salaries compared to developed countries. Limited job opportunities for highly specialized skills.
- **Educational and Professional Opportunities:** Limited access to world-class research infrastructure.
 - ♦ Better training, exposure, and career growth opportunities abroad.
 - ♦ Preference for global higher education for advanced degrees.
- **Lifestyle and Quality of Life:** Better healthcare, infrastructure, and living standards abroad.
 - ♦ Global recognition and networking opportunities.
- **Inadequate Research Funding and Infrastructure:** India's expenditure on Research and Development stands at just 0.64% of GDP as of 2020-21, significantly lower than the global average of 1.79%.

Concerns

- **Loss of Skilled Human Capital:** India invests heavily in education and training, especially in fields like IT, medicine, and engineering. When highly skilled professionals emigrate, the country loses critical talent needed for innovation and economic growth.
- **Slower Economic Development:** Skilled professionals are key to entrepreneurship, research, and technological advancement.
 - ♦ Brain drain reduces domestic productivity and slows the development of high-tech industries and start-ups.
- **Impact on Health and Education Sectors:** India faces shortages of doctors, nurses, and educators due to migration to countries with better pay and working conditions.

- **Reduced Global Competitiveness:** A consistent outflow of talent can make India less competitive in knowledge-intensive sectors. Other countries benefit from India's investment in human capital without sharing the costs.

Government Initiatives

- **Prime Minister's Research Fellowship (PMRF):** Launched in 2018, PMRF aims to retain top research talent by offering monthly stipends of ₹ 70,000-80,000 and research grants up to ₹ 2 lakh per year.
- **Medical Education Expansion:** Medical colleges **doubled to 808 in 2025-26 from 387 in 2013-14**, with undergraduate seats up 141% and postgraduate seats up 144%.
- **VAJRA (Visiting Advanced Joint Research) Scheme:** Invites overseas scientists and experts to collaborate with Indian institutions.
- **Anusandhan National Research Foundation (ANRF):** Established to enhance R&D investment and strengthen the innovation ecosystem, with the Union Budget 2024 creating a ₹ 20,000-crore corpus for private sector R&D.
- **National Institutional Ranking Framework (NIRF):** Encourages universities to improve research and academic standards.
- **Ramanujan Fellowship & INSPIRE Faculty Scheme:** Attracts young Indian scientists back to India after overseas experience.

Way Ahead

- **Trigger for Repatriation Efforts:** Policies abroad, such as the US visa and academic restrictions, have created an opportunity for India to attract its diaspora back.
- **Create Opportunities: Investments like Google's \$15 billion AI hub in Andhra Pradesh** reflect collaboration opportunities for returning talent.
- **Education and Research Funding:** India spends 3-4% of its GDP on education, below the global average of 4.9%. Increasing this to 5% would help bridge the gap.
- **Increase R&D Spending:** India must significantly boost R&D expenditure from the current 0.64% to at least 2% of GDP to match global standards.
 - ♦ Private sector participation needs to increase as seen in developed economies.
 - ♦ In India, private investment in R&D- is **0.2% of GDP only**, while it is **2.7% in the US, 3.9 in South Korea**, etc
- **Freedom & Academic Openness:** Academic freedom is essential for long-term retention and innovation.
 - ♦ Incidents of scholar deportations and restrictions send discouraging signals to potential returnees.

LIGHTNING STRIKES

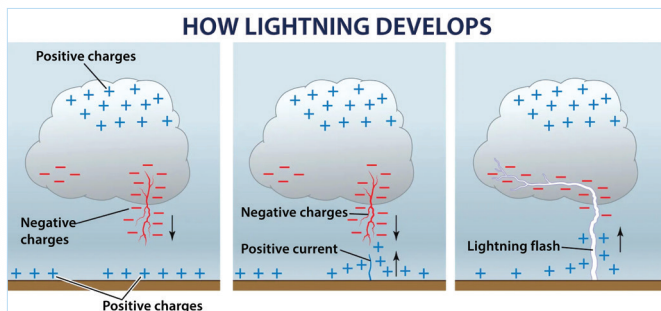
According to the NCRB's 2023 report on Accidental Deaths and Suicides in India, lightning caused the most fatalities, accounting for 39.7% of 6,444 deaths linked to forces of nature.

About

- **Lightning** is a sudden and powerful **discharge of electricity** that occurs in the atmosphere, sometimes striking the Earth.
- It forms inside large, **moisture-filled clouds** (about **10–12 km tall**).
- The **base of these clouds** lies roughly **1–2 km** above the ground, while the **top** reaches **12–13 km** high.
- Temperatures at the top can drop to **–35°C to –45°C**.

Mechanism of Lightning Formation

- **Formation of Ice Crystals:**
 - ♦ As water vapour rises, it cools and condenses into droplets.
 - ♦ At freezing temperatures, these droplets turn into ice crystals.
 - ♦ Smaller crystals rise upward, while larger, heavier ones fall downward.
- **Collisions and Release of Electrons:** The upward and downward movement of ice particles causes collisions.
 - ♦ These collisions release electrons, creating a chain reaction similar to an electric spark.
- **Charge Separation in the Cloud:**
 - ♦ The top of the cloud becomes positively charged, while the middle layer becomes negatively charged.
 - ♦ This creates a massive potential difference — around 1 to 10 billion volts.
 - ♦ As a result, a large electric current (up to 1 million amperes) flows between the charged layers.
- **Lightning Strikes the Earth:**
 - ♦ The Earth, though neutral, acts as a good conductor and becomes positively charged relative to the cloud base.
 - ♦ About 15–20% of the total discharge is directed towards the Earth, producing a lightning strike.



Lightning-Prone Areas in India

- **Bihar** – Epicentre of lightning deaths in recent years; recorded highest fatalities (99 deaths in March–April 2025).
- **Jharkhand** – Frequent lightning events, especially in tribal and agricultural zones.

- **Odisha** – High lightning density due to humid coastal winds and pre-monsoon storms.
- **Chhattisgarh** – Central plateau region experiences frequent thunderstorms.
- **West Bengal** – Especially South Bengal districts influenced by Bay of Bengal moisture.
- Lightning is a common natural event, though often less noticed in urban areas.

Factors Responsible for Lightning in India

- **Geographic and Climatic Conditions:** Regions with high humidity, such as the eastern states and coastal areas, are more prone to thunderstorms and lightning.
 - ♦ The topography, including the Himalayas and the Western Ghats, also influences the frequency of lightning.
- **Monsoon Dynamics:** The monsoon season, with its intense rainfall and convective activity, is a major driver of lightning in India. The convergence of moist air masses and the rising of warm, moist air during the monsoon season often lead to the formation of thunderstorms and lightning.
- **Urbanization and Industrialization:** Rapid urbanization and industrialization increase the number of artificial heat sources and aerosols in the atmosphere.
 - ♦ These enhance convection and contribute to more frequent thunderstorms, thus increasing lightning incidents.
 - ♦ Studies suggest that with every **1°C rise** in temperature, there is an **8–10 percent rise** in lightning strikes.
- **Climate Change:** Changes in global climate patterns are influencing local weather phenomena.
 - ♦ Increased temperatures and changes in humidity levels alter storm dynamics, potentially leading to more frequent and intense lightning events.
- **Agricultural Practices:** The burning of agricultural residues and deforestation can contribute to the accumulation of particulates in the atmosphere.
 - ♦ These particulates affect cloud formation and increase the likelihood of thunderstorms and lightning.

Government Initiatives

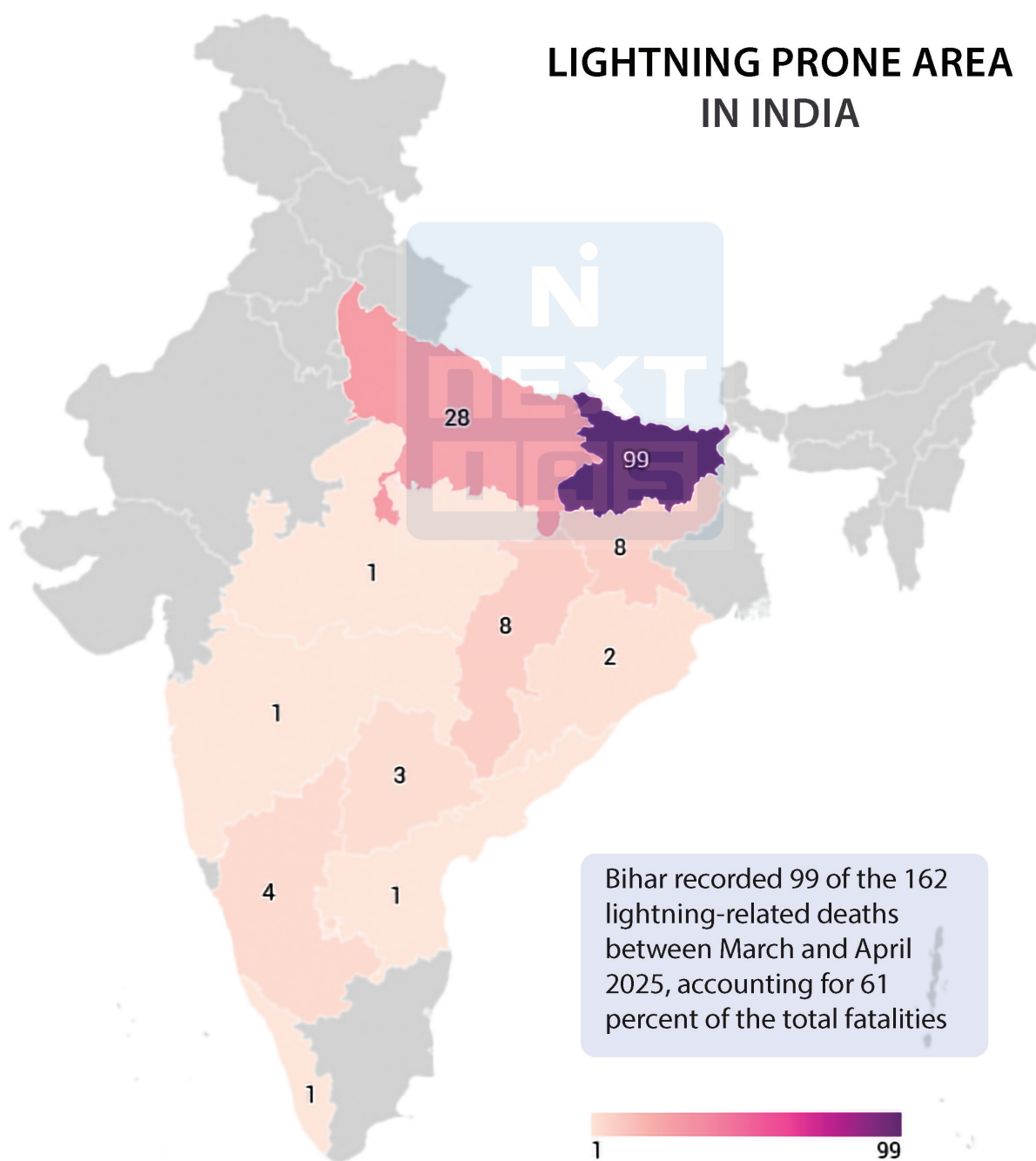
- **Climate Resilient Observing Systems Promotion Council (CROPC)** has developed India's first Lightning Early Warning System, aimed at predicting lightning strikes and issuing alerts.
- The mobile app **SACHET** was launched to alert the public about imminent lightning hazards.
- In 2020, Damini Lightning apps were developed by Indian Institute of Tropical Meteorology (IITM)-Pune.

- ◆ **Damini App:** Provides real-time lightning alerts up to 40 minutes in advance based on a user's location.
- **Lightning Detection Network (LLN) & Doppler Radars:** Used to track and monitor lightning strikes across the country.
- **Lightning Resilient India Campaign (by CROPC & IMD):** Aims to reduce lightning deaths by 80% through awareness and education, especially in rural areas.
- **NDMA Guidelines:** Help states with risk zone mapping, data sharing, and developing safety infrastructure to minimize lightning-related casualties.

Way Forward

- **Improve Communication:** Strengthen systems to make sure lightning warnings quickly reach vulnerable communities.
- **Build Local Capacity:** Train local authorities to respond fast and efficiently when early warnings are issued.
- **Raise Public Awareness:** Educate people about lightning safety tips, especially during the pre-monsoon and monsoon seasons.
- **Ensure Effective Implementation:** Strengthen on-ground enforcement of NDMA guidelines to reduce lightning-related deaths and damage.

LIGHTNING PRONE AREA IN INDIA



WORLD MENTAL HEALTH

On October 10, every year, World Mental Health Day highlights the extent of mental illness in the world.

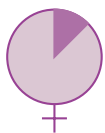
About

- Health is a multidimensional and evolving concept, as highlighted by James S. Larson. It goes beyond the mere absence of illness, encompassing a range of physical, mental, and social factors.
- According to the WHO, health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity.
- **Mental Health:**
 - ♦ Mental health is a state of well-being that enables individuals to cope with stress, realize their abilities, work productively, and contribute to society.
 - ♦ It is both a basic human right and has intrinsic and instrumental value.

The global prevalence of mental disorders in 2021

1.095 billion
people living with
mental disorders

14.8%
of females



13.0%
of males



- **Most Common Mental Health Disorders:** Anxiety and depressive disorders together accounted for more than two-thirds of all mental health conditions in 2021.
- **Mental Health in India:** India has a **13.7% lifetime prevalence** of mental disorders in the country.
 - ♦ According to the latest NCRB data, **1,71,418 suicides** were reported in India in 2023, a 0.3% increase from 2022, with **Maharashtra** recording the highest number.
 - ♦ Even more alarming, **student suicides** reached 13,892, a **64.9% rise** over the past decade.

Factors Driving the Rise of Mental Health Disorders in India

- **Academic Pressure and Fear of Failure:**
 - ♦ India's **exam-driven education system** creates extreme **pressure to perform**, with limited acceptance of failure.
 - ♦ **High-stakes exams**, competitive academic streams, and rigid expectations lead to **chronic stress and burnout** among students.
 - ♦ Between **2019–2023**, **98 suicides** were reported in top institutions like IITs and NITs, with **61% of IIT students** citing **academic stress** as the main cause.
- **Societal and Family Pressures:**
 - ♦ **Youth unemployment** and economic insecurity fuel **frustration and low self-worth**.

- ♦ **Family conflicts** and the **pressure to meet social expectations** often trigger emotional distress and suicidal tendencies.
- ♦ According to **NCRB**, nearly **48% of youth suicides** are linked to **family disputes, relationship issues, or marriage-related stress**.
- ♦ **Lack of family engagement:** Weak social support systems negatively impact emotional well-being.
- **Inadequate Access to Mental Health Care:**
 - ♦ Mental health issues such as **depression, anxiety, and substance abuse** often go **undiagnosed and untreated**, especially in **rural India**.
 - ♦ India faces a **severe shortage of mental health professionals**,
 - ♦ only **0.75 psychiatrists per 100,000 people**, far below the **WHO norm of 3 per 100,000** (Indian Journal of Psychiatry).
 - ♦ This shortage highlights a **critical gap in human resources** for mental healthcare delivery.
- **Stigma and Social Silence:**
 - ♦ **Cultural stigma** discourages individuals, especially youth, from seeking professional help.
 - ♦ Mental illness is often seen as a **sign of weakness or instability**, leading to **social isolation and late intervention**.
 - ♦ Studies show **70%–92% of Indians with mental disorders** receive **no or inadequate treatment** due to stigma, lack of awareness, and limited mental health infrastructure.
- **Gaps in Policy Implementation:**
 - ♦ Despite progressive laws like the **National Mental Health Policy (2014)** and the **Mental Health Care Act (2017)**, **implementation remains weak**.
 - ♦ Challenges include **poor funding, lack of trained manpower**, and **delays in integrating mental health into primary healthcare**.
- **Excessive internet & social media use:** Leads to anxiety, sleep disorders, and attention issues.
- **Hostile workplaces & long working hours:** Cause burnout, stress, and reduced productivity.
- **Unhealthy lifestyle choices:** Ultra-processed foods and lack of physical activity worsen mental and physical health.

Challenges associated with Psychiatric Healthcare in India

- **Poor Conditions in Psychiatric Hospitals:** Many psychiatric hospitals face neglect, overcrowding, and abuse, reflecting poor accountability and outdated systems.

Understanding Mental Wellbeing

- ➔ The India's National Mental Health Survey defines mental well-being as a multidimensional concept that includes:

Mental Wellbeing



- ➔ **Physical health:** Maintaining overall fitness through a healthy lifestyle

Things you can control yourself

HAND OF MENTAL WELLBEING

FOOD AND EATING HABITS

- What did you eat during the day?
- Did you enjoy a healthy snack every now and then?
- Who did you share your mealtimes with?
- Were you able to enjoy your meals at leisure or did you have to hurry?

SLEEP AND REST

- What time did you go to bed?
- Did you get enough sleep?
- Did you sleep well?
- Did you wake up feeling fresh and rested?
- Were you able to take it easy during the day?
- Did you have enough time to relax and rest?

PERSONAL RELATIONSHIPS AND EMOTIONS

- Who did you meet today?
- What activities did you do with your family?
- How did you feel during the day?
- Did you share those feelings with someone?
- Did you have time to listen to a friend?
- What made you happy or sad?

EXERCISE AND SHARED ACTIVITIES

- What type of activities did you do during the day?
- Did you have somebody join you?
- What type of exercise do you like best?
- How does exercise make you feel?

HOBBIES AND CREATIVITY

- What kind of fun things did you do?
- Did you do something creative?
- What kind of hobbies make you feel great?
- What do you find beautiful?
- How long did you spend watching TV or using the computer?
- Did you have somebody join you in these activities?



PERSONAL VALUES AND DAILY CHOICES IN VARIOUS SITUATIONS

- What kind of choices did you make that made you feel good?
- What do you value and consider important in your own life?

➤ Inadequate Funding:

- ♦ Mental health gets **only about 1%** of the total health budget.
- ♦ Most funds go to **institutions**, not **community-based care**.

➤ Shortage of Trained Professionals:

- ♦ India has just 0.75 psychiatrists and 0.12 psychologists per 1 lakh people, far below the WHO norm of 3 psychiatrists per 1 lakh.
- ♦ Severe shortage at district and village levels, causing an urban-rural gap in care access.

➤ Accessibility and Economic Barriers:

- ♦ **Medicines** are often unavailable in rural areas.
- ♦ **Travel costs** and **loss of wages** make treatment unaffordable for poor families.
- ♦ Most patients are **non-earning members**, worsening financial stress.

➤ Urban Stress and Lifestyle Factors:

- ♦ **Urban prevalence (13.5%)** is nearly double that in rural areas (6.9%) due to **overcrowding, pollution, and fast-paced life**.
- ♦ **Job insecurity** and **rising costs** add to mental strain — around **5% of adults** suffer from mental disorders.
- ♦ **High academic and workplace competition** triggers depression and anxiety, especially among **students and professionals**.

➤ Digital Overload:

- ♦ **Excessive screen time, social media use, and cyberbullying** worsen anxiety and depression.
- ♦ WHO estimates **over 1 billion people globally** are affected by these issues.

➤ Stigma and Low Awareness:

- ♦ **Social stigma** prevents **70–92%** of affected individuals from seeking help.
- ♦ **Lack of awareness** and cultural taboos continue to block access to timely treatment.

Government Initiatives for Mental Health in India

- **Mental Healthcare Act, 2017:** Ensures **equal legal status** for mental and physical health with **insurance coverage** and **rights-based treatment**.
- **National Mental Health Programme (1982) & District Mental Health Programme (1996):** Provides **affordable, community-based mental healthcare** and promotes **awareness at the grassroots level**.
- **Tele MANAS:** A **24x7 national helpline** offering **tele-counselling and mental health support**, especially for **rural and remote areas**.
- **National Suicide Prevention Strategy (2022):** Seeks to **reduce suicides** through **awareness, early detection, de-stigmatization, and crisis intervention**.

International Initiatives

- **WHO Mental Health Action Plan (2013–2030):** Aims to strengthen governance and integrate mental health into primary healthcare systems globally.
- **WHO Report 2025:** Urges policy reforms, stigma reduction, and a shift toward community-based, rights-oriented care.
- **Mental Health as a Global Development Priority:** Highlights mental health as essential for achieving SDGs related to education, poverty, and gender equality.

Three Paths to Transformation



Way Forward

- **Family and Social Support Systems:** Conduct parental counselling to reduce pressure and improve communication. And also Encourage family therapy and community dialogue to build emotional resilience.
- **Community Support:** Promote peer networks, self-help groups, and community rehabilitation to reduce stigma and build social inclusion.
- **Reducing Stigma and Silence:** Launch a national anti-stigma campaign promoting openness about mental health. We can use media and influencers to normalize help-seeking behaviour.
- **Psychiatrist Expansion:** Increase psychiatrist availability from 0.75 to 3 per lakh population to meet WHO standards.
- **Programme Evaluation:** Regularly assess programme outcomes through feedback from patients, professionals, and stakeholders.
- **NGO Collaboration:** Collaborate with NGOs to expand outreach, share expertise, and strengthen policy implementation.
- **School Integration:** Introduce mental health education, early detection mechanisms, and community involvement in schools.
- **Workplace Mental Leave:** Introduce mental health leave policies to support employees during personal or emotional crises, improving recovery and productivity.
- **Early Detection Training:** Equip teachers, managers, and trainers to identify emotional distress early and guide individuals toward help.
- **Regulatory Reform:** Replace punitive or mandatory testing policies with supportive frameworks that encourage voluntary disclosure and care-seeking.
- **Community-Based Models:** Strengthen primary healthcare integration, expand tele-counselling, and partner with NGOs to deliver accessible mental health services.

NCRB RELEASED CRIME IN INDIA 2023 REPORT

Recently, the Crime in India 2023 report was published by the National Crime Records Bureau (NCRB).

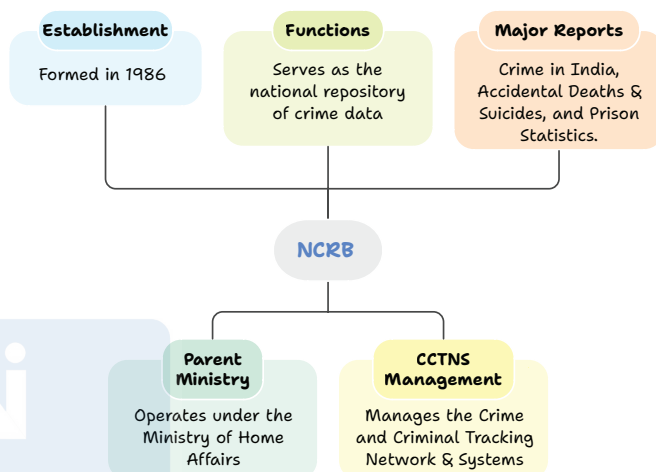
Key Findings

- **Overall Crime Trends:** India recorded **62.4 lakh cognizable crimes**, a 7.2% increase from 2022.
 - ♦ Of these, 37.6 lakh were under the IPC and 24.8 lakh under Special and Local Laws (SLL).
 - ♦ The **national crime rate** increased from 422.2 to 448.3 per lakh population.
 - ♦ In metropolitan cities, crime rose by 10.6% to 9.44 lakh cases, with theft accounting for 44.8%, followed by rash driving (9.2%) and obstruction on public ways (8.1%).
- **Changing Pattern of Crime:** Decline in traditional violent crimes such as rape and dowry deaths.
 - ♦ Surge in cybercrimes and urban-related offenses, reflecting social, technological, and lifestyle shifts.
 - ♦ **Cybercrimes** rose **sharply by 31.2% to 86,420 cases**, with nearly 69% involving online fraud.
 - ♦ Karnataka reported the highest number of cybercrime cases (21,889), followed by Telangana (18,236) and Uttar Pradesh (10,794).
- **Crimes against STs:** Crimes against Scheduled Tribes surged by 28.8%, from 10,064 in 2022 to 12,960 in 2023.
- **Crimes against Women:** Crimes against women saw a marginal rise of 0.4%, with most cases involving cruelty by husbands or relatives (29.8%), kidnapping (19.8%), and assault (18.7%).
- **Mental Health and Illness-Linked Suicides:** Report highlights a 3.2% rise in suicides due to illnesses, with nearly 20% of cases linked to conditions like cancer, paralysis, and mental health disorders.
 - ♦ Mental illness accounted for 13,978 suicides.

Suggestions

- The Crime in India 2023 report highlights the urgent need for reforms in response to the evolving nature of crime, particularly in the digital space.
- Key policy recommendations include strengthening cybercrime infrastructure through investments in digital forensic labs and public awareness campaigns, improving reporting mechanisms with anonymous channels and victim support, and training police in gender-sensitive and child-friendly protocols.

- It also calls for standardising crime classifications, enhancing inter-state coordination via a national crime analytics dashboard, and accelerating judicial processes with fast-track courts for cyber and gender-based cases.



SWACHH SHEHAR JODI (SSJ) INITIATIVE

The Ministry of Housing and Urban Affairs (MoHUA) launched the Swachh Shehar Jodi (SSJ) initiative.

About Swachh Shehar Jodi

- It is a structured mentorship and collaborative action program under the **Ministry of Housing and Urban Affairs (MoHUA)**.
- **Involves 72 mentor cities** paired with around **200 mentee cities** based on their performance in **Swachh Survekshan rankings**.
- **Aim:** To promote knowledge sharing, peer learning, and replication of best practices in urban sanitation and waste management.

Key Features

- **Mentorship Model:** Top-performing cities (mentors) guide low-performing cities (mentees). Focus on experience sharing, action planning, and handholding.
- **Time-bound Program:** 100-day program to demonstrate the impact of city-to-city mentorship. Each mentor-mentee pair develops action plans with defined milestones.
- **Nationwide Engagement:** Nearly **300 MoUs** signed across participating cities in the presence of city officials and political leaders.
 - ♦ The initiative creates a dynamic platform for collaboration, which will be evaluated in **Swachh Survekshan 2026**.

100 YEARS OF UPSC

The Union Public Service Commission (UPSC) marks a century of its establishment on October 1, 2025.

About UPSC

- ➔ **Historical Background:** The Government of India Act, 1919, first provided for such a body, and in **October 1926, the Public Service Commission was set up**, following the recommendations of the **Lee Commission (1924)**.
 - ◆ Later named the **Federal Public Service Commission (1937)**, it was renamed the Union Public Service Commission with the adoption of India's **Constitution on 26th January 1950**.
- ➔ **The UPSC conducts** civil services examinations to select officers for the Indian Administrative Service, Indian Foreign Service and the Indian Police Service, among others.
- ➔ **Members:** Besides the chairman, it can have a maximum of 10 members.
 - ◆ A UPSC chairman is appointed for a **term of six years** or until attaining **65 years of age, all members have the same term**.
- ➔ **Reappointment:** The UPSC Chairman is **not eligible for reappointment** after completing their term.
- ➔ **Removal (317): Removal by President:**
 - ◆ Can only be done on the ground of misbehaviour.
 - ◆ Requires a Supreme Court inquiry and report confirming the misbehaviour.
 - ◆ Reference to the Supreme Court is made by the President.
 - ◆ **Can remove without Supreme Court inquiry if the person:** Is adjudged insolvent, engages in paid employment outside office duties, is unfit due to mental or physical infirmity.

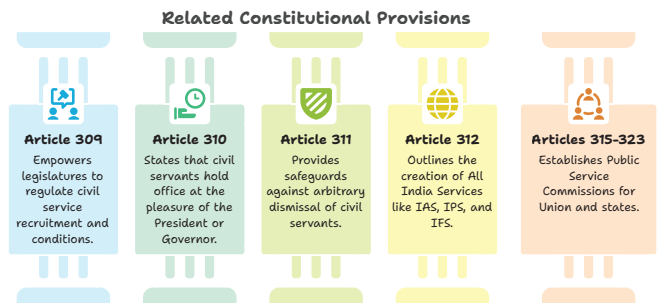
Civil Services Day

- ➔ **Civil Services Day** is observed on 21st April every year to commemorate the day in 1947 when Sardar Vallabhbhai Patel addressed the first batch of civil servants at the Metcalfe House, New Delhi.
- ➔ He termed civil servants as the **"Steel frame of India,"** emphasizing their role in maintaining unity and integrity.

History of Civil Services in India

- ➔ **Lord Cornwallis** is considered as '**Father of Civil Services in India**'.
- ➔ **Lord Wellesley** founded the College of **Fort William in Calcutta in 1800** to educate young recruits for the Civil Services.
 - ◆ But the directors of the Company, in 1806, replaced it with their own **East Indian College at Haileybury in England**.
- ➔ **The Charter Act of 1853** abolished the patronage system and introduced open competitive examinations.
- ➔ The first competitive exams for the Indian Civil Services (ICS) were held in London in **1855**.

- ➔ **Satyendranath Tagore** was the first Indian to clear ICS in **1864**.
- ➔ **From 1922 onwards** the Indian Civil Service Examination began to be held in India.



Role of Civil Services in Governance

- ➔ **Service delivery:** They are responsible for administering welfare schemes and ensuring that public services reach the intended beneficiaries, particularly at the last mile.
- ➔ **Maintaining law and order:** Civil servants ensure peace, justice, and security by upholding the rule of law and coordinating with law enforcement agencies.
- ➔ **Elections:** They have been instrumental in the conduct of free and fair elections, and ensuring smooth transfer of power both at the Centre and States.
- ➔ **Uninterrupted Administration:** There have been numerous instances when States have been placed under President's rule, with the civil services ensuring uninterrupted administration during such times.
- ➔ **Policy Making:** They provide advice to governments in policy making and also implement the policies made by the political executive.

PM-SETU YOJANA

The Prime Minister launched the Pradhan Mantri Skilling and Employability Transformation through Upgraded ITIs- PM – SETU.

About

- ➔ It is a **centrally sponsored scheme** to transform 1,000 Government ITIs across India into modern, industry-aligned training institutions.
- ➔ **PM-SETU** will follow a hub-and-spoke model, with **200 hub ITIs linked to 800 spoke ITIs**.
- ➔ **The scheme will:**
 - ◆ Introduce new, demand-driven courses and revamp existing ones in collaboration with industry;
 - ◆ Set up Special Purpose Vehicles (SPVs) with credible Anchor Industry Partners to manage clusters and ensure outcome-based training;
 - ◆ Create pathways for long-term diplomas, short-term courses, and executive programs;

- ♦ Strengthen 5 National Skill Training Institutes in - Bhubaneswar (Odisha), Chennai (Tamilnadu), Hyderabad (Telangana), Kanpur (Uttar Pradesh), Ludhiana (Punjab), as Centres of Excellence with global partnerships.
- ➔ Under the first phase of PM-SETU, **15 hub-and-spoke ITI clusters have been identified** across the country.
 - ♦ Each cluster will serve as a centre of excellence in skills, equipped with advanced infrastructure, modern trades, and industry-led training, creating model ecosystems that can be replicated nationwide.

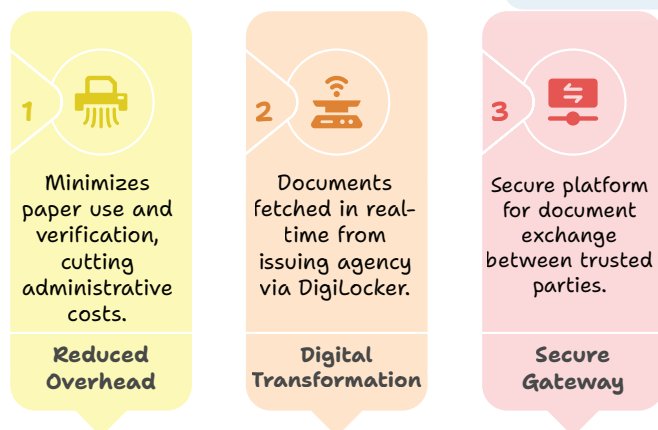
DigiLocker

The Union Public Service Commission (UPSC) has announced that candidates' documents, including caste, income, and disability certificates, will now be verified through DigiLocker.

About

- ➔ DigiLocker is a flagship initiative of the **Ministry of Electronics & IT (MeitY)** under Digital India programme.
- ➔ DigiLocker aims at 'Digital Empowerment' of citizens by providing **access to authentic digital documents** to citizen's digital document wallet.
- ➔ The issued documents in DigiLocker system are deemed to be at par with original physical documents as per **Rule 9A of the Information Technology (Preservation and Retention of Information by Intermediaries providing Digital Locker facilities) Rules, 2016**.

Benefits to Agencies



SUPREME COURT ON RETROSPECTIVE APPLICATION OF SURROGACY ACT

In a landmark judgment, the Supreme Court ruled that the age restrictions under the Surrogacy (Regulation) Act, 2021, cannot be applied retrospectively to couples who had frozen embryos and initiated the surrogacy process before the Act came into force.

SC Observations

- ➔ **Doctrine of Fairness:** Retrospective laws that impair vested rights or impose new burdens violate the principle of fairness and legal certainty.
- ➔ **Right to Privacy and Bodily Autonomy:** Derived from K.S. Puttaswamy (2017), reproductive decisions fall within the private domain of individuals as reproductive autonomy is a part of the fundamental right to life and personal liberty under Article 21
- ➔ **Gender and Equality Lens:** Restrictive interpretation disproportionately affects women, who already face biological and social constraints in reproductive choices.

About the Surrogacy (Regulation) Act, 2021

- ➔ **Objective:** To regulate surrogacy procedures in India and permit only altruistic surrogacy; commercial surrogacy is prohibited.
- ➔ **Intending couple eligibility (prospective):** Indian citizens, married ≥ 5 years; woman 23–50, man 26–55; medical infertility required.
- ➔ **Surrogate eligibility:** A married woman with at least one child of her own and should be aged 25–35 years.
- ➔ **Institutional architecture:** National/State Surrogacy Boards; Appropriate Authorities for licensing, compliance, and ethics.
- ➔ **Penalties:** Commercial surrogacy, embryo/gamete sale can attract up to 10 years' imprisonment and fines up to Rs 10 lakh.

APPOINTMENT OF DISTRICT JUDGES

The Supreme Court unanimously held that judicial officers who have completed seven years of practice as advocates before joining the service will be eligible for direct recruitment as District Judges under Article 233.

Eligibility Expansion for District Judges

- ➔ Previously, only practising lawyers with seven years' experience could be directly appointed; **in-service judicial officers were excluded**.
- ➔ The Court held that **Article 233(2)** provides for qualification for advocates but does not specify any separate qualification for in-service candidates.

Appointment of District Judges: Article 233

- ➔ **Article 233(1):** Appointments of persons to be, and the posting and promotion of, district judges in any State shall be made by the Governor of the State in consultation with the High Court exercising jurisdiction in relation to such State.
- ➔ **Article 233(2):** A person not already in the service of the Union or of the State shall only be eligible to be appointed a district judge if he has been for not less than seven years an advocate or a pleader and is recommended by the High Court for appointment.

PRIME MINISTER INTERNSHIP SCHEME

The Union Minister of Finance and Corporate Affairs, Nirmala Sitharaman, interacted with interns of the Prime Minister Internship Scheme (PMIS) at Hampi, Karnataka.

About the Scheme

- Launched by the **Ministry of Corporate Affairs (MCA)**, PMIS is part of the Prime Minister's package of five schemes and initiatives to facilitate employment, skilling and other opportunities for Indian youth over a **5-year** period.
- Targets youth aged **21–24 years** who are currently not enrolled in any full-time academic program or employment.
- The internship will have a duration of **12 months** and plans to provide opportunities to **one crore youth** in the top 500 companies across India over the next five years.
- **Financial assistance:** Rs. 5,000/month (Rs. 4,500 by the government + Rs. 500 by company via CSR).
- **Insurance coverage:** Every intern is covered under Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Pradhan Mantri Suraksha Bima Yojana (PMSBY).

LADAKH DELEGATES OFFERED TERMS OF ARTICLE 371

Ladakh's two key socio-political amalgams, **Leh Apex Body (LAB)** and **Kargil Democratic Alliance (KDA)** decided to resume talks with the **Ministry of Home Affairs (MHA)** on Statehood and Sixth Schedule.

Background

- In **2019**, the former State of Jammu & Kashmir was bifurcated into two Union Territories — Jammu & Kashmir, and Ladakh, the latter without a Legislative Assembly.
- After its special status was removed, several political groups in Ladakh have been demanding that land, employment, and the cultural identity of Ladakh, should be protected under the **Sixth Schedule**.
- In 2019, the **National Commission for Scheduled Tribes** recommended the inclusion of Ladakh under the Sixth Schedule.
- Recently, the Centre has reportedly proposed **special provisions under Article 371** of the Constitution as a potential alternative to Sixth Schedule status.

Sixth Schedule

- The Sixth Schedule under **Article 244** provides for the formation of autonomous administrative divisions — **Autonomous District Councils (ADCs)** — that have some legislative, judicial, and administrative autonomy within a state.
- This Schedule contains provisions regarding the administration of tribal areas in the states of **Assam, Meghalaya, Tripura and Mizoram**.

- The Schedule also gives **ARCs and ADCs** the power to collect land revenue, impose taxes, regulate money lending and trading, collect royalties from licenses or leases for the extraction of minerals in their areas, and establish public facilities such as schools, markets, and roads.

Protections offered under Article 371

- **Articles 371** and 371-A through J provide “special provisions” for specific states, often to give representation to certain religious and social groups and to allow these groups to exercise autonomy over their affairs without interference from the state and central governments.
- Special provisions under **Article 371** would allow protections to be extended to the local population of **Ladakh**.

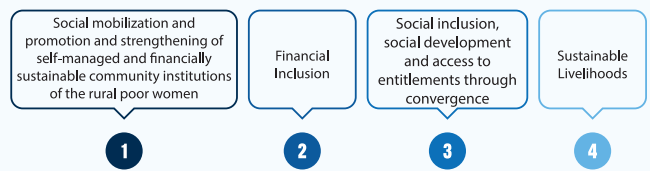
DAY-NRLM

The **Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY-NRLM)**, implemented by the **Ministry of Rural Development**, is one of the world's largest poverty alleviation programmes.

About the Mission

- **Launch:** It was launched in 2010 by restructuring the earlier Swarnajayanti Gram Swarozgar Yojana (SGSY), the initiative was renamed in 2016 as Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY-NRLM).
- **Aim:** It is a centrally sponsored scheme, aimed to reduce rural poverty through self-employment and skilled wage employment.
- **Women Centric Model:** The mission promotes economic independence by linking women to credit, markets, and technology through SHGs and federations.

COMPONENTS UNDER DAY-NRLM



Implementation of DAY-NRLM

- **Community Institutions:** DAY-NRLM promotes building strong institutions such as Self-Help Groups (SHGs) for the poor, particularly women.
 - ♦ These institutions provide them with long-term support to diversify their livelihoods, enhance their incomes, and improve their quality of life.
 - ♦ SHG women are trained as community resource persons (CRPs) – Krishi Sakhis, Pashu Sakhis, Bank Sakhis, Bima Sakhis, Banking Correspondent Sakhis, etc.
- **Entrepreneurship Promotion:** The mission also promotes micro-enterprises in areas like handicrafts and food

processing through sub-schemes such as the Start-up Village Entrepreneurship Program (SVEP).

➔ **Skill Development and Employment Programs:** The Ministry implements two Centrally Sponsored Schemes under DAY-NRLM:

- ♦ **Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY):** Provides placement-linked skill training for rural youth aged 15–35 years.
 - ♦ A total of 17.50 lakh candidates have been trained and a total of 11.48 lakh have been placed, as of June 2025.
- ♦ **Rural Self Employment Training Institutes (RSETIs):** Bank-sponsored centres for youth aged 18–50 that provide entrepreneurship training and promote self- and wage-employment, with financial support for infrastructure and training costs.
 - ♦ A total of 56.69 lakh candidates have been trained and a total of 40.99 lakh have been settled since inception till June 2025.

➔ **Leading States in Skill Development:** Uttar Pradesh, Odisha, Andhra Pradesh, Rajasthan, Madhya Pradesh, and Karnataka.

Achievements of the Mission

- ➔ Mobilized 10.05 crore rural households into 90.9 lakh SHGs across India.
- ➔ Supported 4.6 crore Mahila Kisans and 3.74 Lakh enterprises through entrepreneurship programs.
- ➔ Trained 17.5 lakh rural youth under DDU-GKY, with a total of 11.48 lakh already placed.
- ➔ Deployed 47,952 Bank Sakhis to boost rural financial inclusion and credit access.
- ➔ Promoted sustainable livelihoods through agriculture, non-timber forest produce, livestock, and non-farm enterprises.
- ➔ **High-performing states under DAY-NRLM:** Bihar, Uttar Pradesh, and Andhra Pradesh.

FREEDOM OF RELIGION AND RIGHT TO PRIVACY INTERLINKED: SUPREME COURT

The Supreme Court of India has recently held that the freedom of religion under Article 25 and the right to privacy under Article 21 are deeply interlinked.

Supreme Court Ruling

- ➔ The judgment arose in response to multiple petitions challenging provisions of the **Uttar Pradesh Prohibition of Unlawful Conversion of Religion Act**, highlighting the constitutional balance between individual autonomy and state control.
- ➔ It stated that privacy is a “**condition precedent**” for exercising freedom of religion, as personal faith choices are rooted in internal belief and conscience.

- ➔ The court observed that **state interference in personal belief systems**, such as mandatory disclosure of conversion or prior state approval, can violate both privacy and religious freedom.

Significance of the Judgement

- ➔ The judgment calls for a balance between **protecting vulnerable individuals from coercion** and respecting voluntary faith changes.
 - ♦ It promotes tolerance by affirming that **belief is personal and beyond state surveillance**.
- ➔ It represents continuity in the Supreme Court's shift toward expanding the “**zone of personal liberty**” under **Article 21**.
- ➔ The Court's reasoning aligns with **Shafin Jahan v. Asokan K.M. (2018)**, where the Supreme Court upheld an individual's autonomy in matters of faith and marriage, affirming that such choices are central to personal liberty.

Constitutional Provisions

- ➔ **Article 25(1):** Guarantees all persons the freedom of conscience and the right to freely profess, practice, and propagate religion, subject to public order, morality, and health.
- ➔ **Article 25(2)(b):** Permits the State to regulate or restrict religious conversions in the interest of public order, morality, or health, but does not allow interference with voluntary personal faith changes.
- ➔ **Article 21:** Guarantees the right to life and personal liberty, which has been judicially expanded to include privacy, encompassing the internal freedom of thought, belief, and conscience in Justice **K. S. Puttaswamy v. Union of India, 2017**.
- ➔ **Article 19(1)(a):** Ensures the freedom of speech and expression, including the right to express or withhold one's religious identity.

8TH CENTRAL PAY COMMISSION

The Union Cabinet, chaired by the Prime Minister approved the Terms of Reference of 8th Central Pay Commission.

About

- ➔ The 8th Central Pay Commission was announced in **January, 2025**.
- ➔ The commission aimed to examine and recommend **changes in the Salaries and other benefits of Central Government employees**.
- ➔ It will be a temporary body.
- ➔ The Commission will comprise one **Chairperson Justice Ranjana Prakash Desai**; One Member (Part Time) and one Member-Secretary.
- ➔ It will make its recommendations within **18 months of the date of its constitution**.

Central Pay Commissions

- The Central Pay Commissions are **periodically constituted** to go into various issues of emoluments structure, retirement benefits and other service conditions of Central Government employees and to make recommendations on the changes required thereon.
- The first CPC was established in **1946**, and subsequent commissions have been set up roughly every 10 years.
- Going by this trend, the effect of the 8th Central Pay Commission recommendations would normally be **expected from 01.01.2026**.

MODEL YOUTH GRAM SABHA INITIATIVE

The Union government launched the Model Youth Gram Sabha (MYGS) initiative along with a Training Module and the MYGS Portal in New Delhi.

About MYGS

- The Model Youth Gram Sabha (MYGS) is a pioneering initiative to strengthen Janbhagidari and promote participatory local governance by engaging students in simulated Gram Sabha sessions.
- **Aligned with National Education Policy 2020**, it aims to inculcate democratic values, civic responsibility and leadership among youth, nurturing future citizens committed to transparency, accountability and the vision of Viksit Bharat.
- The initiative is a joint effort of the **Ministry of Panchayati Raj, the Ministry of Education, and the Ministry of Tribal Affairs**.
- The initiative will be rolled out across more than **1,000 schools** nationwide, including Jawahar Navodaya Vidyalayas (JNVs), Eklayya Model Residential Schools (EMRSs), and State Government Schools.

JUSTICE SURYA KANT TO TAKE OVER AS 53RD CHIEF JUSTICE OF INDIA

Justice Surya Kant took over as 53rd Chief Justice of India and he will assume office on November 24, 2025, succeeding Chief Justice BR Gavai.

Appointment of Chief Justice of India

- The Chief Justice of India and the other judges of the Supreme Court are appointed by the **President** under clause (2) of Article 124 of the Indian Constitution.
- The **Chief Justice of India** is typically the senior-most Supreme Court judge deemed fit for the role.
 - ♦ The Union Law Minister seeks the outgoing CJI's recommendation, which is then forwarded to the Prime Minister, who advises the President for final appointment.
- **For other judges**, the collegium recommends candidates, with written opinions from senior judges.

Eligibility

To be eligible, a person must be an Indian citizen and either:

- have been for at least five years a Judge of a High Court or of two or more such Courts in succession
- have been for at least ten years an advocate of a High Court or of two or more such Courts
- be deemed a distinguished jurist by the President.

Process

- India follows the collegium system for appointing judges, involving the five senior most Supreme Court judges.
- Though not mentioned in the Constitution, it evolved through key judgments like the First and Third Judges Cases, shifting appointment power from the executive to the judiciary.
- The government may conduct background checks and raise objections, but the collegium's decision usually prevails.
 - ♦ Seniority is the guiding norm, and the Law Minister forwards the collegium's recommendation to the Prime Minister, who advises the President for final appointment.

Additional Information

Article 217, which deals with the appointment of High Court judges, says the President should consult the CJI, Governor, and Chief Justice of the High Court concerned.

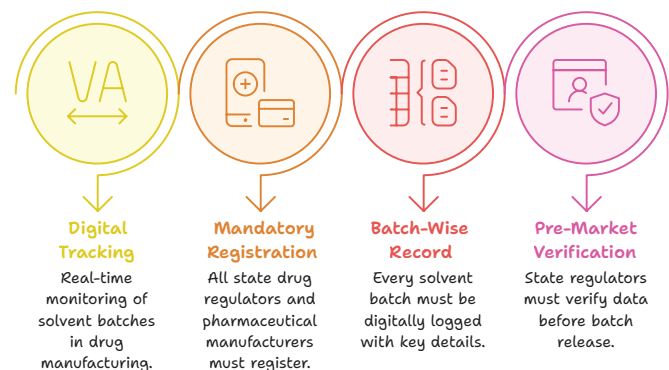
ONLINE NATIONAL DRUGS LICENSING SYSTEM (ONDLS)

The Drugs Controller General of India (DCGI) has directed digital monitoring on the ONDLS for tracking the supply chain of high-risk solvents.

About

- ONDLS is a single-window digital platform in India for **processing drug- and cosmetic-related applications** for manufacturing and sales licences, and various certificates.
- It is developed by the **Centre for Development of Advanced Computing (CDAC)** in coordination with the **Central Drugs Standard Control Organisation (CDSCO)**.

ONDLS Portal Features



CENTRE INVOKES MUTUAL LEGAL ASSISTANCE TREATY

India has formally invoked the Mutual Legal Assistance Treaty (MLAT) with Singapore, seeking cooperation in the investigation into the death of singer Zubeen Garg in the southeast Asian country.

Mutual Legal Assistance

- **Mutual Legal Assistance** is a mechanism whereby countries cooperate with one another in order to provide and obtain formal assistance in prevention, suppression, investigation and prosecution of crime.
- **Aim:** To ensure that the criminals do not escape or sabotage the due process of law for want of evidence available in different countries.
- India provides mutual legal assistance in criminal matters through **Bilateral/Multilateral Agreements, or International Conventions or on the basis of assurance of reciprocity.**
- India has entered into MLAT with more than 45 countries.
- **Nodal Ministry:** Ministry of Home Affairs (MHA).

Objectives and Key Provisions

- **Objectives:**
 - ♦ Facilitate investigation and prosecution of crimes.
 - ♦ Ensure speedy exchange of evidence and information.
 - ♦ Provide an alternative to lengthy diplomatic channels.
- **Provisions:**
 - ♦ Exchange of documents, records, and evidence.
 - ♦ Identification and location of persons.
 - ♦ Examination of witnesses.
 - ♦ Search and seizure of assets.
 - ♦ Assistance in asset recovery, forfeiture, and confiscation.
 - ♦ Service of judicial documents.
 - ♦ Transfer of persons for testimony.

INDIA-BHUTAN RAILWAY PROJECTS

The Union Government announced two cross-border railway projects which will connect Bhutan with the bordering areas of Assam and West Bengal.

Background

- The genesis of these two projects lies in the **Memorandum of Understanding (MoU)** signed between Bhutan and India in 2005.
- Gelephu and Samtse are the **major export-import hubs** in Bhutan and serve the 700-km long India-Bhutan border.

- Gelephu is being developed as **"Mindfulness City"** and Samtse is being developed as an **industrial town** by the Government of Bhutan.

About the Rail Projects

- **Kokrajhar–Gelephu Line:** It will connect Sarpang district in Bhutan with Kokrajhar and Chirang districts in Assam.
 - ♦ It is declared a **Special Railway Project** for fast-track approvals and land acquisition.
 - ♦ It will span **69 km** and is estimated to cost **Rs 3,456 crore.**
- **Banarhat–Samtse Line:** It will connect Samtse district in Bhutan with Jalpaiguri district in West Bengal. The line will cover **20 km** and is estimated to cost **Rs 577 crore.**

ON TRACK

TOTAL INVESTMENT: 24,033 CRORE

Kokrajhar (India) to Gelephu (Bhutan)-69 km
at ₹3,456 crore-to be completed in 4 years

BANARHAT (INDIA) TO SAMTSE (BHUTAN)-20 KM AT 2577 CRORE

Under Kokrajhar-Gelephu line: 6 stations, 2 important bridges, 29 major bridges, 39 RuBs and other Infrastructure will be developed

THE MODERN TRAIN SETS WILL BE RUN BETWEEN INDIA AND BHUTAN ON TOTALLY ELECTRIFIED RAIL TRACKS

Significance of the Project

- **Development assistance:** This initiative builds on India's long-standing role as Bhutan's largest developmental partner and its recent commitment of approximately **\$1.2 billion** for **Bhutan's 13th Five-Year Plan.**
- **Enhanced contact:** Facilitating smoother passenger and cargo movement is expected to boost people-to-people connections and cultural exchanges.
- **Seamless connectivity:** For landlocked Bhutan, the railway links will provide seamless access to Indian ports and markets, significantly lowering freight costs for its exports.
- **Bolstering key hubs:** The new lines will support the economic development of **Gelephu** as a new commercial hub and Samtse as an industrial center.
- **Free trade access:** As Bhutan's top trading partner, the projects will further enhance the benefits of the **2016 free trade agreement** between the two nations.

INDIA RE-ELECTED TO ICAO COUNCIL

India has been re-elected to Part II of the Council of International Civil Aviation Organization (ICAO) for the 2025-2028 term.

About ICAO

- It is a specialized UN agency established in 1944 that helps 193 countries collaborate for safe, efficient, and sustainable global air travel.
 - ♦ **Part II of the ICAO Council comprises States** making the largest contribution to the provision of facilities for international civil air navigation
- **The ICAO Assembly**, held every three years, is the sovereign body of the organization and comprises all 193 signatory States to the Chicago Convention.
 - ♦ The 36-member Council, elected during the Assembly, serves as ICAO's governing body for a three-year term.

Additional Information

- **India has been a founding member** of ICAO since **1944** and has maintained an uninterrupted presence on the Council for 81 years.
- The country continues to play a pivotal role in shaping ICAO's mission to promote safe, secure, sustainable, and inclusive international civil aviation.
- For the 2025–2028 term, India has reaffirmed its commitment to strengthening aviation safety, security and sustainability; promoting equitable growth in global air connectivity; advancing technology and innovation; and supporting ICAO's No Country Left Behind initiative.

MOSCOW FORMAT TALKS

India, China, Pakistan attend 10-nation Moscow Format talks that inducts Mr. Muttaqi, as an "official" member for the first time.

About

- The Moscow Format is a regional diplomatic initiative established in 2017 to address the Afghanistan conflict, promote stability, and foster national reconciliation.
- It serves as a platform for regional countries to coordinate on Afghan peace and stability.
- Its members are India, Afghanistan, China, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan, and Uzbekistan.

POLAR SILK ROAD

The Chinese ship "Istanbul Bridge" became the first commercial vessel to sail from Ningbo-Zhoushan (China) to Felixstowe (UK) via the Arctic in 18 days, marking the operational launch of the Polar Silk Route.

About

- The Polar Silk Road is a part of **China's broader Belt and Road Initiative (BRI)**, envisioned as a "blue economic corridor" through the Arctic Ocean.

- It focuses on developing navigable Arctic sea routes connecting East Asia, North America, and Western Europe via the Northern Sea Route (NSR) along Russia's coast.
- It establishes a new shipping corridor between Asia and Europe — shorter and more cost-effective than the Suez Canal route.

PLUTONIUM MANAGEMENT AND DISPOSITION AGREEMENT (PMDA)

Russia's lower house of parliament approved withdrawal from the Plutonium Management and Disposition Agreement (PMDA) with the United States.

About PMDA

- Signed in **2000** and effective from **2011**, the agreement required both countries to dispose of **34 tonnes of weapons-grade plutonium each** — enough for around **17,000 nuclear warheads**.
- The goal was to convert weapons-grade plutonium into safer forms, such as **mixed oxide (MOX) fuel** or irradiating it in **fast-neutron reactors** for electricity production.
- Russia had already suspended implementation in **2016**, claiming the U.S. did not adhere to the agreement.

AFRICA'S GREAT GREEN WALL PROJECT

Despite ambitious goals to restore 100 million hectares of land across Africa, the Great Green Wall project faces significant challenges in Senegal.



About

- **Launched:** 2007 by the **African Union**.
- **Objective:** Prevent the Sahara Desert from advancing southwards; restore 100 million hectares of degraded land across 11 Sahel countries (from Senegal to Djibouti and Ethiopia).

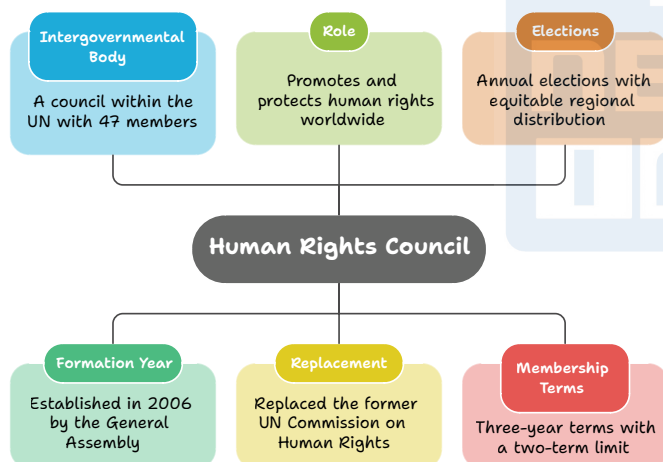
- **Length:** Planned to extend 6,000 km.
- **Broader Aim:** Tackle climate change, poverty, and extremism through ecosystem restoration and livelihood creation.
- The GGW initiative's ambition is to restore 100 million hectares of currently degraded land; sequester 250 million tons of carbon and create 10 million green jobs by 2030.

African Union

- **The African Union (AU)** is a continental body consisting of the **55 member states** that make up the countries of the African Continent.
- It was officially launched in **2002** as a successor to the Organisation of African Unity (OAU, 1963-1999).
- **Aim:** To realise Africa's potential and to focus towards increased cooperation and integration of African states to drive Africa's growth and economic development.

INDIA ELECTED TO UN HUMAN RIGHTS COUNCIL

India has been elected unopposed to the Human Rights Council for the seventh time for a three-year term (2026-28) starting next year.



INDIA-MONGOLIA SIGN MoUs TO BOOST TIES

India and Mongolia inked 10 Memoranda of Understanding (MoUs) during a bilateral meeting between Prime Minister Narendra Modi and Mongolian President Khurelsukh Ukhnaa in New Delhi.

Major Agreements and MoUs

- **Cultural & Educational Exchange:** An MoU links India's **Ladakh Autonomous Hill Development Council (Leh)** with Mongolia's Arkhangai Province to deepen Buddhist heritage ties.
 - ♦ India will send a Sanskrit teacher to Mongolia's **Gandantegchinlen (Gandan) Monastery** and digitize ancient Buddhist manuscripts, strengthening the historic Nalanda-Gandan connection.

- **People-to-People Mobility:** India announced gratis e-visas for Mongolian citizens and will sponsor annual cultural-ambassador visits.
- **MoUs on promotion of cooperatives, geology and mineral resources,** and digital transformation will guide joint ventures in mining, critical minerals and technology.
 - ♦ India is financing Mongolia's first oil refinery, via a **\$1.7 billion line of credit**, to strengthen Mongolia's energy security.
- **Heritage & Wellness:** India's Archaeological Survey of India will help renovate Mongolia's historic **Bogd Khan Palace**, and an MoU connects India's Yoga institute (MDNIY) with the Mongolian Yoga Federation, promoting traditional wellness exchanges.

Brief on India-Mongolia Relations

- **Political Cooperation:** Diplomatic relations between India and Mongolia were established on 24 December **1955**.
 - ♦ 2025 marks the **70th anniversary** of India-Mongolia diplomatic relations.
 - ♦ India supported Mongolia in having **UN and NAM** memberships.
 - ♦ Mongolia has consistently backed India's bid for a permanent seat in the **UN Security Council**.
- **Cultural Cooperation:** The India-Mongolian Cultural Agreement signed in **1961** has governed the Cultural Exchange Programme (CEP) between the two countries.
 - ♦ **Buddhist Heritage:** Buddhism forms the foundation of India-Mongolia ties. The link between Nalanda University and Gandan Monastery highlights ongoing cultural cooperation.
 - ♦ The establishment of an **India-Mongolia Friendship School** and celebration of **International Day of Vesak** in Ulaanbaatar reflect people-to-people bonding.
- **Defence Cooperation:** The Joint India-Mongolia military exercise '**Nomadic Elephant**' is held annually, focusing on counter-insurgency and peacekeeping operations.
 - ♦ India has announced **capacity-building programmes** for Mongolia's border security forces and the appointment of a **Defence Attaché** at the Indian Embassy in Ulaanbaatar, marking a major step towards deeper military collaboration.

Strategic Significance for India

- **Energy Security:** The Mongolian refinery project provides India with an entry point into the Central Asian energy network.
- **Critical Minerals Cooperation:** Mongolia is rich in coking coal, rare earths, and uranium, vital for India's energy transition and industrial sectors.
- **Regional Connectivity:** India's outreach through Mongolia complements its Act East Policy and Connect Central Asia Policy, bridging the gap between South, East, and Central Asia.

INDIA ELECTED CO-CHAIR OF UN-GGIM ASIA-PACIFIC COMMITTEE

India has been elected as Co-Chair of the Regional Committee of the United Nations Global Geospatial Information Management for Asia and the Pacific (UN-GGIM-AP) for a three-year term till 2028.

About

- ➔ It is a representative body of the **National Geospatial Information Authorities** of 56 countries and economies in Asia and the Pacific region.
 - ♦ It was established in **1995 and rebranded in 2012**.
- ➔ It is one of the five regional committees of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM).
- ➔ **Objectives:** It aims to promote the use of geospatial information for identifying problems and finding solutions, so that the economic, social and environmental benefits of geospatial information will be maximized in Asia and the Pacific region.

INDIA AND BRAZIL TO EXPAND TRADE PACT WITH MERCOSUR

Recently, India and Brazil agreed to expand the scope of the existing Preferential Trade Agreement (PTA) under MERCOSUR bloc, aiming to include more sectors and products.

About MERCOSUR

- ➔ **MERCOSUR**, established in 1991, includes **Brazil, Argentina, Uruguay, and Paraguay** as founding members.
 - ♦ Bolivia's accession is pending ratification.
- ➔ It counts Chile, Colombia, Ecuador, Guyana, Peru, and Suriname as associate members.
- ➔ Panama is the first Central American nation joined as an associate member.

1991	MERCOSUR was formed in 1991 with the objective of free movement of goods, services, capital and people
1995	It became a Custom Union
2003	Signing of Framework agreement between India and MERCOSUR in 2003 at Asuncion, Paraguay
2004	Preferential Trade Agreement (PTA) between India and MERCOSUR signed
2006	Expansion of India-MERCOSUR PTA - by increasing the number of products covered and increasing the tariff concessions agreed by each side
2009	India - MERCOSUR PTA comes into effect

India and MERCOSUR Relations: Historical Background

- ➔ India signed a **Framework Agreement with MERCOSUR in 2003**, followed by a **Preferential Trade Agreement (PTA) in 2004**, which came into **effect in 2009**.

- ♦ The PTA covers 450 product lines, offering mutual tariff concessions on items like pharmaceuticals, chemicals, textiles, and leather goods.
- ♦ It marked **India's first formal trade pact with a Latin American bloc**, laying the groundwork for deeper economic integration.
- ➔ The **India-Mercosur PTA** currently provides **tariff concessions on around 450–452 tariff lines**, with reductions ranging from **10% to 100%**.

Goals of the Expanded Pact

- ➔ Increase product coverage beyond the current 450 items.
- ➔ Facilitate investment flows in critical sectors like renewable energy, pharmaceuticals, and digital infrastructure.
- ➔ Promote sustainable development through technology transfer and green innovation.
- ➔ Strengthen regional supply chains between South Asia and Latin America.

India-Brazil & MERCOSUR

- ➔ **India and Brazil** have set an ambitious bilateral trade target of **US\$ 20 billion by 2030**, a significant rise from **US\$ 12 billion in 2024**.
- ➔ The enhanced PTA aims to operate under the **Mercosur bloc**, and Brazil has expressed intent **to collaborate closely with its Mercosur partners** to ensure a **swift and mutually beneficial expansion** of the agreement.
- ➔ **Exports** between India and Brazil have **already grown by over 30% in 2025**.

IRAN RATIFIES UN CONVENTION AGAINST TERROR FINANCING

Iran has ratified a law to join the United Nations International Convention for the Suppression of the Financing of Terrorism (CFT) in a bid to align with global financial norms.

About

- ➔ **FATF status:** As of October 2025, Iran remains on the **FATF blacklist** for its failure to adopt sufficient anti-money laundering (AML) and counter-terrorist financing (CFT) standards.
 - ♦ The ratification is seen as a first step toward potential re-evaluation by the FATF.

About the CFT

- ➔ The CFT was adopted by the **United Nations General Assembly** on 9 December **1999** (Resolution 54/109).
- ➔ **Objective:** To criminalize the financing of terrorism and establish international cooperation mechanisms to prevent, investigate, and prosecute such offences.
 - ♦ It requires countries to **strengthen financial oversight, share intelligence**, and cooperate in law enforcement.

- **International Legal Framework:** Complements other UN instruments such as the UN Security Council Resolution 1373 (2001) and the UN Convention against Transnational Organized Crime (2000).
- **India has ratified** the CFT and has incorporated its provisions through:
 - ♦ Unlawful Activities (Prevention) Act (UAPA), 1967
 - ♦ Prevention of Money Laundering Act (PMLA), 2002.

Financial Action Task Force (FATF)

- **The Financial Action Task Force** is an intergovernmental organization which leads global action to tackle money laundering, terrorist and proliferation financing.
- **History:** FATF was established in **1989** by the **G7** to examine and develop measures to combat money laundering. It originally included the G7 countries, the European Commission and eight other countries. **In 2001**, the FATF expanded its mandate to also combat terrorist financing.
- **Members:** FATF has **40** members including **India**.
- FATF has the authority to issue warnings and sanctions against countries that fail to comply with its standards, such as suspension of membership and blacklisting.

FATF 'Grey list' and 'Blacklist':

- **Black List:** Countries known as Non-Cooperative Countries or Territories (NCCTs) are put on the Blacklist. These countries support terror funding and money laundering activities.
- **Grey List:** Countries that are considered a safe haven for supporting terror funding and money laundering are put in the FATF Grey list.

SAUDI ARABIA ENDS KAFALA SYSTEM

In a landmark labour reform, Saudi Arabia has officially scrapped the decades-old Kafala (sponsorship) system.

About Kafala System

- The Kafala system required foreign workers to have a Saudi sponsor, usually their employer, who controlled their visa and legal status.
- This meant that workers couldn't change jobs, leave the country, or even renew their residence permits without the sponsor's consent.

Reasons behind Scrapping the System

- Human rights bodies long argued that this system often led to worker exploitation and abuse, as employees were left with little legal recourse if their employers withheld salaries or passports.
- The reform aligns with Saudi Crown Prince Mohammed bin Salman's Vision 2030, which aims to modernise the economy, attract foreign investment, and reduce the kingdom's reliance on oil.

Implications for Indian Workers

- Saudi Arabia currently has an estimated 1.34 crore foreign workers. They account for close to 42 per cent of the Kingdom's population, a majority of the estimated 1.34 crore workers hail from Bangladesh, India, Nepal and the Philippines.

EAST TIMOR: 11TH MEMBER OF ASEAN

The 10-member Association of Southeast Asian Nations (ASEAN) welcomed East Timor as its newest member.

About

- **East Timor**, also known as **Timor-Leste**, had long attempted to join ASEAN, given the organisation's significance in maintaining economic, political and security coordination in the region.
- It also marked **ASEAN's first expansion in years**, after **Cambodia** last joined it in **1999**.

The Association of Southeast Asian Nations (ASEAN)

- It was established in **1967** in **Bangkok, Thailand**.
- **It was founded by five countries:** Indonesia, Malaysia, the Philippines, Singapore, and Thailand.
- **Aim:** To promote regional cooperation and stability amid Cold War tensions.
- **Headquarters:** Jakarta, Indonesia.
- **Current Member States:** ASEAN currently consists of 11 member countries: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Vietnam and East Timor.
- **ASEAN maintains dialogue partnerships** with multiple countries and organizations, including India, China, the USA, Japan, Australia, the EU, and others.

East Timor

- East Timor is located in the **Pacific Ocean to the north of Australia**.
- It constitutes the **eastern side of a larger island**, while most of the western side is under **Indonesian control**.
- East Timor was a Portuguese colony for over four centuries before it gained independence in **1975**, but was invaded by Indonesia just nine days later.



THE UPDATED RANGARAJAN POVERTY LINE

A recent RBI study (2024) updated the Rangarajan Committee Poverty Line (2014) for 20 major Indian states using the Household Consumption Expenditure Survey (HCES) 2022-23.

About Poverty

- Poverty means when a person or family cannot meet their basic needs like food, shelter, clothes, and education. According to the *Human Development Report (1997)*,
 - ♦ Poverty is not only about lack of money but also about lack of choices and opportunities to live a good life. Ending poverty is now seen as a human right and a moral duty for all countries.
- **Poverty Line:** A poverty line is a threshold level of income or consumption used to determine whether an individual or household is poor.
 - ♦ Anyone living below this threshold is considered unable to afford basic necessities such as food, shelter, clothing, education, and healthcare.
- **It helps the government:** To gauge the extent of poverty and shape welfare policies for the poor.
 - ♦ To understand whether a set of policies has actually worked over time to reduce poverty and improve wellbeing.

Key Findings of Latest Update

Updating Rangarajan's Poverty Lines:

- **RBI's Approach:** RBI avoided using **CPI (Consumer Price Index)** inflation as the CPI basket differs from **PLB (Poverty Line Basket)**.
- **Difference in Consumption Weights:**
 - ♦ **Rural:** Food share 57% (PLB) vs 54% (CPI).
 - ♦ **Urban:** 47% (PLB) vs 36% (CPI).
- **New Price Index Creation:** RBI made a new index like CPI with PLB-based weights to update 2012 poverty lines.
- **Data Used:** Used HCES 2022-23 data to estimate households below updated poverty lines.
- **Noted Limitations:** Consumption patterns changed; PLB needs revision; new CPI basket (2023-24) underway.
- Odisha and Bihar have made the biggest improvement over the last decade.
 - ♦ **Odisha:** Rural poverty fell from 47.8% to 8.6%.
 - ♦ **Bihar:** Urban poverty fell from 50.8% to 9.1%.
- **Lowest Rural Poverty (2022-23):** Himachal Pradesh (0.4%).
- **Lowest Urban Poverty (2022-23):** Tamil Nadu (1.9%).

- **Highest Poverty:** Chhattisgarh (Rural 25.1%, Urban 13.3%).

HIGHEST THREE POVERTY LINES

RURAL	2022-23	2011-12
Delhi	2,577	1,492
Haryana	2,083	1,128
Punjab	2,048	1,127
URBAN	2022-23	2011-12
Maharashtra	2,791	1,560
Haryana	2,696	1,528
Gujarat	2,664	1,507

LOWEST THREE POVERTY LINES

RURAL	2022-23	2011-12
Jharkhand	1,621	904
Odisha	1,608	876
Chattisgarh	1,586	912
URBAN	2022-23	2011-12
Bihar	2,277	1,229
Odisha	2,182	1,205
Chattisgarh	2,149	1,230

Rangarajan Committee (2014)

- It was constituted in 2012 and submitted its report in 2014.
- The Committee recommended separate consumption baskets for rural and urban areas.
 - ♦ The Rangarajan Committee set the rural poverty line at ₹972 per month (₹32 per day).
 - ♦ The urban poverty line was set at ₹1,407 per month (₹47 per day).
- These estimates pegged 29.5 percent of the Indian population as poor in 2011-12.
 - ♦ However, the Government did not finalize its decision on the Committee's recommendations.
 - ♦ Therefore, poverty is measured using the Tendulkar poverty line.

PKVY: NURTURING ORGANIC FARMING IN INDIA

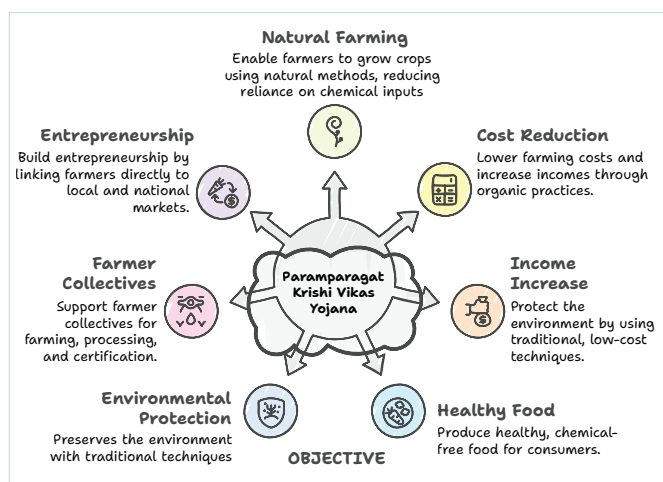
Over the past decade, the Paramparagat Krishi Vikas Yojana (PKVY) has emerged as a key pillar of India's sustainable agriculture efforts.

About

- Organic agriculture is a unique production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity.
 - ♦ This is accomplished by using on-farm agronomic, biological and mechanical methods in exclusion of all synthetic off-farm inputs.
- **Need of Organic Farming:**
 - ♦ The stress of feeding the growing population pressure on agriculture necessitates not only to keep agricultural production continuous but to surge it further in a sustainable way.
 - ♦ Modern conventional farming using pricey chemicals and synthetic inputs is now facing sustained production with high input cost and weakening returns.

Status in India

- India ranks 4th globally in certified organic area (IFOAM, 2022) and 1st in the number of organic farmers.
 - ♦ Madhya Pradesh has the largest certified area, followed by Maharashtra, Rajasthan, Gujarat, and Karnataka.
 - ♦ Sikkim is India's first fully organic state with around 75,000 hectares under organic practices.
- **Area Under Organic Farming:** As of 2025, about 2.78 million hectares (≈2% of net sown area) were under certified organic farming.
- **Major Crops:** Key organic crops include oilseeds, cotton, tea, and coffee, with India leading in organic cotton production.
- **Cluster Model:** Farmers are organized into clusters of 20 hectares to collectively adopt organic practices, enabling uniform standards and cost-effective implementation.
- **Paramparagat Krishi Vikas Yojana (PKVY):** The scheme provides end-to-end support—from production and certification to post-harvest management and marketing.
- **Objective:**



Other Initiatives for Organic Farming

- **National Programme for Organic Production (NPOP):** Offers certification, financial assistance, and research support to improve organic practices and market access.
- **Organic Farming Policy:** Aims to expand organic cultivation, boost exports, and ensure premium pricing for small farmers.
- **Mission Organic Value Chain Development for North Eastern Region (MOVCDNER):** Focuses on organic farming in the Northeast through certification, training, and market linkage support.
- **State-Level Initiatives:** Missions like Sikkim Organic Mission and Andhra Pradesh ZBNF promote organic farming via financial aid, certification help, and marketing support.

PRIME MINISTER DHAN-DHAANYA KRISHI YOJANA (PMDDKY)

The Centre announced 100 Aspirational Agriculture Districts to be developed under the Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY) across 29 states and UTs.

About PMDDKY

- PMDDKY, or Pradhan Mantri Dhan-Dhaanya Krishi Yojana, is a new scheme by the Indian government to support farmers. Under this scheme, farmers get direct financial help, new farming tools, crop insurance, and better market access.
- Prime Minister Dhan-Dhaanya Krishi Yojana draws inspiration from NITI Aayog's Aspirational District Programme and first of its kind focusing exclusively on agriculture and allied sectors.
- PMDDKY under the Ministry of Agriculture and Farmers Welfare, is led by the Department of Agriculture and Farmers Welfare.
- **Objectives:**
 - ♦ Increase crop yields by 20-30% through high-quality inputs and technology.
 - ♦ Reduce reliance on monsoons with advanced irrigation systems like drip and sprinkler.
 - ♦ Provide affordable tools and mechanization to enhance efficiency.
 - ♦ Offer loans and direct market access to double farmer incomes by 2030, aligning with the government's extended goal from 2022 due to economic disruptions like COVID-19.
 - ♦ Promote sustainable practices like organic farming to protect soil and water resources.
 - ♦ Support women, youth, and allied sectors (e.g., dairy, fisheries, poultry) to diversify income sources.
- Achieve self-sufficiency in foodgrains, pulses and oilseeds to reduce India's dependence on imports.

Aspirational Districts Programme (ADP)

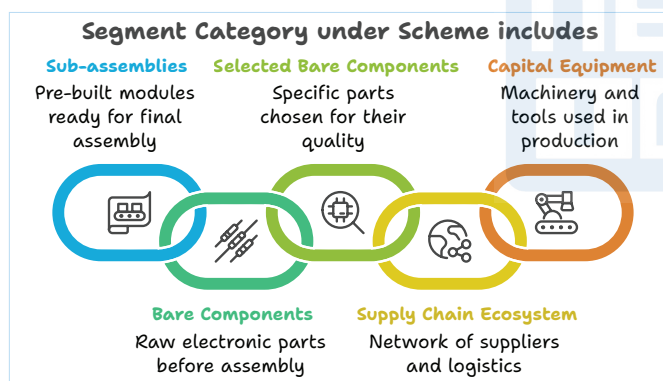
- It was launched in 2018 to develop backward and remote areas, and has significantly improved key development indicators.
- Building on its success, the **Aspirational Blocks Programme (ABP)** was launched in 2023 to expand essential government services across 500 blocks in areas like health, education, sanitation, agriculture, financial inclusion, and infrastructure.

ELECTRONICS COMPONENT MANUFACTURING SCHEME

The Union IT Minister stated that under ECMS, the government received investment proposals worth Rs.1.15 lakh crore, reflecting strong industry support for electronics self-reliance.

About

- **Objective:** To develop a robust component manufacturing ecosystem by attracting investments (global / domestic) across the value chain by integrating its domestic electronic industry with the Global Value Chains (GVCs).
- The Target Segment Category under Scheme includes;



- **Types of Incentive:** Turnover linked incentive, capex incentive and hybrid incentive.
- **Tenure of the Scheme:**
 - ♦ **Turnover Linked Incentive:** Six years with one year of gestation period.
 - ♦ **Capex Incentive:** Five years.

SECURITIES TRANSACTION TAX

The Supreme Court of India decided to examine a plea challenging the constitutional validity of the Securities Transaction Tax (STT).

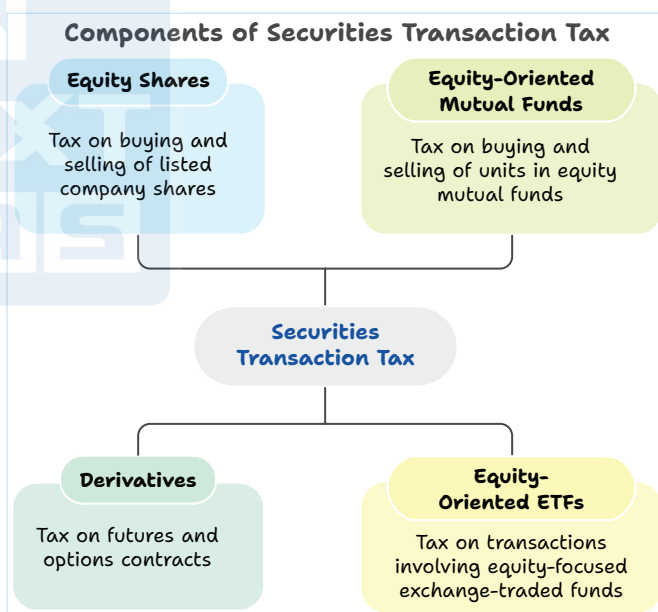
Background and Judicial Context

- The STT, introduced in 2004, has long faced criticism from some market participants, though earlier legal challenges were dismissed as policy issues.

- The latest petition raises constitutional concerns, prompting the Supreme Court to examine its fairness and proportionality under Article 265, which mandates that no tax can be imposed or collected without legal authority.
- The **Supreme Court of India** agreed to hear a plea challenging the **constitutional validity of the Securities Transaction Tax**.
 - ♦ A direct tax on transactions through listed stock exchanges under the **Finance Act, 2004**.

About Securities Transaction Tax (STT)

- It is a **direct tax** levied on securities transactions through a listed stock exchange, as imposed under the **Finance Act, 2004**.
- It aims to **combat tax evasion in the stock market**.
- It is charged on the transaction value of securities traded on the Indian stock exchange. It includes - derivatives, shares, and equity-oriented mutual funds.
- It is applied on the buying and selling of securities irrespective of the profit or loss made in the transaction.
- **Structure and Applicability of STT:** Securities Transaction Tax (STT) is levied on trades made through recognized stock exchanges involving:



- The STT rate differs based on the type of transaction and whether it is a purchase or sale.
- The stock exchange automatically deducts STT and deposits it with the government, ensuring easy administration and reducing chances of tax evasion.

RESERVE BANK INTEGRATED OMBUDSMAN SCHEME (RB-IOS)

The Reserve Bank of India (RBI) has expanded the Reserve Bank Integrated Ombudsman Scheme (RB-IOS), 2021.

About

- **Launched:** 2021
- **Objective:** To provide customers of regulated entities a **fast, transparent, and cost-effective grievance redressal system**
- All **commercial banks, regional rural banks (RRBs), state co-operative banks, central co-operative banks, and urban co-operative banks** (scheduled or non-scheduled) with deposits of ₹50 crore or more.
- All **Non-Banking Financial Companies (NBFCs)** (excluding housing finance companies) with assets of ₹100 crore or more that accept deposits or have customer interaction.
 - ♦ **Credit Information Companies (CICs)** are also included.

Key Features

- Combines multiple ombudsman schemes into a **single integrated platform**.
- Ensures **uniform, transparent, and faster grievance resolution** across all regulated entities.

Co-operative Banks

- Cooperative banks are member-owned financial institutions registered under the **Cooperative Societies Act** and regulated by the RBI.
- They function on principles of **cooperation, self-help, and mutual benefit**, focusing on serving members rather than maximizing profit.
- **Functions:**
 - ♦ Provide **short- and medium-term credit** to farmers, artisans, and traders.
 - ♦ Mobilize **rural savings** through deposit schemes.
 - ♦ Support **agriculture, allied activities, and self-employment**.
 - ♦ Implement schemes like **PM-Kisan, KCC, and PMFME**.
 - ♦ Promote **financial inclusion and literacy** in rural areas.

VISHWAS SCHEME

The Vishwas Scheme was launched in the 238th meeting of the Central Board of Trustees (CBT) of the Employees' Provident Fund.

About

- **Objective:**
 - ♦ To **reduce litigation** and promote **voluntary compliance** by rationalizing penal damages imposed on employers for delayed remittance of PF dues.
 - ♦ To **build trust (Vishwas)** between employers and EPFO through simplified, fair, and transparent dispute resolution.
- **Penal Damage Rates:** Earlier, penal damages ranged from 5% to 25% per annum (and, for pre-2008 delays, even higher rates), leading to over 6,000 pending cases and Rs 2,406 crore in outstanding penal damages.

- Now, under Vishwas, the penal rate is streamlined:
 - ♦ **Graded rates:** 0.25% per month for defaults up to two months, and 0.50% per month for defaults up to four months.
 - ♦ **Duration:** The scheme will be operational for six months and may be extended for another six months.
- CBT is a tripartite board with members from the Central and State Governments, Employers, and Employees, assisted by EPFO.

LEAPS 2025

Union Minister for Commerce and Industry, launched the **Logistics Excellence, Advancement, and Performance Shield (LEAPS) 2025**.

About

- LEAPS is a flagship initiative of the Department for Promotion of Industry and Internal Trade (DPIIT) under the Ministry of Commerce and Industry.
- **Purpose:** To benchmark and recognize excellence in the logistics sector, promoting efficiency, sustainability, innovation, and technology adoption.
- **Alignment:** Supports National Logistics Policy (2022), PM GatiShakti, and initiatives like Make in India and Atmanirbhar Bharat.



- It covers a wide spectrum of **logistics players**: Including air, road, sea, and rail freight operators; warehousing; multimodal transporters; MSMEs; Startups; and Academia.

WAYS AND MEANS ADVANCES (WMA)

The RBI has set the **Ways and Means Advances (WMA) limit** for the central government at ₹50,000 crore for the second half of FY 2025-26.

About

- **Launch:** The WMA scheme was introduced in 1997.
- They are **temporary advances** provided by the **RBI** to the **Central and State Governments** to manage short-term mismatches between receipts and payments.
- **Introduced in 1997** under **Section 17(5) of the RBI Act, 1934**, replacing the earlier system of ad-hoc treasury bills used for deficit financing.

- Both Centre and States pay **interest linked to the repo rate** on WMA withdrawals.
- The government can access **immediate cash support** from the RBI when needed. The amount must be **repaid within 90 days** of availing the advance.
- Interest rate:** Applicable at the prevailing repo rate.
- If outstanding beyond 90 days, it is treated as an **overdraft**, with **2% higher interest** than the repo rate.
- WMA is **excluded from the FRBM Act**, as it is a short-term facility settled within the same fiscal year.

Types of WMA

- Normal WMA:** A predetermined borrowing limit charged at the prevailing repo rate.
- Special WMA:** Additional borrowing beyond the normal WMA, secured against the state's government securities.
 - Once the SDF limit is exhausted, the state becomes eligible for normal WMA.
 - The SDF interest rate is one percentage point lower than the repo rate.

Special Drawing Facility (SDF)

- The SDF is a short-term loan facility provided by the Reserve Bank of India (RBI) to state governments and Union Territories to manage temporary cash flow gaps.
- The loan is given against government securities owned by the states or UTs, and the borrowing limit depends on the value of these securities.

Repo Rate

- The repo rate refers to the interest rate at which the Reserve Bank of India lends funds to commercial banks.
- The reverse repo rate is the rate at which the RBI pays interest to commercial banks when they deposit their surplus funds with the central bank.

PAYMENTS REGULATORY BOARD (PRB)

The Reserve Bank of India (RBI) has constituted a six-member Payments Regulatory Board (PRB) to oversee the country's payment systems.

About

- The PRB replaces the **Board for Regulation and Supervision of Payment and Settlement Systems (BPSS)**, a committee of the RBI's Central Board.
- The new board derives its authority from the **Payment and Settlement Systems Act, 2007**.
- It will be supported by the RBI's Department of Payment and Settlement Systems (DPSS), which will report directly to it.
- The Board is responsible for the regulation and supervision of all payment systems including electronic and non-electronic, domestic and cross-border systems.

Composition

- As per **Section 3** of the **Payment and Settlement Systems Act**, the Board shall consist of:
 - It will be chaired by the RBI Governor.
 - The PRB includes two other RBI officials. The Deputy Governor and Executive Director for Payment Systems.
 - Three Central Government nominees:** The Secretaries of Financial Services and Electronics & IT.
- Tenure:** 4 years, non-renewable; members may resign with a **6-week notice**.
- Disqualifications:** Applies to individuals **over 70 years**, those declared **insolvent**, **convicted** for 180 days or more, or holding positions such as **MPs/MLAs**.
- The **Principal Legal Adviser of the RBI** serves as a **permanent invitee** to the committee.
- The **RBI** may also invite **experts**, either on a permanent or ad hoc basis, to attend meetings.
- Meetings:** Held at least **twice a year**, with a **quorum of three members**, including the **Chairperson** (or the **Deputy Governor** in their absence) and one **nominated member**.
- Decision-Making:**
 - Resolutions are passed by a **majority vote** of members present and voting; in case of a tie.
 - The **Chairperson** (or the Deputy Governor in their absence) holds a **casting vote**.

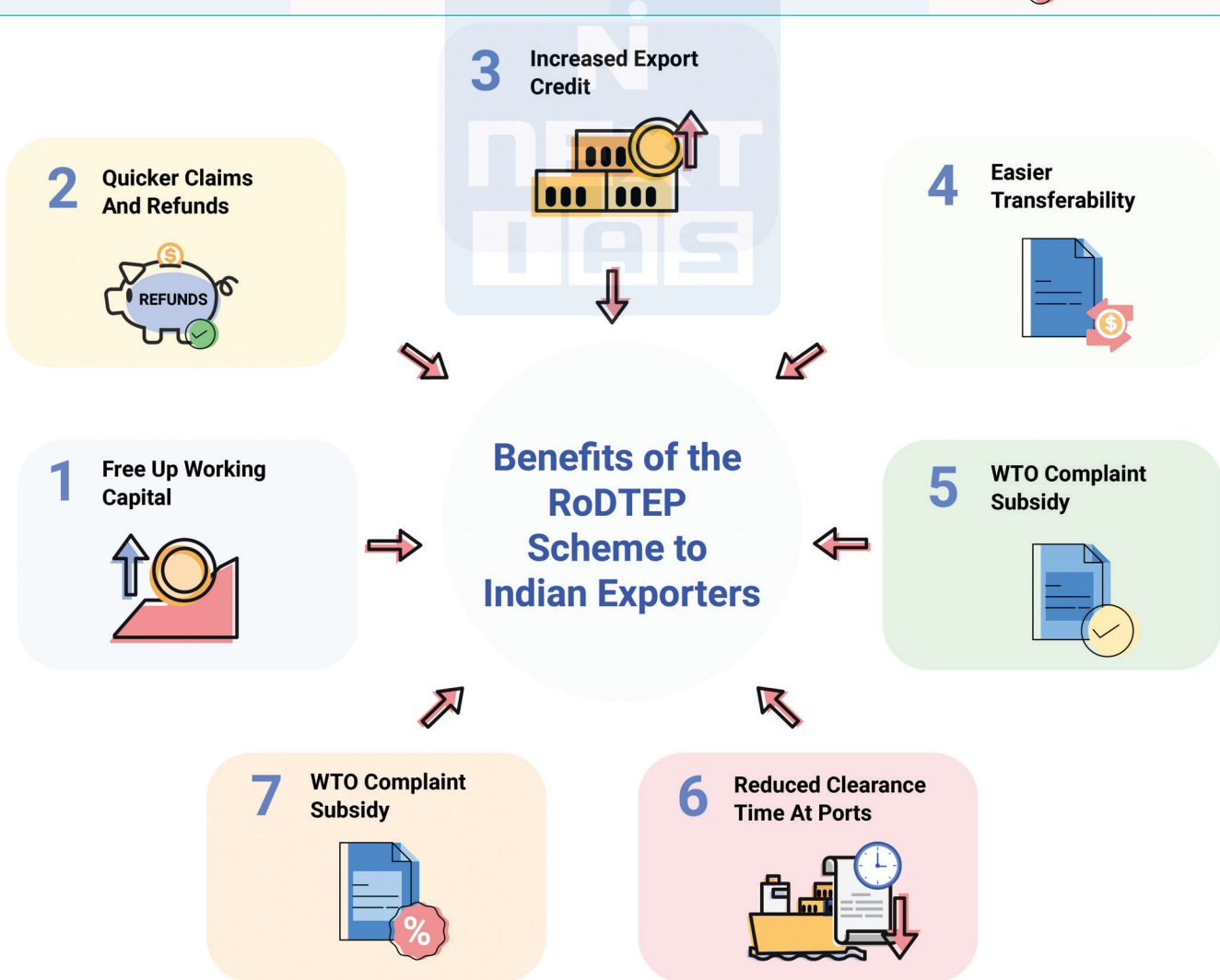
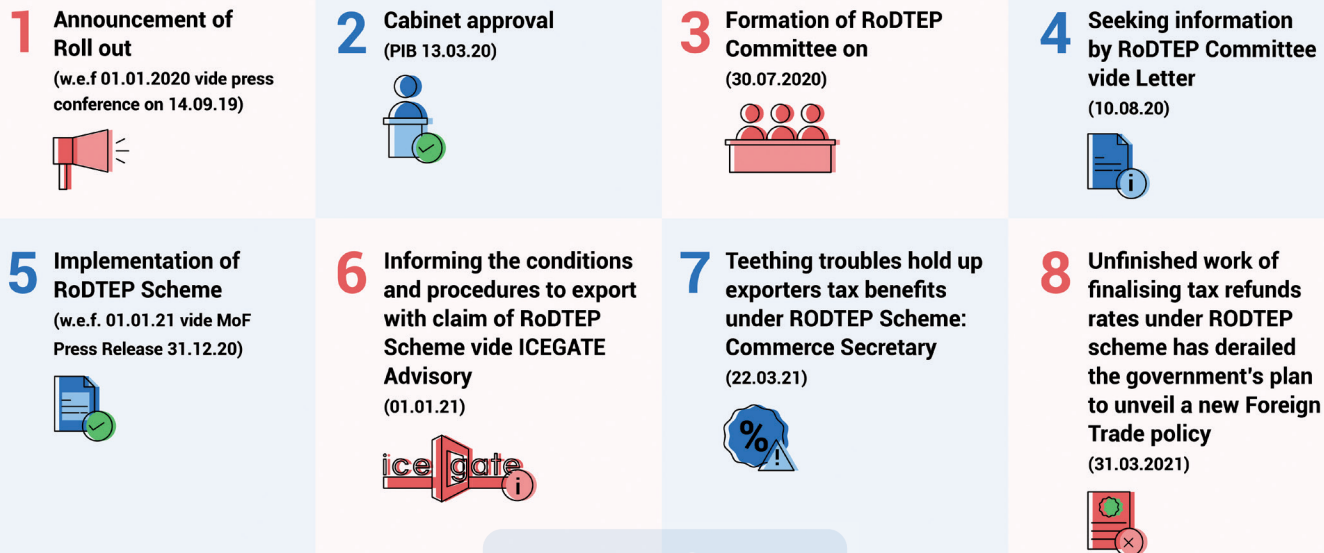
Payment and Settlement Systems Act, 2007

- The PSS Act, 2007 received the assent of the President on 20th December 2007 and it came into force with effect from 12th August 2008.
- The Reserve Bank is authorized under the Act to constitute a Committee of its Central Board known as the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS).
- The Act also provides the legal basis for "netting" and "settlement finality".
- Regulates and supervises India's payment systems, ranging from **manual clearing** processes to electronic transfers such as **RTGS (Real-Time Gross Settlement)** and **NEFT (National Electronic Funds Transfer)**.
- Customer Protection:** Safeguards customers by preventing unfair charges and ensuring intermediaries are held accountable for any lapses or misconduct.

RoDTEP

The Government has extended the **Remission of Duties and Taxes on Exported Products (RoDTEP)** incentive scheme for exporters until **March 31, 2026**.

RoDTEP: Journey Map



About

- The scheme was introduced through an amendment to the Foreign Trade Policy (2015–20) and became effective from January 1, 2021.
- Its main objective is to reimburse unrefunded taxes, duties, and levies embedded in exported goods.
- Aims to offset non-creditable and non-reimbursable taxes incurred during the production and export process.
- Ensures WTO compliance by offering remission, not incentives or subsidies, thereby aligning with global trade rules.
- **Administered by:** Department of Revenue, Ministry of Finance.
- **Automated Credit System:** Rebates are issued as transferable electronic scrips through an end-to-end digital system managed by the Central Board of Indirect Taxes and Customs (CBIC).
- **Digital Verification:** Ensures quick and transparent verification through complete digitisation.
- **Multi-Sector Coverage:** Applies to all sectors, including textiles, ensuring uniform benefits across industries.
 - ♦ **Priority to Labour-Intensive Sectors:** Labour-heavy industries that earlier benefited from the MEIS (Merchandise Exports from India Scheme) are given priority under RoDTEP.
- The revised rates under the scheme will be ranging from 0.3% to 3.9% and the same will remain in force for all qualifying export products.
- **Ministry:** Ministry of Commerce and Industry.
 - ♦ As of March 31, 2025, total disbursements under the RoDTEP scheme have crossed Rs. 57,976.78 crore, underscoring its significant role in supporting India's merchandise exports.
- The scheme is compliant with World Trade Organization (WTO) norms and is implemented via a comprehensive end-to-end digital platform to ensure transparency and efficiency.

NOBEL PRIZE IN ECONOMICS 2025

The 2025 Economics Nobel prize was awarded to Joel Mokyr, Philippe Aghion, and Peter Howitt for their groundbreaking work on innovation and economic growth.

About

- **Joel Mokyr (Northwestern University, USA):** Honored *"for identifying the prerequisites for sustained growth through technological progress."*
- **Philippe Aghion (Collège de France, INSEAD, and LSE) and Peter Howitt (Brown University, USA):** Jointly awarded *"for developing the theory of sustained growth through creative destruction."*

Their Work and Contributions

➤ Joel Mokyr's Contribution:

- ♦ Introduced the concept of "useful knowledge", combining theoretical (propositional) and practical (prescriptive) understanding as the foundation of the Industrial Revolution and modern economic growth.
- ♦ Showed how scientific experimentation, reproducibility, and skilled craftsmanship created a continuous feedback loop between science and technology.
- ♦ **Policy Lesson:** Stressed the importance of skill development, technical education, and institutional openness for sustained innovation.
- ♦ **Example:** Britain's early industrial success was driven by networks of engineers and artisans who transformed ideas into functional machines.

➤ Philippe Aghion & Peter Howitt's Contribution:

- ♦ Developed a mathematical model of creative destruction, explaining how innovation fuels growth by continually replacing old technologies with superior ones.
- ♦ Demonstrated that R&D investment drives productivity but can disrupt existing industries, highlighting the need for balanced innovation and stability policies.
- ♦ Provided a framework to design effective R&D incentives, competition policies, and long-term productivity strategies.

THE SVERIGES RIKSBANK PRIZE IN ECONOMIC SCIENCES IN MEMORY OF ALFRED NOBEL 2025



Joel
Mokyr

"for having identified the prerequisites for sustained growth through technological progress"

Philippe
Aghion

"for the theory of sustained growth through creative destruction"

Peter
Howitt

THE ROYAL SWEDISH ACADEMY OF SCIENCES

Nobel Economics Prize

- The award is officially known as the **Bank of Sweden Prize in Economic Sciences** in Memory of Alfred Nobel.
- This prize was established in **1968** by the central bank of Sweden as a memorial to Alfred Nobel.
 - ♦ He is a **19th-century** Swedish businessman and chemist, is known for inventing dynamite and establishing the five original Nobel Prizes.
- The first winners of the economics prize, in **1969**, were **Ragnar Frisch and Jan Tinbergen**.

INDIA'S BIOTECH AND BIOECONOMY SECTOR

India's biotech sector has surged in the past several years, from a modest count of roughly 500 startups in 2018, the number has soared to over 10,000 in 2025.

Meaning of Bioeconomy

- The bioeconomy refers to an economy where biological resources (plants, animals, microorganisms, and biomass) are used sustainably to produce food, energy, materials, and services.

Link between Biotechnology and Bioeconomy

- **Biotechnology** provides the tools and innovations (like bioengineering, fermentation, genetic modification).
- **Bioeconomy** applies these innovations for sustainable economic growth, job creation, and environmental protection.

Reasons Leading India's Biotech and Bioeconomy Surge

- **Government Support:** BIRAC, DBT, and National Biotechnology Development Strategy promote R&D and startups.
- **Growing Startup Ecosystem:** Rapid increase in biotech startups in therapeutics, diagnostics, agri-biotech, and bioinformatics.
- **Increased Investments:** Private and foreign funding in vaccines, biopharma, and diagnostics, boosted during COVID-19.
- **Skilled Workforce:** Availability of trained professionals and strong academic-industry collaboration.
- **Export Potential:** India is a global supplier of vaccines, biologics, biosimilars, enzymes, and bio-agriculture products.
- **Technology & Innovation:** Adoption of CRISPR, synthetic biology, AI in biotech, and personalized medicine.

India's Bioeconomy

- India is among the **Top 12 destinations** for biotechnology worldwide and **3rd largest destination** for biotechnology in Asia Pacific.
- India's bioeconomy has grown sixteen-fold from **\$10 billion in 2014 to an impressive \$165.7 billion in 2024.**
- **Contributing 4.25%** to the national GDP
- **Future Goals:** Target of achieving a \$300 billion bioeconomy by 2030.

Government Initiatives and Key Programmes to Boost India's Bioeconomy

- **BioE3 Policy (Biotechnology for Economy, Environment, and Employment):** It was approved by the **Union Cabinet in 2024**, has an ambitious vision to create a **\$300-billion bioeconomy by 2030.**
- **National Biopharma Mission:** It is a government-approved initiative led by the Department of Biotechnology (DBT) and implemented by BIRAC.

- ♦ **Aim:** To boost India's capabilities in biopharmaceuticals, vaccines, biosimilars, medical devices, and diagnostics by fostering collaboration between industry and academia.

- **Biotech-KISAN (Biotech-Krishi Innovation Science Application Network):** Biotech-KISAN is a scientist-farmer partnership programme launched to empower farmers through agricultural innovation and scientific interventions.

- Boosting Biotech Innovation through BIRAC Initiatives.

BIRAC

- **Biotechnology Industry Research Assistance Council (BIRAC)** – established in 2012 under DBT, Government of India.
- **Promotes** biotech innovation, start-ups, and industry-academia collaboration.
- **Supports** healthcare, agriculture, industrial biotech, and strengthens Make in India.
- Acts as a bridge between government, industry, and academia.

Kisan Kavach

- It is an anti-pesticide bodysuit developed to protect farmers from harmful pesticide exposure.
- Developed by BRIC-inStem, Bengaluru (a lab of the Dept. of Biotechnology) in collaboration with Sepio Health Pvt Ltd.

STATE MINING READINESS INDEX

The Ministry of Mines has released the State Mining Readiness Index (SMRI) and corresponding State rankings.

About

- The SMRI is designed to **benchmark State performance in facilitating and reforming the mining sector**, particularly focusing on non-coal minerals.
- States are grouped into three categories depending on mineral endowment in SMRI:
 - ♦ **Category A (mineral-rich):** Top 3 states – Madhya Pradesh, Rajasthan, Gujarat.
 - ♦ **Category B:** Top states include Goa, Uttar Pradesh, Assam.
 - ♦ **Category C:** Top states include Punjab, Uttarakhand, Tripura.

SAIME MODEL

The SAIME model has received Global Technical Recognition from FAO on 15 October 2025, during FAO's 80th anniversary celebrations.

About

- **Location:** Sustainable Aquaculture in Mangrove Ecosystems (SAIME) implemented in Sundarbans, West Bengal.
 - ♦ Developed by Nature Environment and Wildlife Society (NEWS).

- **Core Concept:** Integrates shrimp aquaculture with mangrove restoration, maintaining 5–30% mangrove cover around ponds.
- **Species & Method:** Focus on Black Tiger Shrimp (*Penaeus monodon*), low-input, nature-based feed, minimal chemicals.
- **Community & Climate Benefits:** Local farmers and women's groups involved; enhances livelihoods, coastal protection, biodiversity, and climate resilience.
- **Recognition:** Awarded FAO Global Technical Recognition (2025); linked to Blue Economy and nature-based solutions.

Reasons to Establish SAIME Model

- **Mangrove Conservation:** To restore and protect the fragile Sundarbans mangrove ecosystem threatened by intensive

shrimp farming and climate change.

- **Sustainable Livelihoods:** To provide eco-friendly and low-cost aquaculture options that improve incomes of coastal communities.
- **Climate Resilience:** To enhance coastal protection, carbon storage, and biodiversity through mangrove-based aquaculture.
- **Reduce Environmental Degradation:** To replace harmful, high-input aquaculture practices with nature-integrated and resource-efficient methods.
- **Replicable Green Model:** To create a globally recognized, community-driven model aligning with India's blue economy and SDG goals.

Nature Environment and Wildlife Society (NEWS)

- **Type & Focus:** NGO focused on environmental conservation, biodiversity, and ecosystem management.
- **Region:** Based in West Bengal, mainly working in the Sundarbans and coastal areas.
- **Key Activities:** Mangrove conservation, sustainable aquaculture, community-based conservation, climate-resilient livelihoods.

Mangroves

- **Definition:** Salt-tolerant trees/shrubs in coastal intertidal zones of tropical/subtropical regions.
- **Ecological Role:** Protect coastlines from storms, cyclones, erosion and act as nursery grounds for fish, crabs, and shrimp.
- **Environmental Services:** Carbon sequestration ("blue carbon"), water purification, soil stabilization.
- **Major Sites in India:** Sundarbans (WB), Bhitarkanika (Odisha), Pichavaram (TN), Andaman & Nicobar, Gujarat, Kerala.
- **Threats & Conservation:** Threatened by deforestation, urbanization, pollution, climate change; protected under Wildlife Protection Act, CRZ, Ramsar sites, IMI.

Sundarbans Mangroves

- **Location:** Delta of the Ganga, Brahmaputra, and Meghna rivers, mainly in West Bengal (India), partly in Bangladesh.
- **Significance:** World's largest mangrove forest, UNESCO World Heritage Site, and Ramsar Wetland.
- **Flora & Fauna:** Dominated by Sundari tree (*Heritiera fomes*), *Avicennia*, *Rhizophora*; home to Royal Bengal Tiger, saltwater crocodile, migratory birds.
- **Ecosystem Services:** Coastal protection, fisheries support, and carbon sequestration.
- **Threats & Conservation:** Cyclones, rising sea levels, deforestation, aquaculture; protected as Sundarbans National Park and Wildlife Sanctuary.

Food and Agriculture Organization (FAO)

- **Established:** 16 October 1945; it is an organization of the United Nations.
- **Headquarters:** Rome, Italy.
- **Objective:** Ensure food security, eliminate hunger, promote sustainable agriculture, forestry, and fisheries.
- **Membership:** 194 countries, including India.
- **Key Programs/Link to SDGs:** Codex Alimentarius (food standards), GEOGLAM, SDG 2 (Zero Hunger).

Facts Related to India's Aquaculture Sector

- **Global Rank:** India is second largest aquaculture producer after China; provides livelihood to ~14 million people.
- **Major States:** Andhra Pradesh, West Bengal, Odisha, Tamil Nadu, Kerala, Gujarat, Maharashtra; shrimp farming in AP, WB, Odisha, TN.
- **Production & Species:** Total aquaculture production ~10–12 million tonnes; major species include shrimp, catla, rohu, mrigal.
- **Economic Contribution:** Shrimp & fish exports earn ~₹35,000–40,000 crore annually; supports food security, rural income, and Blue Economy.
- **Government Support:** Pradhan Mantri Matsya Sampada Yojana (PMMSY), subsidies for hatcheries, cold storage, feed, and eco-friendly aquaculture practices.

PER DROP MORE CROP (PDMC) SCHEME

The Government has introduced new flexibility under the PDMC scheme to promote efficient water use and boost farmer income.

Latest Guidelines

- The new flexibility will empower States and Union Territories to take up micro-level water storage and conservation projects.
- **Benefits:** Water conservation, Higher crop yield, Energy efficiency and Reduced labor cost.

Per Drop More Crop Scheme (Micro Irrigation)

- **Objective:** Promote efficient use of water in agriculture through micro-irrigation techniques.
- **Launch:** Initiated in 2015–16 under the National Mission for Sustainable Agriculture (NMSA).
- **Focus Areas:** Encourages drip irrigation, sprinkler irrigation, and precision water management.
- **Funding Pattern:** Centrally Sponsored Scheme with central and state sharing pattern (typically 60:40 for general states, 90:10 for NE & hilly states).
- **Target:** Increase water productivity and crop yield per unit of water used.
- **Technology Promotion:** Supports installation of pumps, pipelines, drip lines, sprinklers, and other micro-irrigation components.
- **Subsidy:** Farmers receive financial assistance/subsidy for adopting micro-irrigation systems.

CRITICAL MINERALS

As India targets 500 GW of renewable energy capacity by 2030 and net-zero emissions by 2070, securing access to critical minerals has become a national priority.

Meaning of Critical Minerals

- Critical minerals are elements essential for advanced technologies but subject to supply risk due to geopolitical or economic factors.

Meaning of Clean Energy

- Clean energy refers to energy produced from renewable, non-polluting sources that do not release greenhouse gases (GHGs) or other harmful emissions into the environment.

Role of Critical Minerals in Clean Energy

- **Lithium & Cobalt:** Key for lithium-ion batteries, powering electric vehicles and grid storage.
- **Nickel & Graphite:** Enhance battery performance and efficiency.
- **Rare Earth Elements (REEs):** Essential for permanent magnets in wind turbines, EV motors, and high-efficiency solar panels.

- **Copper & Aluminium:** Used extensively in renewable infrastructure for transmission, wiring, and solar panels.
- **Significance:** Without secure access to these minerals, India's plans for 500 GW renewable capacity by 2030 and rapid EV adoption could face bottlenecks.

Challenges for India in Critical Minerals Sector

- **Import Dependence:** India imports ~90–95% of lithium and cobalt, primarily from Australia, Chile, and Congo.
- **Geopolitical Risks:** Supply disruptions from major producers affect cost and availability.
- **Domestic Production Gaps:** Exploration and extraction of REEs and lithium are still limited.
- **Recycling & Circular Economy:** Low battery recycling rates increase raw material demand.

Way Forward

- **Domestic Exploration:** Invest in lithium, nickel, cobalt, and rare earth mining in India (e.g., Karnataka, Jammu & Kashmir, Odisha).
- **International Partnerships:** Secure bilateral agreements for mineral imports from Australia, Chile, US, and Canada.
- **R&D & Innovation:** Promote battery recycling, alternative chemistries, and efficiency-enhancing technologies.
- **Strategic Reserves:** Establish critical mineral stockpiles to hedge against global supply shocks.
- **Sustainable Mining:** Ensure environmentally responsible extraction, particularly in ecologically sensitive areas.

India's Critical Minerals Reserves

- **Lithium:** Limited reserves; exploration in Rajasthan (Manvar, Jaisalmer).
- **Cobalt:** Small deposits in Odisha & Madhya Pradesh; >90% import dependent.
- **Graphite & REEs:** Graphite in Jharkhand, Odisha, Tamil Nadu; REEs in Kerala, Odisha, Andhra Pradesh, Tamil Nadu.
- **Nickel & Copper:** Minor nickel in Odisha & Karnataka; copper in Rajasthan, Jharkhand, MP, Odisha.

Facts Related to India's Clean Energy Sector (2025)

- **Total Non-Fossil Capacity:** ~222.86 GW (Solar ~102.57 GW, Wind ~48.59 GW, Hydro ~52.07 GW, Bio-power ~11.45 GW, Nuclear ~8.18 GW).
- **Global Rank:** 4th largest renewable market; 3rd largest solar capacity.
- **Annual Additions:** ~25 GW added in FY24–25; H1 2025 ~21.9 GW solar + wind.
- **Share in Energy Mix:** ~45–50 % of total installed capacity from non-fossil sources.
- **Top States:** Gujarat (~35 GW), Maharashtra, Tamil Nadu, Rajasthan, Karnataka, Andhra Pradesh.

INDIA FACES HIGHEST CBAM LEVY

According to European think-tank Sandberg, Indian iron and steel exporters face the highest Carbon Border Adjustment Mechanism (CBAM) fees.

About CBAM

- A climate policy tool implemented by the European Union to levy a carbon price on imported goods based on the carbon emissions generated during their production, ensuring that foreign products face a cost comparable to EU domestic carbon regulations.

Reasons for High CBAM Levy

- **High Carbon Intensity:** Coal-based energy in steel, cement, aluminium, and fertiliser exports.
- **Fossil Fuel Dependence:** India's power sector heavily relies on coal (~70%).
- **No Carbon Pricing:** Lack of a domestic carbon tax or trading mechanism.
- **Export Composition:** Energy-intensive products dominate exports to EU.
- **Limited Emission Mitigation:** Slow adoption of low-carbon technologies compared to EU benchmarks.

Impact of CBAM Levy on India

- **Higher Export Costs:** Exports of steel, aluminium, cement, fertilisers, and chemicals to the EU become costlier.
- **Industrial Pressure:** Domestic industries are pushed to adopt low-carbon technologies to reduce CBAM liability.
- **Export Diversion:** Higher costs may shift exports to markets with lower carbon standards.
- **Compliance Burden:** Firms must track emissions, report, and pay CBAM levy, increasing administrative costs.
- **Green Transition Incentive:** Encourages renewable energy adoption and cleaner production, aiding decarbonisation.

Tariff vs Non Tariff Barriers

- **Tariffs** are taxes on imported goods that increase their price, while **non-tariff** barriers are other government-imposed restrictions like quotas, regulations, and licensing requirements that make importing more difficult.
- Both are used to protect domestic industries, but tariffs generate government revenue while non-tariff barriers do not.

NET FDI

Net Foreign Direct Investment (FDI) into India fell 159% in August 2025, this is the second time this financial year that outflows have exceeded inflows.

Meaning of net FDI

- **FDI (Foreign Direct Investment):** Investment by a foreign entity in an Indian company, acquiring a long-term interest ($\geq 10\%$ equity).
- **Net FDI:** Total FDI inflows minus FDI outflows in a given period. Shows the actual foreign investment entering the economy.

Reasons for Fall of Net FDI

- **Global Economic Slowdown:** Reduces cross-border investments as investors become risk-averse.
- **Geopolitical Tensions:** Conflicts like Russia-Ukraine war create uncertainty, delaying investments.
- **Rising Inflation & Interest Rates:** Higher cost of capital makes India relatively less attractive.
- **Currency Fluctuations:** Rupee depreciation increases foreign exchange risk.
- **Policy & Sectoral Challenges:** Complex approvals, policy uncertainty, and slower growth in key sectors deter investment.

Significance of FDI

- **Boosts Capital Formation:** Supplements domestic investment.
- **Technology Transfer:** Brings advanced technology and management practices.
- **Employment Generation:** Creates jobs in various sectors.
- **Export Promotion:** FDI in manufacturing and services boosts exports.
- **Economic Growth Indicator:** High net FDI signals global investor confidence in India.

Policy Framework in FDI Sector

- **Automatic route:** No prior government approval needed for most sectors.
- **Government route:** Requires prior approval (defense, media, telecom).
- **Recent reforms:** 100% FDI allowed in digital media, insurance (through automatic route for some segments).

India-Global FDI Facts

- **Global Ranking:** 9th in FDI inflows (2023, UNCTAD).
- **FDI Inflows:** ~US\$100–110 billion (FY24-25).
- **Top Sectors:** Services (IT/ITES), Telecom, Automobile, Pharma, Renewable Energy, Food Processing, Trading.
- **Top Source Countries:** Mauritius, Singapore, USA, Netherlands, Japan, UAE.
- **Note:** Maharashtra + Karnataka together account for ~51% of total FDI.

SEVILLA FORUM

At the 16th United Nations Conference on Trade and Development (UNCTAD16) held in Geneva, a new global initiative, the Sevilla Forum on Debt, was launched.

About the Sevilla Forum

- The Forum, **led by Spain** and supported by **UNCTAD** and the **United Nations Department of Economic and Social Affairs (UN DESA)**.

- ♦ aims to create a permanent, inclusive platform for dialogue and coordinated action on sovereign debt challenges

A Global Debt Crisis

- It refers to a situation where countries, corporations, or households across the world accumulate unsustainable levels of debt, leading to an inability to repay loans and a risk of financial instability at the global level.
- It often involves developing nations struggling to repay external debts (mostly in foreign currency), causing economic slowdown, currency depreciation, and social distress.

Reasons to Launch the Sevilla Forum

- **Global Debt Crisis Management** – To create a platform where countries can discuss challenges of rising sovereign and external debt.
- **Coordination on Debt Relief & Restructuring** – To facilitate collaboration between debtor nations, creditors, and international institutions for sustainable debt solutions.
- **Promote Financial Stability** – To prevent economic shocks and financial instability arising from unsustainable debt levels.
- **Exchange of Best Practices** – To share strategies for debt management, fiscal reforms, and responsible borrowing.
- **Support Vulnerable Economies** – To provide a forum for developing countries to voice concerns and seek assistance in managing debt burdens.

UNCTAD

- It is an intergovernmental body that promotes the beneficial integration of developing countries into the global economy.
- It was established in **1964** and serves as the UN's focal point for trade, development, and related issues like finance, technology, investment, and sustainable development.
- **Headquartered in Geneva**, Switzerland, its work involves policy research, technical assistance, and helping to shape global debates and national policies to support development.

India and UNCTAD:

- India is a founding member (1964).
- UNCTAD supports India in areas like investment promotion, e-commerce, MSMEs, and sustainable value chains.
- India frequently uses UNCTAD data in WTO negotiations and G20 policy inputs.

NATIONAL MAKHANA BOARD

Prime Minister Narendra Modi described the newly launched National Makhana Board as a transformative “revolution” for the sector.

Reasons to establish a Makhana Board

- **Promote Makhana Cultivation:** To support farmers in expanding and improving production of this high-value aquatic crop.
- **Quality Standardization:** To ensure proper grading, processing, and quality control of makhana for domestic and export markets.
- **Market Development & Promotion:** To increase market access, branding, and demand for makhana nationally and internationally.
- **Support Research & Innovation:** To encourage research on improved cultivation techniques, pest management, and value-added products.
- **Farmer Welfare & Price Stabilization:** To provide fair prices, training, and financial support to makhana producers.

Makhana

About Makhana:

- **Plant:** Makhana is the dried seed of the prickly water lily (*Euryale ferox*).
- **Habitat:** It is an aquatic crop grown in stagnant water bodies like ponds, oxbow lakes, and wetlands with shallow water depths.
- **Climatic conditions:**
 - ♦ **Temperature:** 20-35 degrees Celsius
 - ♦ **Humidity:** 50-90%
 - ♦ **Rainfall:** 100-250 cm
 - ♦ **Soil type:** Smooth loamy soil is ideal.
 - ♦ **Location:** Primarily grown in India's northern and eastern states, with Bihar contributing over 90% of the country's production.
- **Note: Mithila Makhana:** The Mithila region's makhana received a GI tag in 2022.

Makhana Board:

- The Makhana Board is established in Bihar under the **Ministry of Agriculture and Farmers Welfare**, as announced in the Union Budget 2025-26.
- It is intended to boost the production, processing, and value addition of makhana, with a focus on Bihar, the leading makhana-producing state.

CHINA'S COMPLAINT AGAINST INDIA AT WTO

China has filed a complaint with the World Trade Organization (WTO) against India.

Issues raised by China

- **Issues with respect to India's Production Linked Incentive (PLI) schemes** for Automobiles, Auto Components, and Advanced Chemistry Cell (ACC) Batteries.
- **Issues with respect to Domestic Value Addition (DVA):**
 - ◆ Under the PLI scheme for the auto sector, one of the conditions for eligibility to get financial benefits is that there must be a **50% DVA**.
 - ◆ Likewise, one of the salient features of the PLI scheme for ACC batteries is that the **beneficiary must ensure a DVA of 25%**.

China's Allegations on above Issues

- **Local Content Requirement:** Incentives contingent on using domestically produced components violate the National Treatment principle under GATT 1994 (Article III).
- **Trade-distorting Subsidies:** Subsidies tied to export performance or import substitution are prohibited under the ASCM.
- **Lack of Transparency:** India allegedly failed to notify WTO about the full extent of its subsidy programmes.
- **Impact on Chinese Exports:** India's policies allegedly reduce market access for Chinese EV and battery producers.

PLI Scheme

- **Launched:** 2020 under Atmanirbhar Bharat Abhiyan.
- **Aim:** To boost domestic manufacturing, exports, and job creation.
- **Incentive:** 4–6% on incremental sales of goods made in India.
- **Coverage:** 14 key sectors (electronics, pharma, auto, solar, textiles, etc.).
- **Outlay:** ₹1.97 lakh crore over 5 years.
- **Eligibility:** Firms must meet minimum investment and sales growth criteria.
- **Nodal Agency:** DPIIT and respective ministries.
- **Goal:** Strengthen Make in India, reduce import dependence, and enhance global competitiveness.

DVA under PLI Scheme

- **Full Form:** Domestic Value Addition (DVA)
- **Meaning:** Portion of a product's value that is created within India using local materials, labour, and processes.
- **Purpose:** Ensures that PLI incentives reward genuine manufacturing, not mere assembly of imported parts.
- **Requirement:** Firms must meet a minimum DVA percentage (varies by sector) to qualify for incentives.
- **Goal:** Increase local sourcing, reduce import dependence, and promote Make in India.

India's Defence

- **PLI and related schemes** are WTO-compliant, aimed at industrial development, green transition, and employment generation.
- **India invokes Special and Differential Treatment (S&D) provisions** for developing countries under WTO rules.
- **Incentives are performance-based**, not contingent solely on domestic content.
- **India maintains** that clean-energy manufacturing is a global public good aligned with Paris Agreement goals.

NATIONAL SEEDS CORPORATION

The Union Agriculture Minister has inaugurated the National Seeds Corporation's (NSC) state-of-the-art seed processing plant in New Delhi.

About

- The main purpose of the NSC is to promote and develop India's seed industry by producing and distributing high-quality seeds to farmers to enhance agricultural productivity.

NSC

- **Established:** 1963
- **Headquarters:** New Delhi
- **Administrative Control:** Under the Ministry of Agriculture & Farmers Welfare, Government of India.
- **Type:** Government of India Miniratna Category-I company.

Objectives & Functions

- Production, processing, and distribution of quality certified seeds of various crops.
- Implements the National Seed Programme to ensure seed availability to farmers at affordable prices.
- Undertakes seed research, testing, and development of new high-yielding varieties.
- Provides technical support to State Seed Corporations and other agencies.
- Plays a major role in the Seed Village Programme and Farmer Training Programmes.
- Promotes hybrid seeds for crops like maize, rice, cotton, and vegetables.

INDIA'S MARITIME SECTOR

Recently, the Prime Minister of India, addressing the Maritime Leaders' Conclave during India Maritime Week 2025, declared that India's maritime sector has undergone 'historic progress', positioning the nation as a rising force in global maritime trade.

Key Outcomes

- PM unveiled following initiatives to strengthen India's Maritime Sector towards becoming a global maritime leader under the Maritime Amrit Kaal Vision 2047.

- **Indigenous shipbuilding capacity:** Oil and Gas PSUs launched 59 shipbuilding orders worth ₹47,800 crore.
- **Shipping Corporation of India (SCI)** has set a target of 216 vessels by 2047 with an investment of ₹1 Lakh Crores.

Facts Related to Maritime Sector

- India has a **11,098.81 km coastline** and lies near major sea routes like **Hormuz and the Malacca Straits**, making it important for global trade.
- India handles around **2% of global maritime cargo**, mainly crude oil, LNG, bulk goods, and containers.
- There are **13 major ports** and **200+ minor ports**, being modernised under **Sagarmala**.
- India's shipping fleet is small — **only about 1.2% of global tonnage**.
- India is still **not a major transshipment hub**; nearby ports like Singapore and Colombo play that role more.
- **Challenges of India's Maritime Sector:** Port congestion, infrastructure gaps, low transshipment share, and slow adoption of green shipping. Other issues include fragmented governance, security threats like piracy and smuggling, environmental concerns, and skill gaps in the workforce.

Way Forward

- Enhance port efficiency, promote coastal shipping, invest in digitization and green shipping, and develop regional transshipment hubs.
- Strengthening India's maritime logistics can increase its share in global trade, energy security, and blue economy contributions.

Inland Water Transport Sector of India

- **Navigable Waterways:** ~14,500 km rivers, canals, backwaters.
- **National Waterways:** 111 designated; key ones: NW-1 (Ganga), NW-2 (Brahmaputra), NW-3 (Kerala backwaters).
- **Cargo:** Coal, cement, food grains, fertilisers, petroleum products, containers.
- **Cost & Efficiency:** 2–3 times cheaper than road/rail for bulk cargo.
- **Government Initiatives:** Jal Marg Vikas Project (NW-1), Sagarmala for inland connectivity.

Other Notable Projects:

- **Water Metro Project (Patna):** Electric ferry system.
- **Lighthouse Museum (Lothal, Gujarat):** cultural project.

EPF NEW WITHDRAWAL PROVISIONS 2025

The Central Board of Trustees (CBT) of EPFO approved new rules for partial and premature PF withdrawals to improve the ease of living for subscribers.

About

- **Simplified Rules:** 13 provisions merged into 3 categories — essential needs, housing, and special circumstances.
- **Employer Share:** Members can withdraw from both employee and employer contributions.
- **Minimum Balance:** At least 25% of total PF must remain to ensure long-term savings.
- **Unemployment Rule:** 75% withdrawal allowed after leaving a job; 100% after 12 months of unemployment (earlier 2 months).
- **Pension Corpus:** Final pension withdrawal now after 36 months (earlier 2 months) to build sufficient retirement savings.
- **Flexibility:** Easier and more frequent withdrawals for marriage, education, housing, illness, or emergencies.

Employees' Provident Fund Organisation (EPFO)

- **Statutory Body:** Established under the Employees' Provident Funds & Miscellaneous Provisions Act, 1952.
- **Governing Structure:** Managed by the Central Board of Trustees (CBT) —
 - ♦ a tripartite body with representatives from the government, employers, and employees, chaired by the Union Labour Minister.
- **Administers Three Schemes:**
 - ♦ **Employees' Provident Fund (EPF), 1952** — Provides retirement savings.
 - ♦ **Employees' Pension Scheme (EPS), 1995** — Offers pension after 58 years for employees with at least 10 years of service.
 - ♦ **Employees' Deposit Linked Insurance (EDLI), 1976** — Provides life insurance benefits to employees.
- **EPF** is a social security and retirement savings scheme designed for **salaried employees in India**.
- **PF benefits** apply to all establishments employing 20 or more persons under the Employees' Provident Funds & Miscellaneous Provisions Act, 1952.



MICROPLASTICS POLLUTION

A recent study found widespread microplastic contamination in fish along Goa's Mandovi estuary.

About

- Microplastics are **tiny plastic fragments** measuring **less than 5 millimetres** in size. They are **persistent, highly mobile**, and **difficult to remove** from the environment.

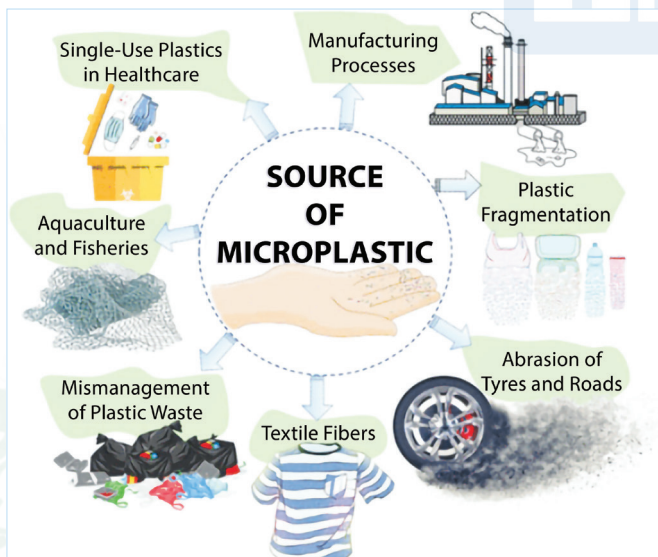
Types of Microplastics

➤ Primary Microplastics:

- ◆ These are **intentionally manufactured small particles** used in **cosmetics, personal care products**, and **synthetic textiles** (like microfibers from clothing or fishing nets).
- ◆ They enter the environment directly through product use, manufacturing spills, or abrasion during washing and transport.

➤ Secondary Microplastics: These are **formed when larger plastic items**—such as bottles and bags;

- ◆ **break down** into smaller fragments.
- ◆ The degradation occurs due to **sunlight exposure, ocean waves**, and other **environmental processes**.



RED SANDERS (PTEROCARPUS SANTALINUS)

The National Biodiversity Authority (NBA) has sanctioned an amount of Rs. 82 lakh to the Andhra Pradesh Biodiversity Board for the conservation of Red Sanders (*Pterocarpus santalinus*).

About

- Red sanders are native to **Southern Eastern Ghats**, primarily found in the Indian states of Andhra Pradesh and Tamil Nadu.
- They are high in demand across Asia, particularly in **China and Japan**, for use in **cosmetics and medicinal products** as well as for making furniture, woodcraft and musical instruments.
- It is a slow-growing tree species, taking **25-40 years** to mature, which makes recovery from over-harvesting difficult.
- **Conservation Status:**
 - ◆ It is under '**endangered list**' in the International Union for Conservation of Nature (IUCN) Red List.
 - ◆ It is listed in **Appendix-II** of the **Convention on International Trade in Endangered Species of Wildlife Fauna and Flora (CITES)**.
 - ◆ Listed under **Schedule IV** of The **Wildlife Protection Act, 1972**.

National Biodiversity Authority (NBA)

- **Established:** Statutory body under the **Biological Diversity Act, 2002**; set up in **2003**.
 - ◆ **Headquarters:** Chennai, Tamil Nadu.
- **Purpose:** Implements the Biological Diversity Act and coordinates conservation efforts at national, state, and local levels.

Supporting Bodies:

- **State Biodiversity Boards (SBBs):** Regulate access to biological resources within states.
- **Biodiversity Management Committees (BMCs):** Promote biodiversity conservation and documentation at local (village/panchayat) levels.

Composition:

- **Chairperson:** Expert in biodiversity conservation and sustainable use.
- **10 Ex-officio Members:** Senior government representatives for policy coordination.
- **5 Non-Official Members:** Independent experts from biodiversity-related fields.

CLIMATE CHANGE SPURS GROWTH IN AMAZON RAINFOREST TREES

A recent study published in *Nature Plants* reveals that trees in the Amazon rainforest are steadily increasing in size due to rising levels of atmospheric carbon dioxide (CO₂).

About Amazon Rain Forest

- **Location:** The region belongs to **nine nations** of the **South American** continent.
- It is bounded by the **Guiana Highlands** to the north, the **Andes Mountains** to the west, the **Brazilian central plateau** to the south, and the **Atlantic Ocean** to the east.
- **Area Covered:** The majority of the forest, 60%, is in **Brazil**, followed by **Peru** with 13%, **Colombia** with 10%, and with minor amounts in **Bolivia, Ecuador, French Guiana, Guyana, Suriname and Venezuela**.
- **Climate:** Hot and humid climate with temperatures of **26-30°C** throughout the year.
- **Tribes:** Yanomamo, Kayapo, Akuntsu, Matses, Tupi etc.
- **Fauna:** Anaconda, Jesus lizard, howler monkey, golden lion tamarin, jaguar, sloth, spider monkey, Amazon River dolphin, toucan and the scarlet macaw, poison dart frog and the glass frog.
- **Flora:** Moist broadleaf tropical rainforests like myrtle, laurel, palm, acacia, rosewood, Brazil nut, rubber tree, mahogany and Amazonian cedar.

Initiatives to Protect the Amazon Rainforest

- **Brazil's Forest Code (2012):** A key law requiring landowners in the Amazon to maintain a specific percentage of their land (**up to 80%**) as a Legal Forest Reserve to conserve native vegetation and biodiversity.
- **Amazon Cooperation Treaty Organization (ACTO, 1978):** Eight Amazon countries (Brazil, Peru, Colombia, Bolivia, Ecuador, Venezuela, Guyana, Suriname) cooperate on sustainable development and conservation.
- **UN REDD+ Programme:** Supports countries in reducing emissions from deforestation and forest degradation while promoting sustainable management.
- **Amazon Fund (2008):** Established by Brazil with support from Norway and Germany; finances efforts to prevent, monitor, and combat deforestation.

Key Findings of the Study

- **Tree Growth:** Amazon trees are getting bigger, with average diameter increasing by ~3.3% per decade.
 - ♦ **Rise in CO₂ levels** (nearly 20% in 30 years) led to the **carbon fertilisation** effect, where higher CO₂ **enhances photosynthesis** and accelerates growth.
- **Shift in forest structure:** The accelerated growth of larger, canopy-level trees is happening at the expense of smaller trees, whose numbers are declining.
- **Shift in forest structure:** The accelerated growth of larger, canopy-level trees is happening at the expense of smaller trees, whose numbers are declining.

CORAL LARVAE CRYOBANK

The Philippines has launched Southeast Asia's first coral larvae cryobank to preserve coral genetic diversity and protect reef ecosystems.

About

- A coral larvae cryobank is a facility that freezes and stores coral larvae at extremely low temperatures to preserve their genetic diversity for future reef restoration and research.

Coral Triangle

- The Coral Triangle also known as the Amazon of the Seas spans around 6 million sq. km across Indonesia, Malaysia, Papua New Guinea, the Philippines, Solomon Islands, and Timor-Leste.
- It encompasses portions of **2 biogeographic regions:** the Indonesian-Philippines Region, and the Far Southwestern Pacific Region.
- It is home to more than **75%** of the world's coral species, **a third of reef fish**, vast mangrove forests, and six out of seven marine turtle species.
- **Threats:** Rising carbon emissions, harmful fishing practices, and pollution of air, water, and soil.
 - ♦ coral bleaching, loss of habitats
 - ♦ decline in marine species.



Corals

- Corals are **invertebrates** that belong to a large group of animals called **Cnidaria**.
 - ♦ Corals are formed by **multiple small, soft organisms known as polyps**. They secrete a **rocky chalk-like (calcium carbonate) exoskeleton** around themselves for protection.
 - ♦ **Coral reefs** are therefore created by **millions of tiny polyps forming large carbonate structures**.
- **There are three types of coral reefs:** fringing reefs, barrier reefs and atolls.
- **Fringing reefs form along shorelines, barrier reefs form in open water and atolls are circular reefs** that have formed around **sunken volcanoes**.

Coral Bleaching

- **Coral Bleaching** occurs when sea temperatures rise too high and corals expel their algae, subsequently turning white.
- The phenomenon also occurs due to **low salinity, cold waters or pollution**, regional and global mass bleaching events.

Cryopreservation

- Cryopreservation is the preservation of living cells or tissues at ultra-low temperatures (**-196°C**), halting all biological activity for long-term storage.
- Coral larvae are first treated with **cryoprotectant solutions** (glycerol, ethylene glycol, DMSO) to replace water and prevent ice formation.
- Through **vitrification**, larvae are plunged into liquid nitrogen, turning into a glass-like state that avoids cell damage.

Coral Cryobank Initiative:

- The initiative involves collaboration among research institutions in the Philippines, Taiwan, Indonesia, Malaysia, and Thailand.
- The objective is to freeze and preserve coral larvae, ensuring long-term protection of coral genetic diversity.

NATIONAL RED LIST ROADMAP AND VISION 2025–2030

India has officially launched its National Red List Roadmap and Vision 2025–2030 at the IUCN World Conservation Congress 2025.

About

- A national initiative to develop an integrated Red List assessment system for identifying, classifying, and conserving India's threatened species, in alignment with IUCN global standards.

Organisations Involved

- Zoological Survey of India (ZSI) and Botanical Survey of India (BSI).
- In collaboration with **IUCN–India** and the **Centre for Species Survival (CSS), India**.

Objective

- To create a coordinated, science-based national red-listing framework for accurate species assessment and evidence-driven conservation planning.
- To support India's commitments under the Convention on Biological Diversity (CBD) and the Kunming–Montreal Global Biodiversity Framework (KMGBF).

Key Features

- First national effort assessing both flora and fauna, including terrestrial and marine species.
- National Red Data Books for flora and fauna to be published by 2030.
- Integration of traditional knowledge to promote community-based biodiversity documentation.

- Scientific threat assessment and prioritization following IUCN methodologies.
- Collaborative framework bringing together taxonomists, scientists, and policymakers for unified national biodiversity data.

IUCN WORLD HERITAGE OUTLOOK 2025

Released by the International Union for Conservation of Nature (IUCN), the report evaluates the conservation status of natural and mixed World Heritage Sites worldwide.

Key Global Findings

- For the **first time**, the **percentage of sites with a positive conservation outlook** has **declined significantly**, indicating rising global threats to natural heritage.

India-Specific Findings

- **Khangchendzonga National Park:** The **only Indian site** rated as **'Good'** in conservation outlook.
- **Sundarbans National Park:** Conservation status **dropped** from **'Good with Some Concerns'** (2020) to **'Significant Concern'** (2025).
- **Manas National Park** and the **Western Ghats:** Both classified under **'Significant Concern'**, highlighting urgent conservation challenges.

UPDATED IUCN'S NEW RED LIST

Arctic seals and global bird populations are facing severe threats from climate change and human activities, as highlighted in the latest IUCN Red List of Threatened Species released at the World Conservation Congress in Abu Dhabi.

About

- The latest IUCN Red List update – **revised the conservation status of 12 Indian bird species**, with **8 species downlisted** (showing improvement) and **4 species uplisted** (showing increased threat).

Key Findings of the Report

- **Status of Arctic Seals:** The IUCN Red List now includes **172,620 species**, of which **48,646** are threatened with extinction.
- **The hooded seal** has been moved from **Vulnerable** to **Endangered status**. Bearded and harp seals are now classified as **Near Threatened**.
- **Status of global bird populations:** **61%** of bird species are experiencing population decline, up from **44%** in 2016.
 - ♦ Out of 11,185 bird species, **1,256 (11.5%)** are globally threatened.
- **The green sea turtle** has been downlisted from **endangered** to **least concern** after its population rose by **28%** since the 1970s.

Birds Species Uplisted

- **Indian Courser**, **Indian Roller**, and **Rufous-tailed Lark** – moved to *Near Threatened*.
- **Long-billed Grasshopper-warbler** – moved to *Endangered*.

Habitats

- These birds depend on open natural ecosystems such as grasslands, deserts, croplands, semi-arid areas, hilly scrublands, and fallow lands.

Threats

- Expansion of power projects, intensive farming, invasive species, and conversion of grasslands into forests (through afforestation) are shrinking these habitats.

Global Update

- Over half of the world's bird species are now in decline, mainly due to habitat loss, deforestation, and agricultural expansion.
- Birds are crucial for ecosystems — they act as pollinators, seed dispersers, pest controllers, scavengers, and ecosystem engineers.

Other Key Species Changes

- **Three Arctic seal** species have moved closer to extinction due to melting sea ice caused by climate change.
- **Green Sea Turtle** has shown strong recovery — its status improved from Endangered to Least Concern, thanks to long-term conservation efforts.

IUCN

- **Created in 1948**, IUCN is now the world's largest and most diverse environmental network, harnessing the knowledge, resources and reach of our more than 1,400 Member organisations.
- **IUCN (International Union for Conservation of Nature)** stands for the International Union for Conservation of Nature, a global membership union of governments, civil society organizations, and experts dedicated to nature conservation and sustainable development.
- **Headquarters:** Gland, Switzerland.
- **IUCN Red List:** The world's most comprehensive source of information on the global extinction risk status of plants, animals, and fungi.

STATE OF FINANCE FOR FORESTS (SFF) REPORT

The first State of Finance for Forests (SFF) report was recently released by the United Nations Environment Programme (UNEP).

State of Finance for Forests (SFF) Report

- It provides a global overview of public and private forest finance in 2023, comparing current flows with the investments needed to realize forests' potential to address climate change, biodiversity loss, and land degradation.
- It integrates key private finance channels and nature-related asset classes such as certified commodity supply chains, impact investing, carbon and biodiversity markets, philanthropic funding, and private capital mobilized through public finance

Key Findings

- It highlights a critical underinvestment in forests, which are essential for combating climate change, biodiversity loss, and land degradation.
- In 2023, global forest finance stood at US\$84 billion, far below the US\$300 billion needed annually by 2030 and US\$498 billion by 2050, leaving a US\$216 billion yearly gap.
- Of the US\$84 billion, almost 91% came from public sources and 9% from private sources.
- Private forest finance was just US\$7.5 billion, mostly targeting low-risk markets rather than tropical commodities linked to deforestation.
- Meanwhile, environmentally harmful subsidies totaled US\$406 billion, and private institutions had US\$8.9 trillion in active financing tied to high deforestation-risk companies, underscoring the urgent need to redirect capital toward sustainable forest investments.

CAQM INVOKES STAGE-II OF GRAP IN THE NCR

The Commission for Air Quality Management (CAQM) has enforced Stage-II of the Graded Response Action Plan (GRAP) across the NCR as Delhi's air quality fell to the "Very Poor" category (AQI 301-400).

About GRAP

- Graded Response Action Plan (GRAP) is a set of emergency measures implemented in Delhi-NCR to control air pollution based on the **Air Quality Index (AQI) levels**.
- It was formulated by the Environment Pollution (Prevention & Control) Authority (EPCA) and enforced by CAQM from 2021.
- **Legal basis:** Section 5 of the Environment (Protection) Act, 1986.
- GRAP is divided into four stages corresponding to AQI levels:
 - ♦ **Stage I** – Poor (AQI 201–300)
 - ♦ **Stage II** – Very Poor (AQI 301–400)
 - ♦ **Stage III** – Severe (AQI 401–450)
 - ♦ **Stage IV** – Severe+ (AQI >450)

Reasons Behind Air Pollution

- ➔ Stubble burning in Punjab and Haryana.
- ➔ Low wind speed and temperature inversion trap pollutants.
- ➔ Vehicular emissions, construction dust, and Diwali fireworks add to the load.
- ➔ Urban heat island effect and regional topography aggravate stagnation of pollutants, unlike similar coastal highly populated cities like Mumbai, Chennai.

About CAQM

- ➔ **Constituted under:** The Commission for Air Quality Management in NCR and Adjoining Areas Act, 2021.
- ➔ **Jurisdiction:** Delhi, Haryana, Punjab, Rajasthan, and Uttar Pradesh.
- ➔ **Purpose:** To coordinate and implement region-wide measures for air quality improvement, replacing the earlier EPCA.

INVASIVE ALIEN SPECIES (IAS)

Conservation scientists have raised concern that Invasive Alien Species (IAS) are increasingly threatening India's native biodiversity and ecosystems, leading to habitat loss and species decline.

About

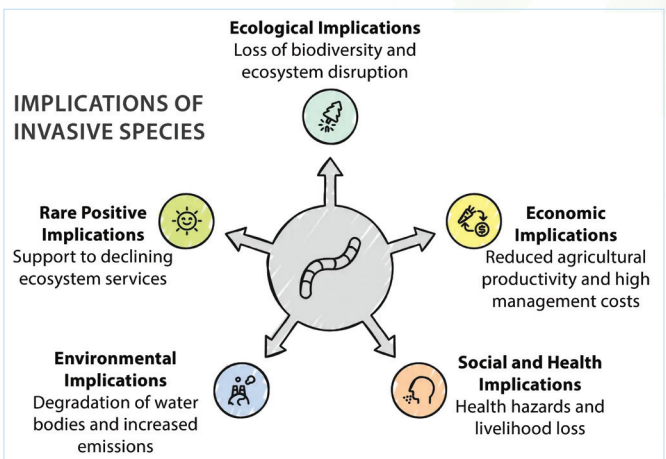
- ➔ **Definition:** Non-native plants, animals, or microorganisms introduced intentionally or accidentally into new ecosystems — for example, through ornamental trade, aquaculture, agriculture, or habitat restoration.
- ➔ **Characteristics:**
 - ♦ Thrive in new habitats due to the **absence of natural predators or competitors**.
 - ♦ **Spread rapidly**, outcompeting native species for space, nutrients, and light.
 - ♦ Lead to **loss of native biodiversity**, **ecosystem imbalance**, and **economic damage**.

Examples in India

- ➔ **Lantana camara:** Introduced as an ornamental shrub in the 19th century. Invades **forest understories**, blocks sunlight, and **prevents native plant regeneration**.
- ➔ **Parthenium hysterophorus (Congress Grass):** An aggressive weed that infests croplands and wastelands.
- ➔ **Eichhornia crassipes (Water Hyacinth):** Rapidly spreads over lakes and rivers, forming dense mats and Depletes oxygen levels.

Impact on India's Ecosystems

- ➔ India is among the **top 10 countries globally affected by IAS**, with more than **300 invasive species** identified.
- ➔ IAS causes **economic losses**, **reduces agricultural productivity**, and **alters ecosystem functions** in forests, wetlands, and grasslands.



Initiatives Related to the Management of Invasive Alien Species (IAS)

Global Initiatives:

- ➔ **Convention on Biological Diversity (CBD):**
 - ♦ Under **Article 8(h)**, member countries, including India, are required to **prevent, control, or eradicate invasive alien species**.
 - ♦ Provides **guidelines and coordination frameworks** for global IAS management.
- ➔ **Kunming–Montreal Global Biodiversity Framework (Target 6):** Aims to reduce the impact of invasive species on biodiversity and ecosystem services by 50% by 2030.
- ➔ **IUCN Invasive Species Specialist Group (ISSG):** Maintains the Global Invasive Species Database (GISD) and the Global Register of Introduced and Invasive Species (GRIIS) to support global monitoring and management.
- ➔ **CITES (Convention on International Trade in Endangered Species, 1975):** Regulates **international trade in wildlife and plants** to ensure it does not contribute to species decline or spread of invasives.

India's Initiatives:

- ➔ **National Biodiversity Action Plan (NBAP):** Includes measures for the **prevention and control of invasive alien species**.
- ➔ **National Action Plan on Invasive Alien Species (NAPINVAS):** Focuses on prevention, early detection, rapid response, control, and management of IAS.
- ➔ **National Invasive Species Information Center (NISIC):** Acts as a knowledge hub, providing information, resources, and public awareness on IAS in India.
- ➔ **Plant Quarantine (Regulation of Import into India) Order, 2003:** Enforced by the Department of Agriculture and Cooperation (DAC) to regulate the import of plants and plant materials.
 - ♦ preventing the entry of potential invasive species.

THE UN'S EARLY WARNINGS FOR ALL (EW4ALL) INITIATIVE

The World Meteorological Organization (WMO) at its Extraordinary Congress in Geneva, rallied its 193 Member States to commit to universal early warning coverage by 2027 under the UN's Early Warnings for All (EW4All) initiative.

About Early Warning System (EWS)

- It is an integrated approach that combines hazard monitoring, forecasting, disaster risk assessment, communication, and preparedness to enable timely action for saving lives, livelihoods, and assets at risk.

UN's Early Warnings for All (EW4All) Initiative

- The UN-backed EW4All initiative was **launched in 2022** by Secretary-General António Guterres, co-led by WMO, the UN Office for Disaster Risk Reduction (UNDRR), the International Telecommunication Union (ITU), and the International Federation of Red Cross and Red Crescent Societies (IFRC).
- Its goal is to ensure that every person — regardless of where they live — is protected by life-saving alerts for hazards such as cyclones, floods, heat waves or droughts.
- The EW4All initiative aims to address the growing threat of weather, water, and climate-related hazards—from cyclones and floods to heatwaves and droughts.
- The initiative focuses on strengthening the entire early warning "value chain"
 - Monitoring and forecasting hazards
 - Assessing risks
 - Disseminating alerts
 - Ensuring communities can act on them

Need for Early Warning

- Timely warnings (within 24 hours) can reduce disaster damage by 30%.
- Countries without multi-hazard early warning systems experience disaster mortality rates six times higher and impacts four times greater compared to those with established systems.
- Since 1970, economic losses from extreme weather events have surpassed US\$4 trillion globally.

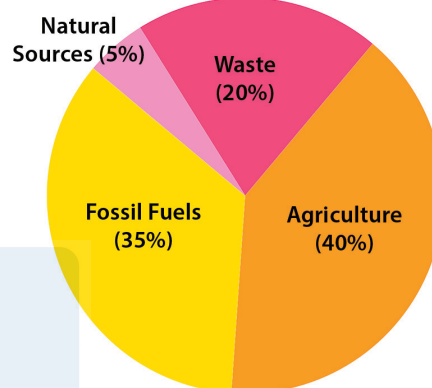
5th EDITION OF "AN EYE ON METHANE: FROM MEASUREMENT TO MOMENTUM"

The UN Environment Programme (UNEP) has released the fifth edition of its flagship publication, "An Eye on Methane: From Measurement to Momentum", prepared by the International Methane Emissions Observatory (IMEO).

Key Highlights of the 2025 Report

- Methane emissions from energy, agriculture, and waste sectors remain high, despite available cost-effective mitigation technologies.
- Methane has 80 times more warming potential than CO₂ over 20 years.
- Approximately **60% of current methane emissions** originate from human activities, with the largest contributors being agriculture, fossil fuel extraction and use, and landfill waste.

GLOBAL METHANE EMISSION SOURCES



- The report calls for integrating methane data into **national climate strategies (NDCs)** and global stocktake under the **Paris Agreement**.
- The report highlights India's effective role in the **Global Methane Pledge (GMP)** and its efforts through **SATAT, National Biogas Mission, and waste-to-energy projects**.

UN Environment Programme (UNEP)

- Established:** 1972
- Headquarters:** Nairobi, Kenya (only UN HQ in Africa)
- Origin:** After the 1972 Stockholm Conference on the Human Environment
- Parent Body:** Works under the UN General Assembly (UNGA)
- Main Functions:**
 - Coordinates global environmental activities within the UN system.
 - Assists countries in environmental policy formulation & implementation.
 - Publishes Global Environment Outlook (GEO) reports.
 - Hosts Multilateral Environmental Agreements (MEAs):
 - Montreal Protocol (Ozone)
 - Minamata Convention (Mercury)
 - Convention on Biological Diversity (CBD)
 - CITES, CMS, Basel, Rotterdam, Stockholm Conventions.

CONSERVATION CONCERNS OVER THE WESTERN GHATS

The International Union for Conservation of Nature (IUCN), in its recent World Heritage Outlook, 2025 report, classified the Western Ghats as being of "significant concern" due to escalating threats.

Key Findings of the Report

- ➔ Nearly **40%** of global sites face conservation concerns.
- ➔ Climate change remains the most prevalent threat, followed by **tourism, invasive species, and infrastructure development**.
- ➔ The share of sites with a positive conservation outlook has declined, from **63%** (2014–2020) to **57%** (2025).
- ➔ **Status of India's World Heritage sites:**
 - ♦ **Significant Concern:** Western Ghats, Manas National Park, and Sundarbans National Park.
 - ♦ **Good with Some Concerns:** Kaziranga, Keoladeo, Nanda Devi, and Great Himalayan National Park.
 - ♦ **Good:** Khangchendzonga National Park.

Western Ghat

- ➔ The Western Ghats are a **1,600-km** long mountain chain along the west coast of India running from the river Tapi in the north to Kanyakumari in the south.
- ➔ It covers **six states** — **Gujarat, Maharashtra, Goa, Tamil Nadu, Karnataka and Kerala**. About 60 percent of the mountain range is in Karnataka.
- ➔ **Significance:** These Ghats are home to high mountain forests, which moderate the tropical climate of the region.
 - ♦ They are home to 325 globally threatened flora, fauna, bird, amphibian, reptile and fish species.
- ➔ Western Ghats were accorded the **World Heritage Status** by UNESCO in 2012.

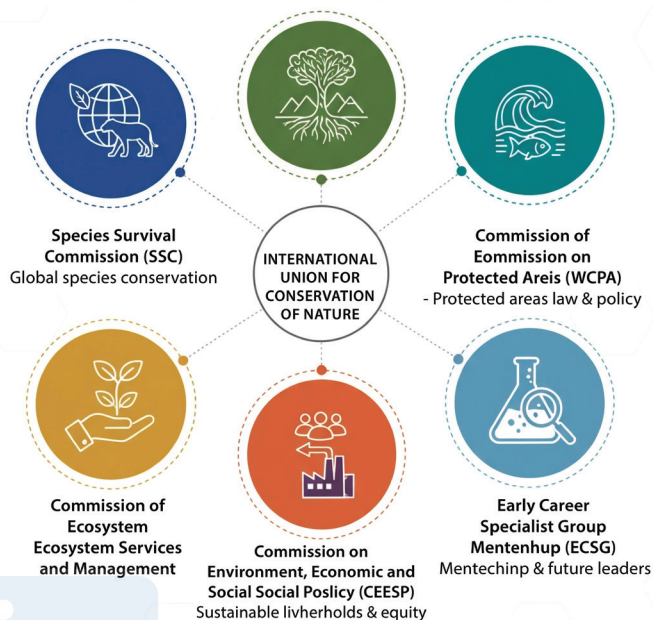
VIVEK MENON BECOMES FIRST ASIAN TO CHAIR KEY IUCN PANEL

The International Union for Conservation of Nature (IUCN) elected Wildlife Trust of India's (WTI) founder, Vivek Menon, as the new chair of the Species Survival Commission (SSC), making him the first Asian to hold the post.

Species Survival Commission (SSC)

- ➔ The **IUCN Species Survival Commission (SSC)** is a science-based network of more than 10,500 volunteer experts from almost every country of the world.
- ➔ It is one of the six expert commissions under the global body that advises the IUCN secretariat on matters concerning biodiversity and species conservation.
- ➔ The commission and its specialist groups play a key role in preparing the IUCN's red list of threatened species.

IUCN SIX EXPERT COMMISSIONS



Motion 042

- ➔ It was passed at the **IUCN World Conservation Congress**.
- ➔ It calls for a global phase-out of coal, oil, and gas, a halt to new extraction projects, and a just transition for affected workers and communities.
- ➔ It is backed by civil society, Indigenous groups, and organisations like WWF and BirdLife International.
- ➔ It urges the exploration of international mechanisms such as a **Fossil Fuel Non-Proliferation Treaty**.

About IUCN

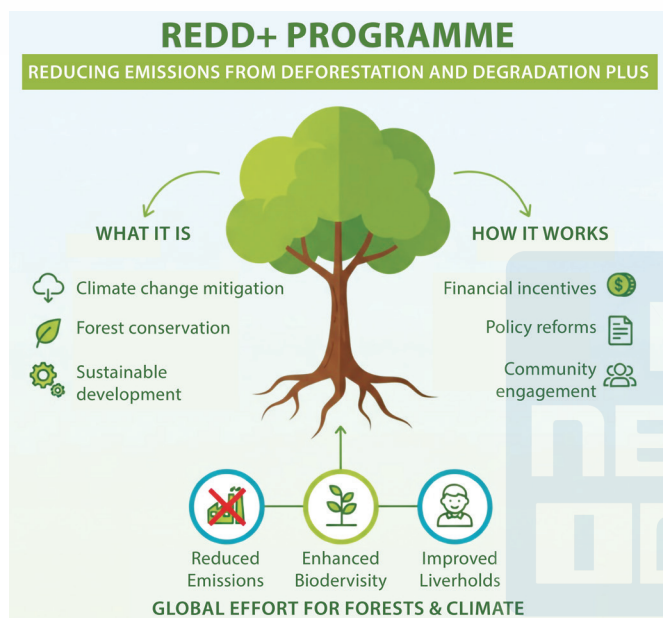
- ➔ The International Union for Conservation of Nature (IUCN), founded in 1948, is the world's largest and most diverse environmental network, comprising over 1,400 member organisations and 17,000 experts.
- ➔ It serves as a global authority on nature conservation, offering a neutral platform for governments, NGOs, scientists, businesses, and communities to collaborate on sustainable development.
- ➔ It incubates ideas, sets international standards, and implements conservation projects that blend scientific research with traditional knowledge to restore ecosystems, combat habitat loss, and enhance human well-being.
- ➔ It publishes the IUCN Red List of Threatened Species.
- ➔ It is an independent international organisation, not part of the UN system.
- ➔ **HQ:** Gland, Switzerland

REDD+ PROGRAMME

A study found that only 19% of tropical forest carbon offset projects under the REDD+ (Reducing Emissions from Deforestation and Degradation Plus) programme have significantly reduced deforestation.

About REDD+

- REDD+ is a climate change mitigation solution developed by Parties to the United Nations Framework Convention on Climate Change (UNFCCC).
- ♦ The Paris Climate Agreement recognizes REDD+ and the **central role of forests**.



- It was first introduced in 2005 during the UNFCCC Conference of the Parties (COP 11) in Montreal. The "+" was added later at **COP 13 in Bali, 2007** to include broader forest-related activities.
- It offers **economic incentives** to developing countries to preserve forests, enhance carbon stocks, and promote human well-being.
- **REDD+ reduces deforestation** through the conservation and sustainable management of forests.
- **REDD+ projects** pay governments, organisations, communities, and individuals in forest landscapes for activities that preserve forests and avoid forest-related greenhouse gas emissions (GHG).

India's Engagement with REDD+

- India released its **National REDD+ Strategy in 2018**, developed by the MoEFCC.
- It aligns REDD+ implementation with existing forest policies like the National Forest Policy, 1988, and the NAPCC.
- **Nodal Agency:** Indian Council of Forestry Research and Education (ICFRE) is the national coordinating agency for REDD+ in India.

INTRUSION DETECTION SYSTEM TO PROTECT ELEPHANTS

The Northeast Frontier Railway (NFR) has deployed an **Intrusion Detection System (IDS)** across key sections of its network to prevent elephant deaths caused by train collisions.

About IDS

- The IDS is an **optical fibre-based monitoring system** that detects intrusions or movements along railway tracks in real time.
- When a large object, such as an elephant or human, crosses or nears the track, the system **identifies the vibration pattern** and immediately alerts railway staff.

Intrusion Detection System in Cybersecurity

- In its original form, an IDS is a **network security tool** that **detects unauthorized access** or attacks on computers and networks.
- It operates as a **passive monitoring system**, observing traffic and alerting administrators to suspicious activity but not directly blocking it.

INDIA UNVEILS MAJOR GLOBAL SOLAR INITIATIVES AT ISA ASSEMBLY

India launched a set of flagship global initiatives to accelerate the world's transition to clean, equitable, and circular solar energy systems at the Eighth session of the International Solar Alliance (ISA).

Initiatives Launched

- **The SUNRISE platform:** The **Solar Upcycling Network for Recycling** will connect governments, industries, and innovators to unlock the value embedded in solar waste.
 - ♦ By promoting recycling and upcycling, SUNRISE aims to make solar deployment truly sustainable.
- **One Sun One World One Grid (OSOWOG):** The plan identifies priority links between East Asia-South Asia, South Asia-Middle East, Middle East-Europe, and Europe-Africa, enabling clean energy trade and greater energy resilience over the next decade.
- **Global Capability Centre (GCC):** GCC is a hub-and-spoke network connecting national research and training institutions under a new Solar Technology Application Resource Centre (STAR-C) model. The GCC aims to foster R&D, innovation, and digital capacity-building through the ISA Academy.
- **SIDS Procurement Platform:** It is jointly developed by the ISA and the World Bank Group.
 - ♦ The signing reaffirmed the commitment of 16 Member Countries to advancing solar energy deployment through coordinated procurement, digital integration, and capacity-building to enhance energy resilience.

Significance

- The initiatives mark a significant shift for the ISA **from advocacy to implementation**.
- The latest announcements before COP30 in Brazil **signal India's intent to position the Global South at the centre of the solar revolution**.

The International Solar Alliance (ISA)

- It is a treaty-based intergovernmental organisation, launched in **2015 by India and France at the COP21 summit**.
- **Aim:** Promoting solar energy as a sustainable solution for energy access and climate change, to **mobilize USD 1 trillion in solar investments by 2030**.
- **Members:** ISA now counts **125 Member and Signatory Countries**, driving projects on mini-grids, rural electrification, and solar financing. Initially focused on developing countries, the ISA's Framework Agreement **was amended in 2020 to allow all United Nations member states to join**.
- **Headquartered** in Gurugram, India, the ISA is the first international organisation established in the country.

Outlook for Future Projects of ISA

- **Ease of Doing Solar (EODS):** It notes that global investments in the energy transition reached USD 2083 billion in 2024, with ISA Member Countries contributing USD 861.2 billion.
- **Solar Compass – Special Issue on Integrated PV Applications:** It highlights that now is the moment for Global South leadership in solar innovation.
- **Global Floating Solar Framework projects:** The global floating solar capacity is expected to expand rapidly over the next decade, with the Asia-Pacific region expected to lead this growth.
- **Solar PV Skills and Jobs in Africa projects:** The continent's solar workforce to grow from 226,000 today to 2.5–4.2 million by 2050.

GLOBAL EMISSION CUTS FALL SHORT OF PARIS GOALS

The United Nations Synthesis Report has found that global emission reduction efforts are falling short of the targets set under the Paris Agreement (2015).

Concerns raised by the Report

- The report is based on countries' updated **nationally determined contributions (NDCs)**, which are promises to cut fossil fuel emissions or plant forests (to capture carbon dioxide) until 2035.
 - ♦ The report is based on submissions from **64 out of 190 countries**. India is yet to submit its updated NDC, with its last submission made in August 2022.

- The Countries are on track to reduce emissions by only **17%** of 2019 levels by 2035, far below the levels required to keep global warming within 1.5°C or even 2°C by the end of the century.
- However, to keep global temperature rise below 2°C and 1.5°C, countries must cut emissions by **37% and 57% of 2019 levels, respectively, by 2035**.
- The **Global Tipping Points Report 2025** highlights that the world is reaching its first climate tipping point, the widespread mortality of warm-water coral reefs.

India's Commitments to Emission Reductions

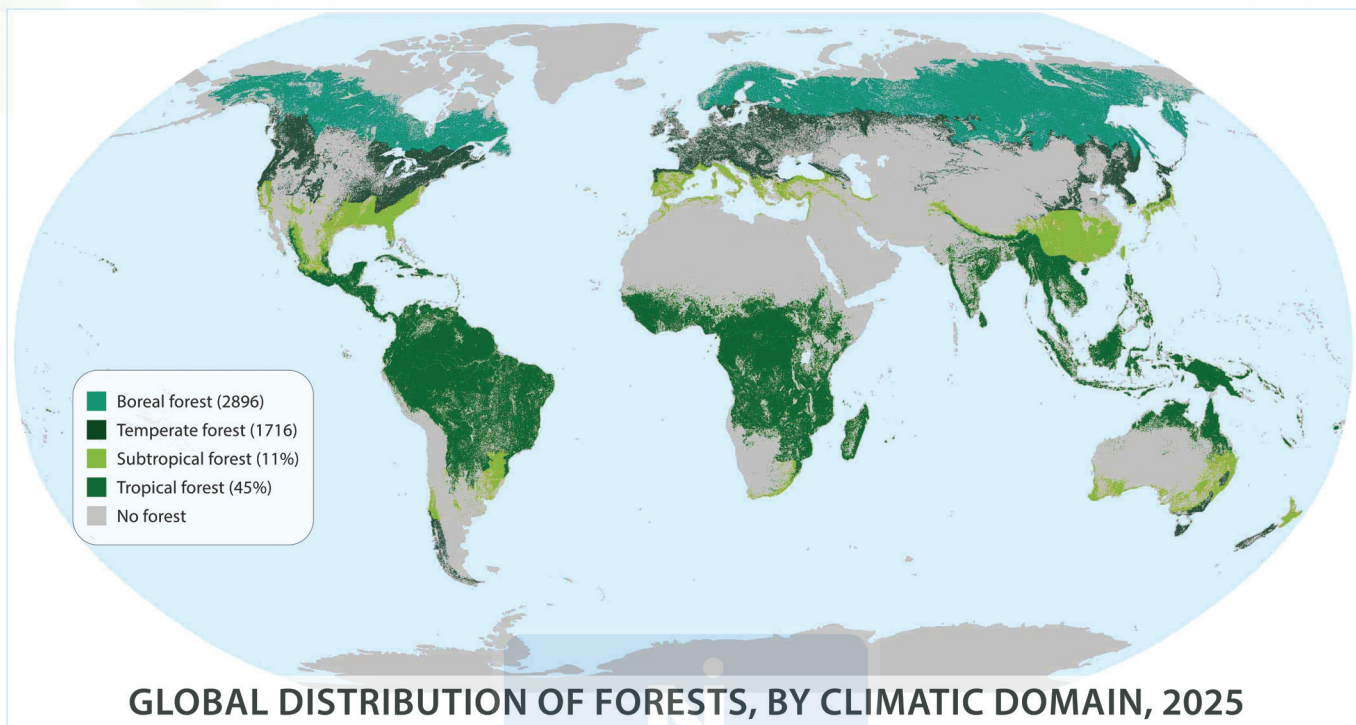
- India has launched the **LiFE mission (Lifestyle for Environment)** and **updated its NDCs (Nationally Determined Contributions)** under the Paris Agreement.
- Under its updated NDC 2022, India pledges:
 - ♦ **45% reduction in emissions intensity** (amount of CO₂ per unit of GDP) by 2030, compared to 2005 levels.
 - ♦ **50% of installed electricity capacity** will come from non-fossil fuel sources by 2030.
 - ♦ Creating a **carbon sink of 2.5 to 3 bn of CO₂ equivalent (GtCO₂e)** by increasing forests and tree cover.

INDIA MOVES UP TO 9TH POSITION GLOBALLY IN FOREST AREA

India ranks 9th globally in total forest area, according to the FAO's Global Forest Resources Assessment (GFRA) 2025, released in Bali. The report is published every five years.

Key Findings

- Globally, forests cover **4.14 billion hectares**, accounting for about **32%** of total land area, translating to **0.5 hectares of forest per person**.
- **Russia** has the largest forest cover, followed by **Brazil, Canada, the USA, China**, Congo, Australia, Indonesia, India, and Peru.
- The report highlights that **global deforestation** has slowed in the past decade.
 - ♦ However, the world continues to lose **10.9 million hectares** of forest every year (**2015–2025**), a rate still considered alarmingly high.
- **India's Forest Cover Status:**
 - ♦ India's forest cover stands at **72.7 million hectares**, representing about **2%** of global forest area.
 - ♦ India has maintained its **third position** worldwide after **China and Russia** in terms of **annual forest gain**.
 - ♦ **India and Indonesia** together represent over **70%** of global agroforestry areas, indicating strong integration of trees in farmlands.



NAURADEHI SANCTUARY IN MADHYA PRADESH

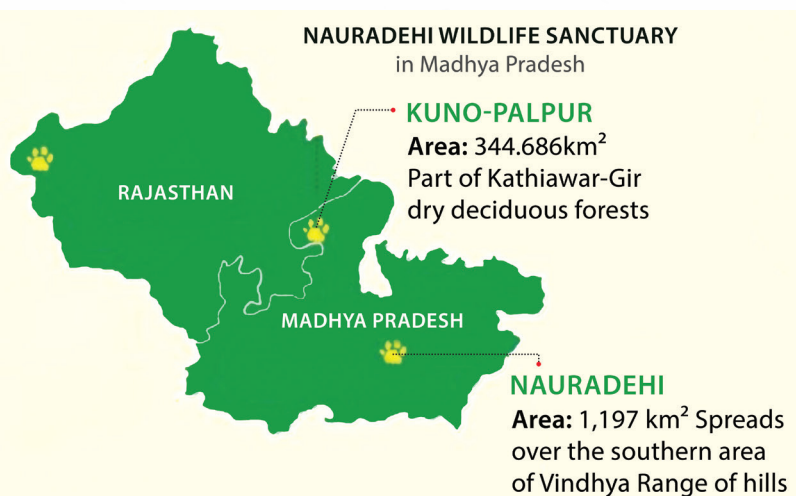
Nauradehi Wildlife Sanctuary is set to become the third home for cheetahs after Kuno National Park and Gandhi Sagar Sanctuary.

About

- It is located on a plateau spanning Sagar and Damoh districts in the **Bundelkhand region** of **Madhya Pradesh**.
- It is characterised by **deciduous forests of sal, teak, mahua, bamboo and bel trees**.
- It contains extensive grasslands that support a **substantial prey base**, including antelopes, wild boar, and other herbivores.

Project Cheetah

- Project Cheetah is India's cheetah relocation programme. It aims to bring back India's only extinct large mammal.
 - ♦ The cheetah was **officially declared extinct** by the Indian government in **1952**.
- The first batch of **eight cheetahs** arrived in **2022 from Namibia** and another batch of **12 cheetahs** from **South Africa** arrived in 2023 in **Kuno National Park**.
- Two male cheetahs were moved from Kuno National Park to **Gandhi Sagar Wildlife Sanctuary in 2025**, making it the second home for cheetahs in India as part of Project Cheetah.



SPECIES IN NEWS

Snow Leopard

SNOW LEOPARD
FACTS

GLOBAL POPULATION

In the wild: 3,920-6,390

In captivity: 455

Status: Vulnerable to extinction

HABITAT

Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russia, Tajikistan and Uzbekistan

Range: 2 million sqkm (approx. the size of Mexico)

PHYSICAL FEATURES

Weight: 33kg-46 kg

Height: 55cm-65 cm

Length: 100cm-121 cm

Wide, short nasal cavity warms air before it reaches its lungs

Round, short ears reduce heat loss

It has thick fur with woolly undergrowth

Extra long tail helps its balance and provides warmth when wrapped around the body

Strong, short front limbs and longer hind limbs can launch it up to 10m in one leap

Extra large paws give it good grip on snow and slopes

PREY

Varies based on location, but it is most often wild sheep and goats

Blue sheep



Asiatic ibex



Argali



Most important prey, blue sheep (bharal)-main prey in the Himalayas; Asiatic ibex (a large wild goat) and argali (wild sheep) It also hunts small prey like rodents, hares and birds It is an opportunistic predator that kills livestock

THREATS

Climate change: Threatens to make habitat uninhabitable

Loss of prey: Illegal hunting & livestock overgrazing cause decline in population

Loss of habitat: Mining and poor infrastructure planning fragment habitats

De-predation: Retribution for killing livestock

Poaching: For illegal trade in traditional Asian medicine and apparels and accessories

Himachal Pradesh's snow leopard population has risen by 62 per cent over the past four years.

About:

- They are often called the "**ghost of the mountains**," a reclusive feline native to the mountainous regions of Central and South Asia.
- They are sparsely distributed across **12 countries in central Asia**, from southern Russia down to the Tibetan plateau, including Mongolia, China, Afghanistan, Pakistan, **India** and Nepal.

Protection Status:

- **IUCN Red List:** *Vulnerable*
- **CITES:** *Appendix I* (prohibits international trade)
- **Wildlife (Protection) Act, 1972 (India):** *Schedule I* (highest legal protection)
- **Conservation Programs in India:**
 - ◆ Project Snow Leopard (2009) – focuses on community-based conservation in five Himalayan states.
 - ◆ SECURE Himalaya Project (UNDP–GEF partnership) – promotes sustainable livelihoods and snow leopard protection.
- The snow leopard is the state animal of Himachal Pradesh and Ladakh.
- Project Snow Leopard was launched by the Government of India in 2009 to ensure scientific and community-focused conservation of the species.

Camels

The Ministry of Fisheries, Animal Husbandry and Dairying plans to launch the National Camel Sustainability Initiative (NCSI) to revive and protect India's declining camel population.

About:

- Known as the "**Ship of the Desert**", camels are highly adapted to **arid and semi-arid ecosystems**, with about **90%** found in Rajasthan and Gujarat.
- **Pastoralist Communities:** Major groups involved in camel rearing include the **Raika, Rabari, Fakirani Jat**, and **Manganiyar** communities.

Characteristics:

- ➔ Can **survive for days without water** and travel **long distances**.
- ➔ Feed on **thorny desert plants**.
- ➔ The **hump stores fat**, which provides energy during food scarcity.
- ➔ **Water is stored in blood cells**, not in the hump.

Role of Camels:

- ➔ **Ecological Role:** Require **very little water**, have **soft hooves** that prevent soil erosion, and practice **selective grazing**, which helps **preserve desert vegetation**. **Camel dung** enriches the **soil** and supports fertility in dry regions.

Camel Breeds in India*Single-humped Dromedary Camels:*

- ➔ **Bikaneri (Rajasthan):** Renowned for its strength and endurance, mainly used for cart pulling and heavy draught work.
- ➔ **Jaisalmeri (Rajasthan):** Valued for its stamina and speed; tall and slender, commonly used for safaris in the Thar Desert.
- ➔ **Mewari (Rajasthan):** Distinguished for its high milk production.
- ➔ **Kachchhi (Gujarat):** A powerful draught breed used for ploughing and transport in the Rann of Kachchh.
- ➔ **Kharai (Gujarat):** Adapted to coastal and mangrove habitats, known as an excellent swimming camel.

Double-humped Bactrian Camel:

- ➔ Found only in the cold desert regions of Ladakh, adapted to high-altitude conditions.

Bactrian Camels <i>Camelus bactrianus</i>			Dromedary Camels <i>Camelus dromedarius</i>		
Bactrian camels are known for their distinctive two humps, which store fat as an energy reserve in harsh desert environments.			Dromedary camels are known for their distinctive single hump, used for storing fat, not water.		
POPULATION Estimated around 1.4 million individuals	CONSERVATION STATUS Critically Endangered (Wild Bactrian Camel); Domesticated Bactrian Camels are more numerous	HABITAT Arid deserts and steppes	POPULATION Estimated to be around 14 million (wild) and over 25 million (domesticated)	CONSERVATION STATUS Domesticated; wild populations are not assessed	HABITAT Arid deserts and semi arid regions
LOCATION Central and East Asia, including China and Mongolia	WEIGHT Around 400 to 800 kg (880 to 1,760 lbs)	LIFE SPAN About 40 to 50 years (in captivity)	LOCATION Native to the Middle East, North Africa, and parts of South Asia	WEIGHT Typically around 400 to 600 kg (880 to 1,320 lbs)	LIFE SPAN About 40 to 50 years (in captivity)

Indian Wolf (*Canis Lupus Pallipes*)

The International Union for Conservation of Nature (IUCN) has for the first time evaluated the Indian wolf (*Canis lupus pallipes*) separately, potentially recognizing it as a distinct species within the *Canis* genus.

Habitat and Distribution

- ➔ Found across peninsular India, including Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, and Andhra Pradesh.
- ➔ Prefers **grasslands, scrublands, and semi-desert regions** rather than dense forests or high mountains.

Protection Status

- ➔ **IUCN Red List:** *Endangered* (in India-specific context)
- ➔ **Wildlife (Protection) Act, 1972:** *Schedule I* (provides the highest level of legal protection)
- ➔ **CITES:** *Appendix I* (international trade prohibited)
- ➔ Under the **Maharashtra Forest Rules, 2014**, authorities are permitted to **remove or eliminate trespassing animals**.

Interesting Fact

- ➔ The Indian wolf is believed to be one of the **oldest wolf lineages** in the world, having diverged from other grey wolves around **270,000–400,000 years ago**, making it a crucial species for understanding wolf evolution.

GROUPS <ul style="list-style-type: none"> • Social animals, live in packs of 6-8 • Group consists of a breeding male and female • A group can range over as much as 200 sq km 	HUNT <ul style="list-style-type: none"> • Can cooperatively hunt large prey such as black bucks • Capable of chasing prey over long distances 	EAT <p>Small- to medium-sized animals. Livestock is a major part of their diet where there is little natural prey</p>
---	--	--

PROTECTION STATUS AND POPULATION

Grey wolves (*Canis lupus*) of which these are a subspecies are listed as Least Concern on the IUCN Red List. However, only **2,000-3,000** Indian wolves (*Canis lupus pallipes*) are left in the wild



INDIAN WOLF (*CANIS LUPUS PALLIPES*)

LIFESPAN 5-13 YEARS

WEIGHT 17-25 KG

GEOGRAPHIC RANGE: Indian subcontinent (Bihar, Jharkhand, Chhattisgarh, Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh, Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu, Telangana, Odisha and West Bengal) up to southwest Asia

HABITAT: Grasslands, scrub forest, thorn and dry deciduous forest. Often share space with agro-pastoral communities

THREATS

- **Retaliatory killing** due to its depredation of livestock
- Long regarded as **vermin** with a bounty placed on them
- **Habitat loss** and change
- Mostly live outside the network of "**Protected Areas**" leaving them vulnerable to hunting
- Most wolf **habitats are not protected**, and often categorised as "wastelands"
- Susceptible to **diseases** like canine distemper and canine parvovirus transmitted by domestic dogs

Asian Elephant

India's first-ever DNA-based elephant census, conducted under the All-India Synchronous Elephant Estimation (SAIEE) 2025, has revealed a significant 18% decline in the wild elephant population.

Asian Elephant:

- ➔ The Asian elephant (*Elephas maximus*), is distributed throughout the Indian subcontinent and Southeast Asia.
- ➔ It is the **largest living land animal in Asia**. Three subspecies are currently recognised: **the Sri Lankan, the Indian, and the Sumatran elephant**.
- ➔ **Appearance:** Smaller than their African counterparts, Asian elephants are easily recognizable by their "small" rounded ears.
 - ♦ They often have a **hump on their back**, a **double-domed head** with two humps, and a single "finger" on their trunk for grasping.
- ➔ **IUCN Status:** Endangered

AFRICAN ELEPHANT



TUSKS: Both male and female African elephants are capable for growing tusks
WEIGHT: Between 4000 kg to 7000 kg
TOENAILS: 4 in front and 3 in hind
EARS: Large ears shaped like the continent of Africa
TRUNK: Two "fingers" for grasping
HEIGHT: About 4 metres (tallest at the shoulder)
PIGMENTATION: Consistent dark colouration

ASIAN ELEPHANT



TUSKS: Only male elephants are capable for growing tusks, while females sometimes grow tushes (a very small tusk)
WEIGHT: Between 3000 kg to 6000 kg
TOENAILS: 5 in front and 4 in hind
EARS: Smaller, rounded ears
TRUNK: One "finger" for grasping
HEIGHT: About 3.5 metres (tallest at the arch of the back)
PIGMENTATION: Freckled appearance and pigmentation

Dugongs (Dugong Dugon)

The International Union for Conservation of Nature (IUCN) has officially recognized India's first Dugong Conservation Reserve in Palk Bay, Tamil Nadu, at the 2025 IUCN World Conservation Congress.

About:

- The dugong (Dugong dugon) is the only herbivorous marine mammal found in Indian waters. Often called the "sea cow".
- In India, dugongs are found mainly in the **Andaman and Nicobar Islands, Gulf of Mannar, Palk Bay, and Gulf of Kutch.**
- Dugongs depend entirely on **seagrass beds** for food and shelter, restricting them to **shallow coastal waters.**
- **Conservation Status:** IUCN Red List: Vulnerable, CITES: Appendix I, **Wildlife Protection Act, 1972:** Schedule I

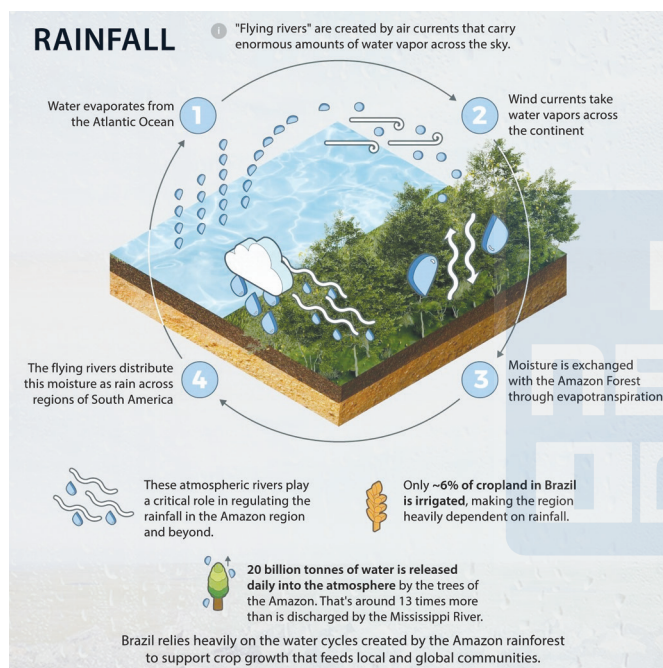


AMAZON'S 'FLYING RIVERS'

The Amazon rainforest plays a critical role in South America's water cycle through the phenomenon called "Flying Rivers".

About

- ➔ "Flying rivers" are massive streams of water vapour carried in the atmosphere, invisible to the eye.



Process

- ➔ **Moisture Source:** Water vapour originates from the **Atlantic Ocean**.
- ➔ **Movement of Air:** Trade winds carry this moist air westward across the equator.
- ➔ **Role of Amazon Forests:** The **Amazon trees act like a "biological pump"** — they absorb water from the soil, release it through **transpiration**, and send large amounts of **water vapour** back into the atmosphere.
- ➔ **Rainfall Formation:** This recycled moisture **forms clouds and rain**, sustaining ecosystems **deep inland**, including the **Andes Mountains** and **southern South America**.

SIR CREEK

Defence Minister Rajnath Singh warned Pakistan that any aggression in the disputed Sir Creek area will be met with a strong response.

About Sir Creek region

- ➔ Sir Creek is a **96-km-long tidal estuary** or a "fluctuating tidal channel" between **Gujarat's Rann of Kutch and Pakistan**.
 - ♦ The Rann lies on the border between Gujarat and the Pakistani province of Sindh.
- ➔ It is considered a disputed region due to varying interpretations of maritime boundary lines by both sides.
 - ♦ Sir Creek is a strategic and sensitive zone along the Gujarat coastline

Origin of the Sir Creek Dispute

- ➔ The **Sir Creek dispute** began in **1908** with a **conflict between the ruler of Kutch (India) and the Sindh government (then under British India)** over **firewood collection rights** in the creek area.
- ➔ To resolve it, the **Bombay Government issued a Resolution in 1914**, which contained **contradictory provisions**:
 - ♦ **Paragraph 9:** Placed the boundary east of the creek, implying that the entire creek belonged to Sindh (now Pakistan).
 - ♦ **Paragraph 10:** Applied the Thalweg Principle, stating that since the creek is navigable most of the year, the mid-channel should serve as the boundary line.
- ➔ These **conflicting interpretations** in the 1914 resolution have led to the **long-standing territorial dispute between India and Pakistan**.



MUD VOLCANO

The Geological Survey of India (GSI) will send a team to Baratang Island, Andaman, to study the recent eruption of India's only active mud volcano.

About

- **Mud volcanoes** are natural geological features that **expel mud, gases, and water** from beneath the Earth's surface.
 - ♦ **not molten lava**, unlike regular volcanoes.
- They are **less dangerous** than true volcanoes, as they mainly release **warm mud and gases** over small areas.
- The Andaman and Nicobar Islands are in the **subduction zone** due to frequent movement of tectonic plates, which causes tremors most of the time.

Formation Process

- Commonly found in areas with **underground hydrocarbon (oil and gas) deposits**.
- When **gas pressure builds up** below the surface, often due to **tectonic compression**, it **pushes mud and fluids upward** through cracks or faults.
- Over time, these materials **accumulate and form a cone-shaped mound**, known as a **mud volcano**.
- Though not explosive like lava volcanoes, **they can cause localized damage due to sudden eruptions or gas emissions**.

DURAND LINE

Border clashes erupted between Afghanistan and Pakistan along the Durand Line.

About

- The **Durand Line** is a 2,640 km land border established in 1893 following an agreement between **Sir Mortimer Durand**.
 - ♦ Then Foreign Secretary of British India, and **Amir Abdur Rahman Khan**, the ruler of Afghanistan.
- The line was intended to define the spheres of influence between **British India and Afghanistan**, effectively splitting ethnic Pashtun and Baloch communities between the two sides.



SAWALKOTE HYDROELECTRIC PROJECT

Recently, an apex committee of the Environment Ministry has accorded a fresh environmental clearance to the Sawalkote hydroelectric project.

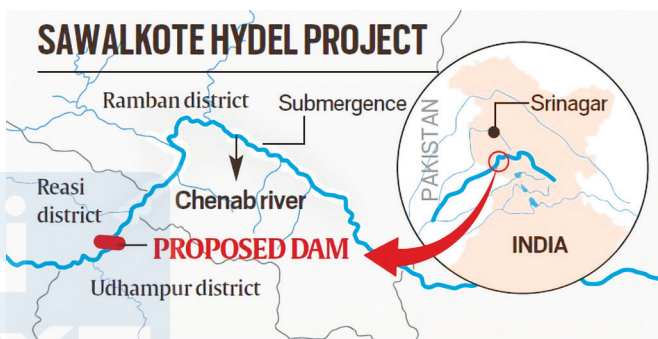
About the Project

- The **Sawalkote Hydro Electric Project** is a **run-of-the-river hydro power plant** proposed on the **Chenab River** in **Ramban District, Jammu and Kashmir**.
- With a capacity of **1,856 MW**, it will be the **largest hydro project in J&K** and among the **biggest in North India**.

- The project was **first planned in the 1980s** but underwent several **revisions** due to **technical and environmental concerns**.
- It will be developed by the **National Hydroelectric Power Corporation (NHPC) Limited** at an estimated cost of **₹31,380 cr.**

Project Features

- The project includes a **192.5-metre-high concrete dam** and **underground powerhouses**.
- It is expected to generate about **7,534 million units of electricity per year**.
- The project will **improve power availability** in J&K, especially during **winter months** when power shortages are common.
- It aims to make the **Union Territory power-surplus**, enabling it to **supply excess electricity** to the **national grid**.



PASNI PORT

Pakistan has recently offered the United States the opportunity to develop and operate Port Pasni as a commercial terminal.

About

- The Port of Pasni, situated on the Arabian Sea, is a small deep-water harbor in Gwadar district, Balochistan.
- It currently houses a fish harbor and a Pakistan Maritime Security Agency (PMSA) base.
- **Geographically, Pasni lies:**
 - ♦ East of Gwadar Port (developed by China under CPEC)
 - ♦ Near the Iran-Pakistan border
 - ♦ Close to India's Chabahar Port in Iran
- Together, these ports form a strategic maritime triangle — Chabahar (India-Iran), Gwadar (China-Pakistan), and Pasni (U.S.-Pakistan) — with major geopolitical significance.

Strategic Significance

- **Regional Hub:** Its location near Gwadar (China-backed) and Chabahar (India-backed, Iran) positions Pasni as a central node in a possible "maritime triangle",
 - ♦ linking South, West, and Central Asia.
- **Strategic Rivalry:** With China at Gwadar and India at Chabahar, US presence at Pasni would bring all three major powers into close proximity, potentially escalating the competition over trade routes and mineral access.

- ➔ **Trade and Security:** The port could facilitate global supply chains for critical minerals, energy, and security cooperation.
 - ♦ A powerful axis for regional trade with South, West, and Central Asia.



MADAGASCAR

The Madagascar military unit seized power after the President was impeached for desertion of duty amid weeks of mass protests.

About

- ➔ **Location:** Madagascar is an island nation in Africa, situated about 400 km off the east coast of the continent in the Indian Ocean, separated from mainland Africa (Mozambique) by the Mozambique Channel.
- ➔ **Geography:** It is the second-largest island country in the world, covering about 592,800 sq. km.
 - ♦ To the east lie the islands of Mauritius and Réunion (France), while to the northwest are Mayotte (France) and Comoros.
 - ♦ The Tsaratanana Massif in the north hosts Maromokotro, Madagascar's highest peak at 2,876 m.



Biodiversity

- ➔ The island features **rainforests, dry deserts, grasslands, and coastal mangroves and coral reefs.**
- ➔ Nearly **90% of Madagascar's plants and animals are endemic**, meaning they exist **only on this island.**
- ➔ This unique biodiversity developed due to Madagascar's **long isolation** from the African mainland by strong ocean currents.

TIPPING POINT

Warm-water coral reefs have been identified as the world's first climate tipping point, according to the Global Tipping Points Report 2025.

About

- ➔ A climate tipping point refers to a threshold beyond which a small change in global temperature can trigger a self-reinforcing and potentially irreversible shift in a natural system.
 - ♦ For coral reefs, this threshold is estimated to lie between **1°C and 1.5°C** of warming.
- ➔ Once exceeded, reefs can rapidly degrade, leading to bleaching, coral death, and transformation into algae-dominated ecosystems.

NAMCHIK-NAMPHUK COAL BLOCK

Arunachal Pradesh has launched its first commercial coal mining project at the Namchik-Namphuk coal block in Changlang district, marking a milestone in Northeast India's resource development and energy self-reliance.

About

- ➔ **Location:** Changlang district, southeastern Arunachal Pradesh, part of the Upper Assam coal belt region.
- ➔ **Reserves:** Estimated 1.5 crore tonnes of coal, enabling long-term production viability.
- ➔ **Environmental Features:** Operates under Mission Green Coal Regions, focusing on land reclamation, afforestation, and eco-responsible mining.
- ➔ **Strategic Alignment:** Supports the **PM EAST vision**, Empower, Act, Strengthen, Transform for balanced Northeast development.

Commercial Coal Mining in India

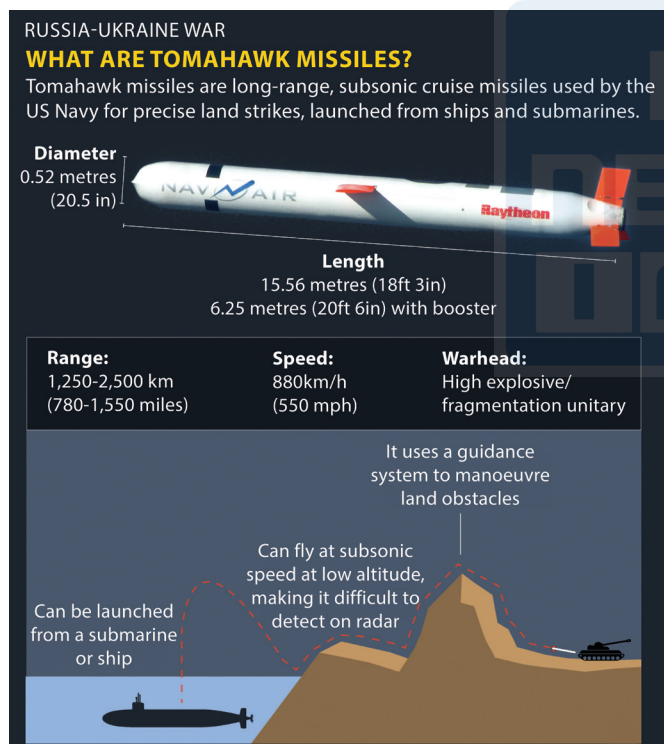
- ➔ **Definition:** Allows private players to mine coal and sell it in the open market, ending Coal India Ltd.'s monopoly.
- ➔ **Policy Origin:**
 - ♦ Introduced under the Coal Mines (Special Provisions) Act, 2015.
 - ♦ Operationalised in 2020 through AatmaNirbhar Bharat reforms.
- ➔ **Objectives:**
 - ♦ Boost domestic coal production and cut imports.
 - ♦ Encourage private investment, adoption of advanced mining technology.
- ➔ **Governing Laws:**
 - ♦ Mines and Minerals (Development and Regulation) Act, 1957.
 - ♦ Coal Mines (Special Provisions) Act, 2015
 - ♦ Related environmental and land laws.

US TOMAHAWK MISSILES

Ukraine has requested long-range Tomahawk cruise missiles from the United States.

About

- Tomahawks are long-range subsonic cruise missiles that can be launched from ships, submarines or ground launchers.
- They have long-range, deep-strike capabilities, and can hit targets **1,250km-2,500km away**.
- They carry high-explosive warheads designed to penetrate hardened targets like military bunkers.
- They **avoid radar detection** by flying at **high subsonic speeds** while maintaining low altitudes.



PRESIDENT'S BODYGUARD

President Droupadi Murmu presented the Diamond Jubilee Silver Trumpet and Trumpet Banner to the President's Bodyguard (PBG), marking 75 years since it was designated as the elite regiment in 1950.

About

- The President's Bodyguard is the **oldest regiment of the Indian Army**, tracing its origins back to **1773** when it was raised as

the **Governor-General's Bodyguard**, later known as the **Viceroy's Bodyguard**.

- Following India's transition to a republic, the regiment was renamed the **President's Bodyguard on January 27, 1950**.
- The PBG is the only Regiment that is permitted two 'Standards', namely the President's Standard of Body Guard and the Regimental Standard of The PBG.

Additional Information

The tradition of presenting the Silver Trumpet and Trumpet Banner to the PBG began with Dr. Rajendra Prasad, the first President of India, who bestowed the honour on May 14, 1957.

93rd AIR FORCE DAY

The Indian Air Force (IAF) celebrated its 93rd anniversary with a ceremonial parade at Air Force Station Hindon.

Key Points

- **About:** Initially known as the **Royal Indian Air Force (RIAF)**, the Indian Air Force was established on **October 8, 1932**, as an auxiliary air force under British rule.
- **Historical Background:** The RIAF's maiden operational flight took off on April 1, 1933, carrying six RAF-trained officers and 19 Havai Sepoys (air soldiers).
 - ♦ Due to its outstanding performance during **World War II**, the RIAF was granted the "Royal" prefix in 1945. The prefix was officially dropped and the force was renamed the 'Indian Air Force', when **India became a republic in 1950**, following its independence on August 15, 1947, following 200 years of **British colonial rule**.
 - ♦ The Indian Air Force has a **distinguished history** of being heavily involved in several of India's most important wars. These include the **Sino-Indian War of 1962** and the **Indo-Pak wars of 1947, 1965, 1971, and 1999**.
 - ♦ Additionally, the force participated in important actions like **Operation Safed Sagar** during the Kargil war in 1999, **Operation Poomalai** in 1987 and the recent Operation Sindoor in May 2025.

- **Motto:** The motto of IAF is **Touch the sky with Glory (Nabham Sparsham Deepam)**, which has been taken from the **eleventh chapter of the Bhagavad Gita**.

- **Theme:** The 2025 theme is focused on the IAF's contribution to **Operation Sindoor**.

SAKSHAM

The Indian Army has initiated the procurement of **SAKSHAM (Situational Awareness for Kinetic Soft and Hard Kill Assets Management)**.

About

- It is an indigenously developed **Counter-Unmanned Aerial System (CUAS) Grid System**, to bolster operational readiness against emerging drone threats.
- It is a **modular Command and Control (C2) system** that integrates real-time sensor data, AI-driven analytics, and counter-drone capabilities to secure the **Tactical Battlefield Space (TBS)**.
 - TBS is an airspace domain extending up to 3,000 metres (10,000 feet) above ground level.
- It was developed in collaboration with **Bharat Electronics Limited (BEL)**.

SEVENTH NATIONAL SECURITY GUARD (NSG) HUB TO COME UP IN AYODHYA

Union Home Minister Amit Shah announced that a new NSG hub (7th overall) will be set up in Ayodhya, Uttar Pradesh.

About

- The National Security Guard (NSG) was established in 1986 as a Federal Contingency Force to combat terrorism, following a Cabinet decision in 1984.
- It is modelled on the United Kingdom's **Special Air Service (SAS)** and Germany's **Grenzschutzgruppe 9 (GSG-9)**, literally "Border Protection Group 9" and its philosophy emphasizes swift strikes and rapid withdrawal.
- It comprises **two units**: The **Special Action Group (Army) and Special Ranger Groups (CAPFs/State Police)**, tasked with handling all forms of terrorism nationwide.
- It was established to create a Federal Contingency Force composed of highly motivated, specially equipped, and well-trained personnel to combat terrorism.

GALLANTRY AWARDS

President Droupadi Murmu approved 127 Gallantry awards and 40 Distinguished Service awards to the Armed Forces.

About

- Gallantry Awards** are given by the Government of India to honour acts of bravery, sacrifice, and exceptional courage by **members of the armed forces, paramilitary forces, and civilians**.
- They are classified as **wartime (gallantry in the face of enemy) and peacetime awards**.
- Administered by**: Ministry of Defence (for armed forces) and Ministry of Home Affairs (for police and civilians).
- Awarded by**: President of India.

- These gallantry awards are **announced twice in a year** - first on the occasion of the Republic Day and then on the occasion of the Independence Day.
- Wartime Gallantry Awards**: Param Vir Chakra (PVC), Mahavir Chakra (MVC) and Vir Chakra.
 - These were instituted on 26 January 1950, and were deemed to have effect from 15 August 1947, the date of India's independence.
- Peacetime Gallantry Awards**: Ashok Chakra, Kirti Chakra, Shaurya Chakra.
 - The Government instituted three more gallantry awards on 4 January 1952, also with retrospective effect from 15 August 1947.
 - Originally, they were named as: Ashoka Chakra Class-I, Ashoka Chakra Class-II and Ashoka Chakra Class-III.
- Order of Precedence**: Param Vir Chakra (PVC), Ashoka Chakra (AC), Maha Vir Chakra (MVC), Kirti Chakra (KC), Vir Chakra (VrC), Shaurya Chakra (SC).
- All six awards can be conferred posthumously.



POLICE COMMEMORATION DAY

Police Commemoration Day was observed on 21st October at the National Police Memorial to honour the valour and sacrifice of police personnel.

About

- On October 21, **1959**, Indian policemen were martyred in an ambush by Chinese troops at Hot Springs, Ladakh.
- The day commemorates **their supreme sacrifice and all police personnel** who have laid down their lives in the line of duty.
- A memorial was erected at Hot Springs** and members of Police Forces from different parts of the country trek to Hot Springs to pay homage to the martyrs.
- Since the year 2012, the Police Commemoration Day Parade** has been held at the National level at the Police Memorial.



Additional Information

- 'Police' and 'Public Order' are state subjects under the Seventh Schedule of the Constitution of India, and various initiatives have been undertaken to modernise police forces.
- **SMART Policing:** The SMART Policing Initiative was introduced by the Prime Minister of India in 2014 to modernize and transform Indian policing in response to emerging security challenges.
 - ♦ SMART stands for Strict and Sensitive, Modern and Mobile, Alert and Accountable, Reliable and Responsive, Tech-savvy and Trained.
- **Assistance to State & UTs for Modernization of Police (ASUMP) Scheme:** The erstwhile Scheme of Modernisation of State Police Forces (MPF), ASUMP's objective is to strengthen police infrastructure at the cutting-edge level by equipping it with the latest technology, weaponry, communication equipment, etc
- **'CyTrain' portal:** It is a Massive Open Online Courses (MOOC) platform, developed for capacity building of police officers/judicial officers through online courses on critical aspects of cybercrime investigation, forensics, prosecution, etc.
- **Cyber Crime Prevention against Women and Children (CCPWC):** Financial assistance under the CCPWC Scheme has been provided to the States/UTs for their capacity building.

About

- These vessels are the seventh and eighth in a series of eight indigenously built FPVs being constructed by Goa Shipyard Limited (GSL) for the ICG, underscoring India's growing self-reliance in defence shipbuilding.
- The 52-metre-long vessels displace 320 tonnes and are equipped with Controllable Pitch Propellers (CPP) — the first of their kind in this class of ships in India — ensuring superior manoeuvrability and propulsion efficiency.

Importance and Roles

- The FPVs are designed for multi-mission roles such as fisheries protection, coastal patrol, anti-smuggling, anti-piracy, and search and rescue operations, especially around India's island territories and Exclusive Economic Zone.
- This marks a key step in enhancing India's coastal defense and maritime surveillance capabilities.

RUSSIA TESTED POSEIDON DRONE

Russia has successfully tested a Poseidon drone declaring it impossible to intercept.

Poseidon Drone

- It is a new atomic-powered and nuclear-capable underwater drone.
- It outperforms all existing systems in speed and depth.
- It is designed to travel at a speed of up to 200 kph (124 mph) significantly faster than any existing torpedoes or warships.
- It is designed to evade defenses to cause a tsunami powerful enough to devastate a coastal city.

ICGS AJIT AND ICGS APARAJIT

The Indian Coast Guard launched two advanced Fast Patrol Vessels—ICG Ship Ajit and ICGS Aparajit—at Goa Shipyard Limited (GSL).

Military Exercises – 2025

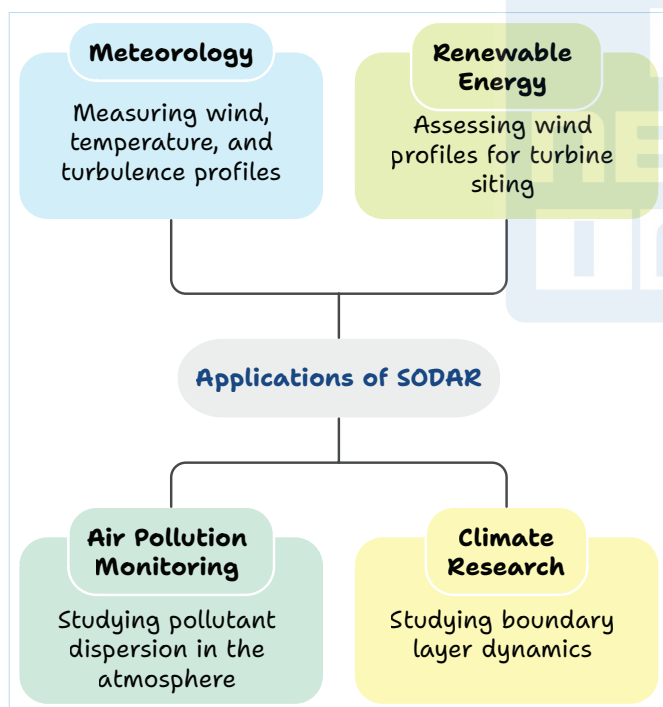
Exercise	Host / Location	Countries / Participants	2025 Edition Features	Objectives / Focus Areas
Ocean Sky 2025	Gando Air Base, Spain	Spain, Germany, Greece, Portugal, India, US	Multinational air exercise involving advanced fighter operations	Enhance interoperability, sharpen air combat skills
Samudra Shakti 2025	Visakhapatnam, India	India & Indonesia (Bilateral)	Naval drills including maritime operations and joint manoeuvres	Strengthen naval cooperation, improve mutual understanding
Trishul 2025	Gujarat & Rajasthan (Western Front), India	Indian Army, Navy, Air Force (Tri-Service)	Large-scale joint training near Pakistan border; real-time threat simulations	Tri-service operational readiness, synergy in joint warfare
KONKAN-25	India–United Kingdom (Location varies)	India & United Kingdom	Harbour Phase (professional exchanges, cross-deck visits) and Sea Phase (AAW, ASuW, ASW drills, carrier ops)	Improve maritime interoperability, sea control, carrier strike coordination, combined response
AUSTRAHIND-25	Australia	India & Australia	4th edition; exercises in open & semi-desert terrain	Joint planning, tactical drills, special arms skills

SODAR SYSTEM

On the occasion of CSIR's Foundation Day, (26th September), SODAR (Sound Detection and Ranging) system facility was inaugurated at India Meteorological Department, (IMD).

About

- It is designed & developed by CSIR–Advanced Materials and Processes Research Institute (AMPRI), Bhopal.
- The MoU facilitates the sharing of SODAR system data across various locations for forecasting, validation, and research initiatives.
- Expected to advance meteorology, climate science, environmental studies, and benefit research communities and national preparedness.



Sound Detection and Ranging (SODAR)

- **Purpose:** Probes the lower atmosphere (up to 1 km) to study thermal structure, turbulence, inversion layers, fog, and plumes. Useful in air quality modeling, forecasting, and interpretation of meteorological data.
- **Working Principle:** Acoustic pulses transmitted vertically through an antenna.
 - ♦ Pulses interact with thermal inhomogeneities and wind, and get scattered.

- ♦ Backscattered pulses received by the same antenna in a monostatic system.
- ♦ Signals are amplified, processed, and displayed as an echogram.

MAITRI II: INDIA'S NEW FRONTIER IN ANTARCTICA

The Ministry of Finance has approved the establishment of Maitri II, India's upcoming research station in eastern Antarctica, to be completed by January 2029.

India's Antarctic Presence

- In **1983**, India established the first permanent base in Antarctica named Dakshin Gangotri. However it is no longer in operation.
- India presently has two research stations at Antarctica namely 'Maitri' and 'Bharati'.
 - ♦ **Maitri:** It has been in operation since 1989 and is located in a rocky mountainous region known as **Schirmacher Oasis in Queen Maud Land**.
 - ♦ **Bharati:** The new station was **commissioned** in **2012**. It is located between **Thala Fjord & Quilty bay**, east of Stornes Peninsula in Antarctica.

About Maitri II

- **Nodal Agency:** National Centre for Polar and Ocean Research (NCPOR), Goa.
- **Estimated Cost:** ₹2,000 crore over seven years.
- **Location:** Eastern Antarctica, near the **Schirmacher Oasis**, replacing the aging Maitri station.
- **Green Research Base:** Designed to operate on renewable energy sources, solar during summer and wind energy year-round, reducing dependence on fossil fuels.

INTERSTELLAR MAPPING AND ACCELERATION PROBE (IMAP)

NASA launched the Interstellar Mapping and Acceleration Probe (IMAP) to map the heliosphere's boundary, track energetic particles, and enhance space weather forecasting.

About IMAP

- It is a space mission designed to explore the heliosphere—the Sun's protective bubble around the solar system—and its interaction with interstellar space.

How IMAP Decodes the Messages in Particles

FROM THE SUN AND BEYOND OUR COSMIC SHIELD

INSTRUMENTS

IMAP's ten instruments work together in teams to measure and map different components of the inner and outer heliosphere.



IMAP-Lo: Imager measuring and mapping low-energy energetic neutral atoms (ENAs), particles created where the solar wind and interstellar medium meet, as well as interstellar neutral particles from beyond the solar system



IMAP-Hi: Imager measuring and mapping medium-range ENAs from the edge of the heliosphere



IMAP-Ultra: Imager measuring and mapping ENAs at their highest range from the edge of the heliosphere



IDEX: Instrument measuring the composition of interstellar and interplanetary dust particles



GLOWS: Photometer investigating the ultraviolet glow created by the solar wind to understand how it evolves over time



SWAPI: Instrument designed to measure ions from the solar wind and particles from beyond the solar system



CoDICE: Instrument designed to measure the mass and electric charge of ions originating from both interstellar space and the solar wind



HIT: Particle telescope studying high-energy ions that come from the solar wind and deep space



SWE: Instrument used to measure electrons found in the solar wind



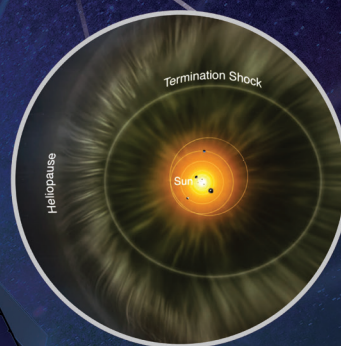
MAG: Magnetometer that will measure the interplanetary magnetic field that originates from the Sun

Space Weather IMAP Active Link for Real Time (I-ALIRT)

HELIOSPHERE

The Sun releases streams of charged particles that blow a magnetic bubble around our solar system. This bubble, called the heliosphere, dramatically reduces the amount of dangerous radiation able to enter our solar system—radiation that can endanger both astronauts and important infrastructure in space. **IMAP maps the heliosphere's boundary by collecting solar particles that have traveled from the Sun out to the heliosphere's edge, where they become neutral, allowing them to travel back in toward IMAP.**

Image of the heliosphere with termination shock, heliopause, Sun, and planet orbits



RIBBON MAP AND ENAS

IMAP collects energetic neutral atoms (ENAs) that come from the boundary regions of our heliosphere. An earlier NASA mission, the Interstellar Boundary Explorer (IBEX), found a high concentration of these ENAs coming from a "ribbon" shaped region at the heliosphere's edge. IMAP's instruments will collect ENAs over a larger energy range and more frequently than IBEX, helping scientists better map the ribbon.

DUST AND INTERSTELLAR NEUTRALS

IMAP collects dust and interstellar neutral atoms originating from outside our solar system to help us understand other stars, and the local neighborhood beyond our cosmic shield.

SOLAR PARTICLES AND SPACE WEATHER

IMAP instruments monitor and measure charged particles coming from the Sun, as well as other energetic charged particles created throughout the heliosphere. These data, along with magnetic field information, provide a way to continually monitor space weather to protect astronauts, spacecraft, and critical satellite infrastructure.

WHAT IS HELIOPHYSICS?

Heliophysics is the study of the Sun—reflected in IMAP's solar panels—and how it influences planets, the very nature of space, and our technology.

- It is positioned at the Earth-Sun Lagrange Point 1 (L1).
- It uses 10 instruments to study solar wind, energetic particles, magnetic fields, and cosmic remnants.

Features and Objectives

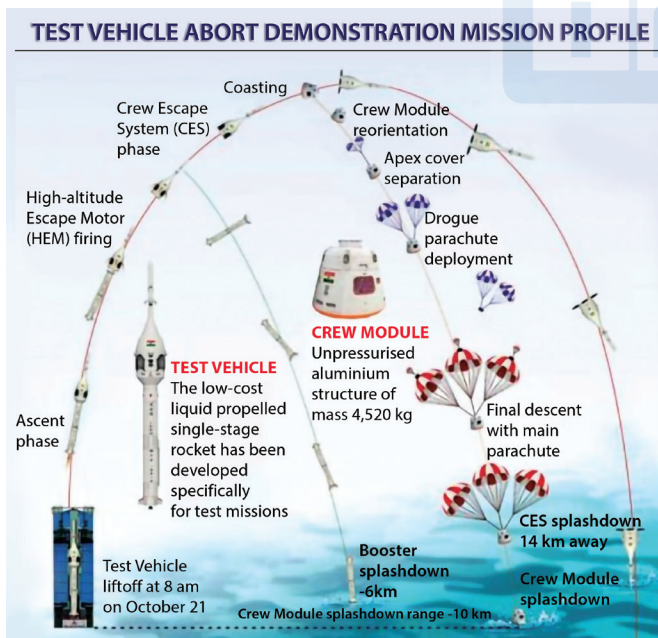
- It aims to uncover how solar particles are energized and how the heliosphere shields Earth from galactic radiation.
- It also provides real-time space weather data to protect astronauts and technology, while advancing our understanding of cosmic materials and the habitability of planetary systems.

CREW ESCAPE SYSTEM

The Gaganyaan mission uses a Crew Escape System (CES) integrated with the LVM3 rocket to swiftly separate and safeguard astronauts in case of any launch or ascent emergency.

About

- The Crew Escape System is a **specialised safety mechanism** designed to quickly **separate the crew module from the launch vehicle** during emergencies in the atmospheric phase of flight.
- It uses powerful, **quick-acting motors** that create enough thrust to pull the crew module away from the launch vehicle within seconds.
- Once separated, the crew module is guided to a **safe distance and then slowed down using multiple parachutes**, allowing for a safe splashdown in the sea.



Decision System for CES Activation

- The decision to activate the CES in the Gaganyaan mission is managed by ISRO's **Integrated Vehicle Health Management System (IVHM)**.

- It continuously monitors rocket systems, engine health, and crew conditions through sensors and onboard computers.
- If a fault is detected, it automatically triggers the CES within milliseconds to ensure the astronauts' safety.

Types of Crew Escape Systems

- **Puller-Type CES:** It is used in **Gaganyaan, Soyuz (Russia), Saturn V (USA), and Long March (China)** missions. The CES pulls the crew module away from the rocket using escape motors.
 - ♦ **Advantage:** Simple and reliable, particularly for solid-propellant rockets.
- **Pusher-Type CES:** It is used in **SpaceX's Falcon 9**. The module is pushed away using compact, high-thrust liquid-fuel engines.
 - ♦ **Advantage:** Can be reused and integrated within the spacecraft design.

NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE 2025

The Nobel Prize in medicine or physiology was announced for three scientists, for their discoveries on peripheral immune tolerance. The three scientists **Mary Brunkow, Fred Ramsdell and Shimon Sakaguchi** shared the Nobel Prize in Physiology or Medicine.

Human Immune System

- The **immune system** protects the body from pathogens such as bacteria, viruses, fungi, and parasites.
 - ♦ It consists of organs, cells, and molecules that work together to recognize and eliminate harmful substances.
- **Major Components of the Immune System:**
 - ♦ **Organs:** Bone marrow, thymus, spleen, lymph nodes, tonsils.
 - ♦ **Cells:** White blood cells (leukocytes) — lymphocytes, macrophages, neutrophils, etc.
 - ♦ **Molecules:** Antibodies, cytokines, complement proteins.
- These have a role in **identifying and eliminating foreign bodies** that may bring with it disease.
 - ♦ However the immune system also identifies cells that have gone rogue – such as in cancerous tumours – or that have mutated in a way that they harm the bodies they constitute.
 - ♦ Telling apart benign cells from harmful invaders is the key challenge the immune system must negotiate.

What are B and T-Cells?

- **B-cells and T-cells** are a specific type of white blood cell called **lymphocytes**.
- They **help the immune system** to fight germs and protect from disease.
- **Types of T cells:**
 - ♦ **Cytotoxic T-cells:** They kill cells infected with viruses and bacteria, and they also destroy tumor cells.

- ♦ **Helper T-cells:** They send signals that direct other immune cells to fight infection.
- ♦ **Regulatory T-cells (Tregs):** These cells suppress excessive immune responses to prevent autoimmune reactions and maintain immune tolerance.
 - ♦ They play a crucial role in preventing the immune system from attacking the body's own cells and tissues.
- ➔ **T-cells** start in bone marrow, mature in thymus and eventually relocate to lymph tissue or bloodstream.
- ➔ **B-cells** make antibodies in response to antigens (antibody generators).
 - ♦ **There are two main types of B-cells:** plasma cells and memory cells. Both types help to protect from infection and disease.

Nobel Prize

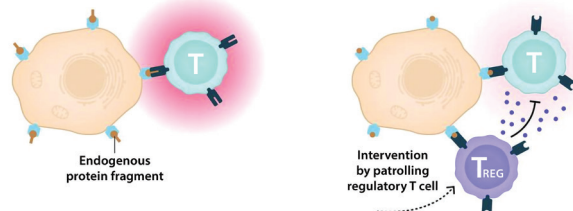
- ➔ Since 1901, the Nobel Prize has been awarded in the fields of **physics, chemistry, physiology or medicine, literature and peace**, while a memorial prize in economic sciences was added in 1968.
 - ♦ In 1895 **Alfred Nobel** gave the largest share of his fortune to a series of the Nobel Prizes.
- ➔ From Stockholm, the **Royal Swedish Academy of Sciences** confers the prizes **for physics, chemistry, and economics**, the **Karolinska Institute** confers the prize **for physiology or medicine**, and the **Swedish Academy** confers the prize **for literature**.
- ➔ The **Norwegian Nobel Committee** based in Oslo confers the **prize for peace**.
- ➔ The Nobel Peace Prize is awarded in Oslo (Norway), while all **other prizes are awarded in Stockholm (Sweden)**.
- ➔ The **Nobel Foundation** is the **legal owner and functional administrator** of the funds and serves as the joint administrative body of the prize-awarding institutions.
 - ♦ It is **not concerned with the prize deliberations or decisions**, which rest exclusively with the four institutions.
- ➔ **Process of Selection:**
 - ♦ Nominations are invited from qualified individuals (scientists, professors, former laureates, etc.).
 - ♦ Selection Committees review and recommend the winners.
 - ♦ The final decision is made by the respective Nobel institutions.

Discovery

- ➔ The laureates identified the **immune system's security guards, regulatory T cells**, which prevent immune cells from attacking our own body.
- ➔ Their discoveries have been decisive for our understanding of how the immune system functions and why we do not all develop serious autoimmune diseases.

HOW REGULATORY T CELLS PROTECT US

- 1 A T cell that has slipped through the test in the thymus reacts to a fragment from one of the body's proteins.
- 2 Regulatory T cells discover that the attack is a mistake and calm it down. This prevents autoimmune diseases.



Significance

- ➔ The laureates' discoveries launched the **field of peripheral tolerance**, spurring the development of medical treatments for cancer and autoimmune diseases.
- ➔ Once the function of these new T-cells were known, researchers realised that **some tumours can attract a large number of these regulatory T cells**, thereby protecting it from the other T cells.
- ➔ The discovery of Regulatory T-cells **revolutionized immunology** by revealing that the immune system is not only attack-oriented but **also self-regulating**.
- ➔ It has major implications for **treating autoimmunity, cancer, transplantation, and chronic inflammation**.

2025 NOBEL PRIZE IN PHYSICS

John Clarke, Michel Devoret and John Martinis will share the 2025 Nobel Prize in physics for their discovery of a phenomenon called quantum mechanical tunneling in an electrical circuit.

About

- ➔ They showed that the **process of tunneling** can occur not only in subatomic particles **but also in an electrical circuit made of superconductors**.

Quantum magnified

Nobel for quantum behaviour scaled up



JOHN CLARKE



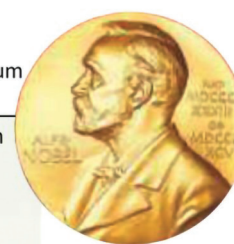
MICHEL H. DEVORET



JOHN M. MARTINIS

- The laureates proved that entire electrical circuits can obey quantum mechanical laws

- They used Josephson junctions to observe tunnelling and energy quantisation in superconducting circuits



- Their findings underpin superconducting qubits, quantum sensors, and precision measurement technologies

- ➔ **Tunneling** literally is the ability of particles to pass through physical walls.

- Such strange behaviour **cannot be observed at the macroscopic level** but these scientists showed that it was possible to **organise a multitude of single particles** and coerce them to **exhibit “tunnelling” properties**.

Additional Information

- **Quantum mechanics** was first formally described by German physicist **Werner Heisenberg** in 1925.
- **One-hundred years** later the **United Nations declared 2025** the **international year of quantum science and technology** to celebrate the centenary of the breakthrough.
- **Quantum technology** is a rapidly advancing field that leverages the **principles of quantum mechanics** to develop new technologies with unprecedented capabilities.
 - ◆ **Quantum mechanics** is the branch of physics that studies the **behavior of particles at the quantum level**, where classical physics no longer applies.

How was it Done?

- A **Josephson junction** is a device made of two superconductors separated by a very thin insulating barrier.
 - ◆ It allows **Cooper pairs** (pairs of electrons in a superconductor) to **tunnel through the insulator without resistance**, even though it is classically forbidden — this is known as the **Josephson effect**.
- **Quantum Tunnelling**: When the current was below a critical value, electrons were trapped (no voltage).
 - ◆ Classically, this state should persist indefinitely, but quantum mechanics allows tunnelling — **electron pairs “escape” through the barrier, producing a small voltage**.



1. In a normal conductor, the electrons jostle with each other and with the material.



2. When a material becomes a superconductor, the electrons join up as pairs, Cooper pairs, and form a current where there is no resistance. The gap in the illustration marks the Josephson junction.



3. Cooper pairs can behave as if they were all a single particle that fills the entire electrical circuit. Quantum mechanics describes this collective state using a shared wave function. The properties of this wave function play the leading role in the laureates' experiment.

Applications of Josephson Junctions and Related Work

- **Quantum Computing**: Josephson junctions form the basis of superconducting qubits, which use quantised energy levels for computation.
 - ◆ The field of **Circuit Quantum Electrodynamics (cQED)** — coupling superconducting circuits with microwave resonators arises from this work.

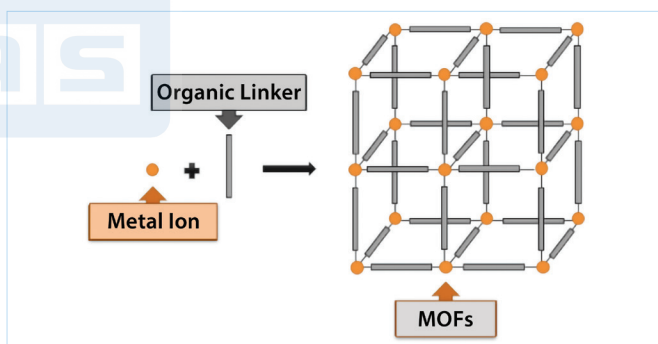
- **Precision Measurements**: Used in Josephson voltage standards for precise definition of the volt.
 - ◆ **SQUIDs** (Superconducting Quantum Interference Devices) use Josephson junctions to detect extremely weak magnetic fields.
- **Quantum Technologies**:
 - ◆ **Quantum amplifiers**: Boost weak signals with minimal noise.
 - ◆ **Microwave-to-optical converters**: Interface between quantum processors and optical networks.
 - ◆ **Quantum simulators**: Model complex materials and reactions.

NOBEL PRIZE IN CHEMISTRY 2025

Susumu Kitagawa, Richard Robson and Omar Yaghi are awarded the Nobel Prize in Chemistry 2025.

About

- It was awarded for discovering and creating a class of materials, called **Metal-Organic Frameworks (MOF)**.
- **Metal Organic Frameworks**: MOFs are **crystalline structures** in which metal ions serve as **nodes** and organic molecules as **connectors**.
 - ◆ The resulting structure can have **enormous internal surface areas** — thousands of square metres per gram — and their pores can be **customised to attract or hold specific molecules**.



- **MOFs form a three-dimensional network with large, porous cavities**; this design allows gases and liquids to flow through, making MOFs highly adaptable for various applications.
 - ◆ By carefully choosing the building blocks, researchers can control the size and **shape of the cavities and the chemical environment within**.
 - ◆ As a result, MOFs are among the **most versatile materials ever created**.

The Unique Properties of MOFs have led to their Application in Various Fields

- **Water harvesting**: MOFs can extract water from dry air, offering a potential solution for water-scarce regions.
- **Pollutant Removal**: They can filter out harmful substances like PFAS from water, addressing environmental contamination.

- **Carbon capture:** MOFs are effective in capturing carbon dioxide, aiding in efforts to mitigate climate change.
- **Hydrogen storage:** Their porous nature allows for the safe storage of hydrogen, crucial for clean energy applications.

PRUSSIAN BLUE CAPSULES

India has gifted critical Prussian Blue Capsules to Indonesia to mitigate the effects of Cesium-137 contamination.

About

- **Usage:** Prussian Blue Capsules are a specialised medication used primarily to treat internal contamination with radioactive cesium or thallium, as well as non-radioactive thallium poisoning.
- **Mechanism:** The capsules work by trapping these toxic substances in the intestines, preventing their absorption into the body, and facilitating their removal through bowel movements.

Cesium-137 Contamination in Indonesia

- **Contamination Found:** The U.S. Food and Drug Administration (FDA) detected Cesium-137 in Indonesian **shrimp and cloves** exported to the U.S., leading to product recalls and export restrictions.
- **Source Identified:** Subsequent investigations in Indonesia identified the contamination source as an **industrial area near Jakarta** and a **clove processing farm on Sumatra Island**.
- **Health risks:** Cesium-137 is a radioactive isotope from nuclear fission that poses a health risk through long-term exposure, increasing cancer risk.
- **India's response:** Following a request from Indonesia, India provided Prussian Blue capsules to help mitigate the health risks of internal contamination.

GOOGLE'S DATA CENTRE INVESTMENT IN INDIA

Google has announced a historic investment of USD 15 billion (Rs. 87,520 crore) to build its largest-ever AI hub in Visakhapatnam, Andhra Pradesh.

Key Features of the Google AI Hub

- **Purpose-built Data Centre Campus:** The hub will integrate advanced AI infrastructure, large-scale data centre capacity, renewable energy sources, and a high-speed fibre-optic network, all located in one campus.
- **International Subsea Gateway:** Construction of new international subsea cables landing at Visakhapatnam on India's eastern coast, enhancing global digital connectivity and internet speed.

AI-Powered Data Centres in India

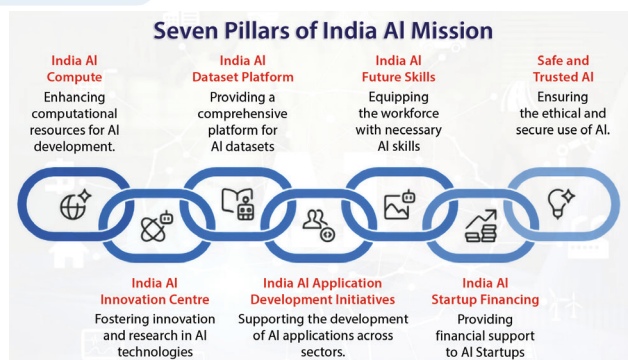
- Data centres are specialized facilities that house computing infrastructure — servers, storage systems, and networking equipment — to store, process, and manage digital data.
 - ♦ They are the backbone of cloud computing, AI, e-Governance, and digital services.
- **AI-Powered Data Centres** require **high-performance computing (HPC)** with GPU clusters; **low-latency data access** for **real-time decision-making**, and massive parallel processing to train **large language models (LLMs)** and generative AI systems.
- India's data centre market is **projected to attract \$100 billion in investments by 2027**, growing at a **CAGR of 24.68%**, driven by AI adoption and digital transformation.

Strategic and Economic Impact

- This would position Visakhapatnam as a global technology and AI powerhouse, supporting India's surge in digital infrastructure and AI capabilities.
- The hub will enhance India's capacity for next-generation AI applications, cloud computing, and data-intensive services, forming a critical node in Google's worldwide AI infrastructure network that spans 12 countries.

Government Push and Policy Support

- **IndiaAI Mission (2024):** It aims to establish public AI compute infrastructure with 10,000+ GPUs; develop indigenous foundational models; and fund AI startups from idea to commercialization.
 - ♦ The govt. aims to **set up 500 data labs** under the **IndiaAI Mission** to support AI research and model development.



- **National Informatics Centre (NIC):** It has established state-of-the-art National Data Centres in Delhi, Pune, Hyderabad, and Bhubaneswar, along with 37 smaller centres across state capitals. These centres support:
 - ♦ E-Governance platforms;
 - ♦ Digital services for ministries and departments;
 - ♦ Secure hosting for government applications;
- **National Program on Artificial Intelligence (MeitY):** It promotes AI ethics and governance; skilling and research; and creation of a National Centre for AI.

TIME RONDEAU CRYSTAL

An international team of scientists has discovered a new phase of matter called the Time Rondeau Crystal (TRC), a state where order and disorder coexist in time.

What is Order in Matter?

- ➔ All forms of matter have a specific arrangement of their particles.
 - ♦ In a **solid crystal** such as salt or diamond, atoms are arranged in a regular and repeating pattern, which represents **order in space**.
 - ♦ In contrast, in a **liquid**, atoms move freely and lack any fixed arrangement, representing **disorder**.
- ➔ In **2012**, scientists proposed that if matter can exhibit order in space, it might also show order in time. This led to the prediction of a new phase of matter called a **time crystal**.

About Time Crystal

- ➔ A **time crystal** is a system that repeats its **motion or behaviour at fixed time intervals**.
 - ♦ **Example:** Imagine pushing a swing at equal intervals. Normally, the swing moves in rhythm with each push.
 - ♦ However, in a time crystal, the **motion would repeat only after every two pushes instead of one**, forming a regular cycle in time.

Time Rondeau Crystal (TRC)

- ➔ A Time Rondeau Crystal (TRC) is a **new phase of matter** discovered recently.
- ➔ **Differences:** It is **similar to a time crystal**, but with a special difference:
 - ♦ It shows **both order and randomness in time**.
 - ♦ The system repeats its pattern after some time (order), but between these repetitions, its **behavior is irregular** (disorder).
- ➔ **Creation:** Scientists created the TRC by using **carbon-13 atoms in a diamond** and controlling their spins with **microwave pulses**.
- ➔ **Observation:** The pulses were not given at fixed intervals, there was some **randomness**, but still, the system showed regular patterns over longer periods.

Potential Applications

- ➔ **Quantum Technology:** It can help design new types of quantum sensors that detect specific time patterns.
- ➔ **Information Storage:** Data can be stored in the timing of TRC's repeating patterns.
- ➔ **Scientific Research:** Helps scientists understand how order can exist even within disorder, opening new ways to study materials.

ROTAVIRUS VACCINE EFFECTIVE AGAINST GASTROENTERITIS IN CHILDREN

According to a recent study, India's indigenous rotavirus vaccine, Rotavac, has significantly reduced rotavirus-related gastroenteritis cases among children since its introduction in the Universal Immunisation Programme (UIP).

About Rotavac

- ➔ **Introduction:** India introduced Rotavac, an **indigenous oral rotavirus vaccine**, in 2016 under the **Universal Immunisation Programme**, administered at 6, 10, and 14 weeks of age.
- ➔ **Accessibility:** As part of UIP, the vaccine is provided free of cost to all eligible beneficiaries.

Rotavirus

- ➔ Rotavirus is a highly contagious **double-stranded RNA virus** that infects and damages the cells lining the small intestine.
- ➔ It is a **leading cause of severe diarrhoea (gastroenteritis)** in infants and young children worldwide.
- ➔ **Transmission:** Primarily through the faecal-oral route (contaminated food, water, or surfaces).

Universal Immunisation Programme

- ➔ UIP is a public health initiative that provides free vaccines against 12 vaccine-preventable diseases to newborns and pregnant women.
- ➔ **Nationally Against 9 Diseases:** Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, severe form of Childhood Tuberculosis, Hepatitis B and Meningitis & Pneumonia caused by Haemophilus Influenzae type B.
- ➔ **Sub-nationally Against 3 Diseases:** Rotavirus diarrhoea, Pneumococcal Pneumonia and Japanese Encephalitis.

IMPACT OF A CORONAL MASS EJECTION ON THE LUNAR EXOSPHERE

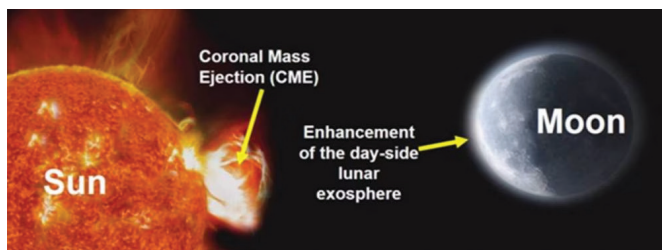
The Chandrayaan-2 mission has made the first-ever observation of the effects of the Sun's Coronal Mass Ejection (CME) on the Moon using its onboard scientific instruments.

About the Observation

- ➔ The finding was made by **Chandra's Atmospheric Composition Explorer-2 (CHACE-2)**, a payload onboard Chandrayaan-2's orbiter.
- ➔ CHACE-2 recorded a **sharp rise in total pressure and molecular density** in the Moon's sunlit exosphere.

Coronal Mass Ejection (CME)

- ➔ **CMEs** are the events when the Sun ejects significant quantities of its building material, comprising mostly **Helium and Hydrogen ions**.



Composition of Lunar Exosphere

- **Nature:** Moon's Atmosphere is **extremely thin**, classified as an **exosphere**, implying that the gas atoms and molecules in the lunar environment rarely interact despite their coexistence.
- **Surface Boundary Exosphere:** The boundary of the exosphere is the surface of the Moon, and hence the Moon's exosphere falls under the category of 'surface boundary exosphere'.
- The lunar exosphere is **formed by processes** such as:
 - ♦ Solar radiation,
 - ♦ Solar wind (ions of hydrogen, helium, and trace heavier elements), and
 - ♦ Meteorite impacts that release surface atoms into space.
- Unlike Earth, the **Moon lacks a magnetic field**, making it directly exposed to CMEs.

Chandrayaan-2

- Chandrayaan-2 was India's **second lunar mission**, launched by the Indian Space Research Organisation (ISRO) in **2019**, using the **GSLV-MkIII-M1 rocket**.
- It **comprises** an orbiter, lander (Vikram), and rover (Pragyan).
- **CHACE-2 Payload Objective:** To study the composition, distribution, and variability of the lunar neutral exosphere.

Significance of the Observation

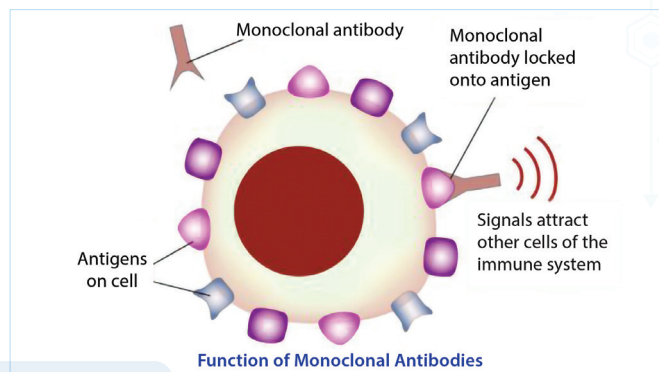
- It provides valuable **insight into lunar exospheric dynamics and space weather** effects on airless celestial bodies.
- Enhances understanding of **Sun-Moon interactions**, contributing to better space weather prediction models.
- Provides critical knowledge for **future lunar missions and habitats**, especially for human presence on the Moon by 2040.
- Reinforces India's growing capability in **planetary science and space environment monitoring**.

NEW MONOCLONAL ANTIBODY SHOWS EARLY PROMISE AGAINST MALARIA

A novel monoclonal antibody (mAb) named **MAM01**, has demonstrated strong, dose-dependent protection against malaria in an early clinical trial.

What are Monoclonal Antibodies (mAbs)?

- Monoclonal antibodies are lab-engineered proteins designed to **target specific antigens** (foreign substances like viruses, bacteria, or cancer cells).
- They are derived from a single clone of a **B-cell** and hence are **identical in structure and specificity**.
- mAbs mimic the natural immune response but are **highly specific**, making them powerful tools in treating diseases.



- **Target Protein:** MAM01 targets a highly conserved region of the **Plasmodium falciparum circumsporozoite protein (CSP)**, which enables it to block infection before the malaria parasite reaches the bloodstream.

Malaria

- **Malaria** is a life-threatening disease caused by **Plasmodium protozoa**. It spread to humans by some types of mosquitoes.
- **Distribution:** It is mostly found in tropical countries.
- **Transmission:** The Plasmodium parasites spread through the bites of infected **female Anopheles mosquitoes**.
 - ♦ **Blood transfusion and contaminated needles** may also transmit malaria.
- **Types of parasites:** There are 5 Plasmodium parasite species that cause malaria in humans, and 2 of these species – **P. falciparum** and **P. vivax** – pose the greatest threat.
- The other malaria species that can infect humans are **P. malariae**, **P. ovale** and **P. knowlesi**.
 - ♦ **P. falciparum** is the **deadliest malaria parasite** and the most prevalent on the African continent.
 - ♦ **P. vivax** is the dominant and most common malaria parasite in most countries outside of sub-Saharan Africa.
- **Symptoms:** Fever and flu-like illness, including chills, headache, muscle ache and fatigue.

SCIENTISTS USE 'ATOMIC STENCILS' TO MAKE DESIGNER NANOPARTICLES

Researchers have developed a method to precisely create patchy nanoparticles with atomic-level control called atomic stencilling.

About

- **Atomic Stencilling** allows scientists to selectively “paint” polymers onto gold nanoparticles to form distinct surface patterns.

Nanoparticles

- **Nanoparticles** are tiny particles, serving as the **building blocks** for revolutionary technologies in medicine, electronics, and energy.
 - ◆ However, to create truly complex and functional materials, **scientists need nanoparticles with different surface domains** that can guide how they connect together and organise particular patterns.
 - ◆ Creating these patchy nanoparticles with precision and in large quantities has been a major hurdle.
- **Uniqueness:** Using the stencilling technique, the team successfully **created more than 20 types of patchy nanoparticles with unique patterns**.

Significance

- **New Materials:** This new level of control over nanoparticle design is a crucial step toward creating **metamaterials**, which are engineered materials with unique properties not found in nature, such as the ability to **manipulate light and sound** in new ways.
- **Varied Applications:** The applications are vast, potentially leading to advances in targeted **drug delivery, ultra-efficient catalysts, next-generation electronics**, and new classes of smart materials.

QUANTUM ECHOES ALGORITHM

Google claims its quantum processor “Willow” has achieved the first **verifiable quantum advantage—performing a task practically impossible for classical computers**.

About

- Willow ran the **Quantum Echoes algorithm** 13,000x faster than the best classical supercomputers.
- **Quantum Echoes:** It is a special algorithm developed to study how information spreads and scrambles in a quantum system.
- It helps scientists “unscramble” information in chaotic quantum systems to understand the **underlying rules (the Hamiltonian)**.

Significance

- **Faster:** Google’s Willow quantum processor ran a task 13,000 times faster than the world’s fastest classical supercomputer.
 - ◆ **Classical simulation** would take over 3 years; Willow did it in hours.
- **Importance:** Helps understand **complex quantum systems**, study new materials, and possibly discover drugs.

- **Understand Real world:** A big step toward **practical quantum computing** and real-world applications.

Willow

- Willow is a **superconducting quantum processor** developed by Google.
- It uses **quantum bits (qubits)** instead of classical bits to perform computations.
- **Key Features:**
 - ◆ Can create **entanglement and quantum interference** between qubits.
 - ◆ Designed to handle complex quantum calculations that classical computers struggle with.
 - ◆ Used in experiments like the Quantum Echoes algorithm to study quantum chaos.

Interference, Entanglement and Superposition

- **Interference:** The wave-like behavior of quantum particles, where different probability states can interfere with each other.
- **Entanglement:** A phenomenon where two or more quantum particles become linked in such a way that their states are correlated, even when separated by vast distances.
- **Superposition:** The ability of a quantum system to exist in multiple states at the same time until it is measured.

THE TELECOMMUNICATIONS (TELECOM CYBER SECURITY) AMENDMENT RULES, 2025

The Telecommunications (Telecom Cyber Security) Amendment Rules, 2025, were notified by the Department of Telecommunications.

Key Amendments

- **TIUEs:** The rules create a new category called **Telecommunication Identifier User Entities (TIUEs)**, covering any business that uses phone numbers to identify customers or deliver services — except licensed telecom operators.
 - ◆ TIUEs must now comply with government directives on suspending phone numbers, respond to data requests and verify customer identities as prescribed by authorities.
- **Broad Scope:** The government has brought all **digital services** that use mobile numbers — from WhatsApp and payment apps to food delivery platforms — under telecom cybersecurity regulations.
 - ◆ This brings platforms such as **Zomato, Swiggy, PhonePe, Paytm, Ola, Uber and messaging services** under the same regulatory framework that governs Airtel and Jio.
- **Mobile Number Verification (MNV) System:** It established a government-run MNV system and mandated database checks before buying or selling used phones.
 - ◆ It will verify whether phone numbers provided by users correspond to legitimate telecom subscribers.

- **Immediate Action:** The rules allow authorities to act immediately without prior notice if deemed necessary for “public interest”.
- **Suspension of Accounts:** The rules empower authorities to order immediate suspension of user accounts across multiple services simultaneously. It can order both telecom operators and apps to suspend its use.
- **Used Phone Sales Require Checks:** Anyone buying or selling a used mobile phone must now verify its **International Mobile Equipment Identity (IMEI)** number against a government database before completing the transaction.
 - ♦ The database will **list IMEI numbers** of devices that have been tampered with, reported stolen, or restricted for fraud or security reasons.
 - ♦ Selling or purchasing devices with blacklisted IMEIs will be prohibited.
- **Government verification gateway:** Apps and services can request validation through this government platform, either **voluntarily or when directed** by authorities. Government agencies will have assured access.
 - ♦ The system will check user-provided numbers against databases maintained by telecom operators like Airtel, Jio and Vi.

MAHA MEDTECH MISSION

Anusandhan National Research Foundation (ANRF), in collaboration with the Indian Council of Medical Research (ICMR) and the Gates Foundation, has launched the Mission for Advancement in High-Impact Areas (MAHA)-Medical Technology.

About

- **Areas Covered:** It will provide funding support to a wide range of entities, including Academic and R&D institutions, Hospitals, Startups, MSMEs, MedTech industry and collaborations between entities.
- **Solution Driven:** It will support projects that bring impactful MedTech solutions to market.
- **Access and Affordability:** It aims to accelerate innovation in **India's medical technology sector**, reduce reliance on high-cost imports, and promote equitable access to affordable and high-quality medical technologies.

India's MedTech Sector

- **Huge Potential:** India's MedTech sector is a fast-growing “sunrise” industry poised to expand from roughly **USD 11–14 billion today toward USD 30–50 billion by 2030**.
- India is the **4th largest medical devices market** in Asia, after Japan, China, and South Korea.
- **Supporting Programmes:** Government Initiatives & Policies opted recently are PLI Scheme for Medical Devices (2020), PRIIP Scheme (2023), & National Medical Device Policy (2023) & Medical Device Parks etc.

UNITED NATIONS CONVENTION AGAINST CYBERCRIME

72 nations have signed a landmark United Nations Convention against Cybercrime treaty in Hanoi aimed at tackling cybercrime.

About

- **Aim:** It proposes a legislative framework to **boost international cooperation** among law enforcement agencies and offer technical assistance to countries that lack adequate infrastructure for combating cybercrime.
- **First Universal Convention:** The Convention against Cybercrime establishes the first **universal framework for investigating and prosecuting offences** committed online – from ransomware and financial fraud to the non-consensual sharing of intimate images.
- **Adoption:** It was adopted by the **General Assembly in 2024** after five years of negotiation. The signing process is expected to remain open till next year.
- **Legally Binding:** The UN Cybercrime Convention is a powerful, **legally binding instrument** to strengthen the collective defences against cybercrime.
- **Key Provisions:** It **criminalises** the following types of crimes:
 - ♦ **Cyber-dependent crimes:** Unauthorized access (hacking), data interference.
 - ♦ **Cyber-enabled crimes:** Online fraud, non-consensual dissemination of intimate images.
 - ♦ **Child exploitation:** Online sexual abuse, distribution of abuse material, solicitation/grooming.
 - ♦ **Collective Approach:** It facilitates the sharing of electronic evidence across borders and establishes a 24/7 cooperation network among States.
 - ♦ **Recognition:** It also makes history as the **first international treaty to recognise the non-consensual dissemination of intimate images** as an offence – a significant victory for victims of online abuse.
- **Enforcement:** It will enter into force **90 days** after the 40th State deposits its ratification.
- **Conference of the States Parties:** After entry into force, a Conference of the States Parties will convene periodically to improve the capacity of and cooperation between States Parties.
- **Secretariat:** The **United Nations Office on Drugs and Crime** serves as the secretariat to the Ad Hoc Committee and to the future Conference of the States Parties.

Significance

- **Combating Cybercrimes:** Global cybercrime costs are projected to reach \$10.5 trillion annually by 2025. The treaty will be instrumental in combating cybercrime.
- **Reshape Strategies:** The new convention is expected to reshape how countries tackle cybercrime at a time when digital threats are rising sharply.

- **Opportunity for Global South:** For many governments, particularly in the Global South, the treaty represents an opportunity to access training, technical assistance and real-time cooperation channels.
- **Capacity Building:** It reinforces international solidarity through capacity-building and cooperation.

India's Position

- **Yet Not Signed:** India has not yet signed the UN Convention Against Cybercrime due to concerns over **data sovereignty, privacy,** and potential conflicts with India's own **Supreme Court rulings in the Puttaswamy case** on data protection.
- **continuity is Stance:** The country's stance is consistent with its past refusal to sign the **Europe-led Budapest Convention** and stems from a desire for greater control over data transfer and a preference for a framework that better aligns with its national interests and legal standards.

Other Major International Conventions on Cyber Crimes

- **Budapest Convention on Cybercrime (Council of Europe Convention on Cybercrime):** It is the **first** international treaty specifically addressing crimes committed via the internet and other computer networks.
 - ♦ It includes provisions on offences such as illegal access, data interference, system interference, and content-related crimes.
- **Internet Governance Forum (IGF):** The United Nations IGF serves to bring people together from various stakeholder groups, as equals, in discussions on digital public policy.
- **African Union Convention on Cyber Security and Personal Data Protection (Malabo Convention):** This convention focuses on cybersecurity and personal data protection on the African continent.
 - ♦ It outlines principles for preventing cyber threats, protecting critical information infrastructure, and facilitating international cooperation.

RASHTRIYA VIGYAN PURASKAR 2025

The Government of India (GoI) has announced the full list of winners of Rashtriya Vigyan Puraskar 2025.

Rashtriya Vigyan Puraskar

- **Aim:** To celebrate outstanding contributions by scientists, technologists, and innovators in diverse fields of science, technology, and technology-led innovation.
- The award is organized and presented by the **Ministry of Science and Technology.**
- **The Rashtriya Vigyan Puraskar is conferred under four categories:**
 - ♦ **Vigyan Ratna (VR):** This award will recognise lifetime achievements and contributions made in any field of science and technology.

- ♦ **Vigyan Shri (VS):** This award will recognise distinguished contributions in any field of science and technology.
- ♦ **Vigyan Yuva-Shanti Swarup Bhatnagar (VY-SSB):** This award will recognise and encourage young scientists up to the age of 45 years who have made an exceptional contribution in any field of science and technology.
- ♦ **Vigyan Team (VT) award:** It is to be given to a team comprising three or more scientists/ researchers/ innovators who have made an exceptional contribution working in a team in any field of science and technology.
- **Awards are conferred across 13 domains:** Physics, Chemistry, Biological Sciences, Mathematics & Computer Science, Earth Science, Medicine, Engineering Sciences, Agricultural Science, Environmental Science, Technology & Innovation, Atomic Energy, Space Science and Technology, and other allied fields.

DIGITAL ARREST

President Droupadi Murmu said that “digital arrests” had become one of the most dreaded threats faced by citizens today.

About

- **Digital Arrest:** It refers to a cyber scam where fraudsters use fake video calls, forged IDs, and **official-looking websites** to falsely accuse individuals of crimes and coerce them into paying money.

India's Fight Against Cyber Crime and Digital Arrest

- In response to the growing menace of cybercrime, the Indian government has ramped up efforts to combat digital fraud. Key initiatives include:
- **Indian Cyber Crime Coordination Centre (I4C):** Established by the Ministry of Home Affairs, this centre coordinates national efforts to combat cybercrime and provide cybercrime prevention resources.
- **National Cyber Crime Reporting Portal:** A dedicated portal allows the public to report cybercrimes, with a focus on cases **involving women and children**, enabling swift action by law enforcement.
- **Financial Cyber Fraud Reporting System:** Launched in 2021, this platform has successfully **saved over ₹3431 Crore across 9.94 lakh complaints** by allowing immediate reporting of financial frauds.
- **Cyber Forensic Labs:** The **National Cyber Forensic Laboratory in Delhi and the Evidence Lab in Hyderabad** have significantly improved the ability of police to manage and analyze digital evidence.
- **Training through CyTrain:** I4C's online platform **trains law enforcement and judicial officers** on investigating and prosecuting cybercrime, with over 98,000 police officers trained so far.

➤ **Public Awareness Campaigns:** The government has implemented awareness campaigns through **SMS, social media, Cyber Dost, SancharSathi portal and app**, and even digital displays in public spaces like metro stations and airports, promoting cyber safety and security.

➤ **Importance:** This innovative step is expected to **reduce dependence on imported natural gas and crude oil** while unlocking new avenues for investment.

➤ **Aim:** India aims for **100 million tonnes (MT)** of coal gasification by **2030** with investments worth over Rs. 4 lakh crores.

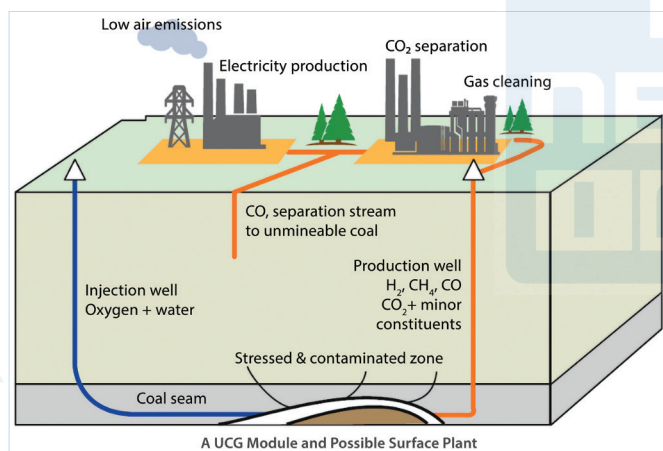
14TH ROUND OF COMMERCIAL COAL MINE AUCTIONS

The Ministry of Coal is gearing up to launch the 14th Round of Commercial Coal Mine Auctions. For the first time, the Ministry is introducing provisions for Underground Coal Gasification (UCG) within the auction framework.

Underground Coal Gasification (UCG)

➤ **Mechanism:** UCG is a process that **converts coal into a combustible gas called syngas** while it is still in the ground, rather than through conventional mining.

➤ **Syngas:** It is a mixture consisting primarily of **methane (CH₄), carbon monoxide (CO), hydrogen (H₂), carbon dioxide (CO₂) and water vapour (H₂O)**.



➤ **Untapped Resources:** It represents a **strategic initiative to harness India's deep-seated coal reserves**—resources that are otherwise unmineable through conventional methods.

DELHI DECLARATION ON 6G

Recently, the leading global 6G research alliance including Bharat 6G, 6G-IA, ATIS' Next G Alliance issued a Joint Declaration to develop 6G as a global public good at the International Bharat6G Symposium 2025 in New Delhi.

About

➤ **Human-Centric and Secure Networks:** The Declaration commits that future 6G networks must be **trusted, secure, resilient, open, inclusive, and affordable**, ensuring technology works for people rather than the other way around.

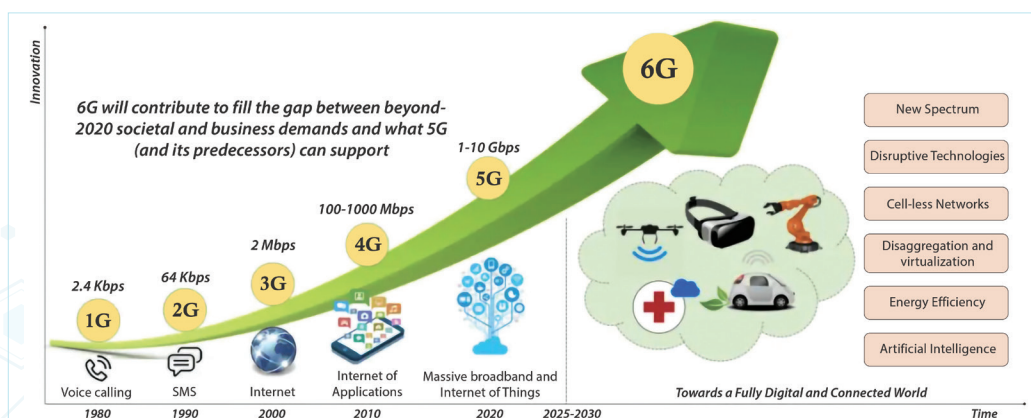
➤ **Global Research & Standards Collaboration:** Major global alliances — including India's **Bharat 6G Alliance** along with partner groups from the EU, US, UK, Korea, Finland, and Brazil — agreed to coordinate on **joint R&D, interoperable standards, and shared testbeds**.

➤ **Alignment with India's Bharat 6G Vision:** The Declaration advances India's goal to become a **leading contributor to 6G technologies by 2030**, with a strong role in **standard-setting bodies** like ITU and 3GPP.

➤ **Focus on Digital Inclusion & Affordability:** A key pillar is designing 6G to support **universal connectivity**, bridging rural-urban divides, lowering device and service costs, and ensuring **equitable technology access**.

➤ **Sustainability & Low-Carbon Innovation:** 6G rollout must improve **energy efficiency**, reduce emissions, and use advanced technologies like AI to support environmental sustainability.

➤ **Strategic Technology Partnerships:** The Declaration supports collaboration in **advanced semiconductors, quantum-safe communication, AI-driven networks**, and spectrum strategy — boosting the global innovation ecosystem.



Comparison between 5G and 6G Networks

Aspect	5G	6G
Speed	Delivers multi-gigabit per second (Gbps) data rates.	Aims to achieve ultra-high speeds in the terabits per second (Tbps) range.
Latency	Network response time is around 1–10 milliseconds.	Target latency expected to be reduced to microseconds (μ s) level.
Core Technology	Based on massive Multiple Input Multiple Output (MIMO), advanced beamforming, and network slicing for efficient connectivity.	Will leverage AI-native networking, enhanced beamforming, terahertz spectrum, and quantum-secure communication.
Key Applications	Supports IoT expansion, smart mobility, AR/VR systems, and smart infrastructure.	Will enable futuristic services like holographic communication, real-time AI interaction, tactile internet, and hyper-dense IoT ecosystems.
Deployment Status	Currently rolling out across several countries, including India.	Commercial rollout anticipated from late 2020s into the 2030s.

DOPAMINE

Modern lifestyles, driven by technology and constant instant gratification, have led to a collective "dopamine overdose" that is fundamentally rewiring our brains.

About Dopamine

- Dopamine is a neurotransmitter.
- It functions as a chemical messenger that enables communication between neurons in the brain and other important regions of the body.
- It is present in humans as well as animals, including both vertebrates and invertebrates.
- Dopamine acts as part of the brain's "reward system" and is involved in several key functions such as memory, movement, motivation, mood regulation, and attention.
- Abnormal functioning of the dopamine system is linked to various neurological disorders.
- Imbalances in dopamine levels are associated with conditions like Parkinson's disease, restless legs syndrome, and Attention Deficit Hyperactivity Disorder (ADHD).
- Dopamine is a **neurotransmitter** responsible for feelings of **pleasure, motivation, and reward**.
- It operates primarily through the **mesolimbic pathway**, linking the **Ventral Tegmental Area (VTA)** and the **nucleus accumbens**, both crucial in reinforcing behaviours that bring satisfaction or success.
- The Ventral Tegmental Area (VTA) is a group of neurons in the midbrain crucial for reward, motivation, and addiction, acting as a major source of dopamine.

Dopamine as a Hormone

- Outside the brain, dopamine functions as a **catecholamine hormone**, produced in the **adrenal glands** located above the kidneys.
- The three main catecholamines are **dopamine**, **epinephrine (adrenaline)**, and **norepinephrine**.
- These hormones are released during physical or mental stress, triggering biochemical changes associated with the body's **fight-or-flight** response.

Neurotransmitters

- Neurotransmitters are **essential chemical messengers** required for normal body functioning.
- Their primary role is to **transmit chemical signals** from one neuron (nerve cell) to a target cell.
- The target cell may be **another neuron**, a **muscle cell**, or a **gland cell**.

Impact on Young Minds

- Algorithms used by social media and other digital platforms are designed to maximize engagement by operating on an intermittent reward schedule, similar to a slot machine.
- **Impact:** Dopamine overload leads to **fatigue, demotivation, and loss of focus**.
 - ♦ The brain, overstimulated by quick dopamine hits, begins to find ordinary tasks unrewarding.
 - ♦ Over time, this contributes to anxiety, sleep disorders, poor self-esteem, and even clinical depression.

THE STRUCTURES OF NEUROTRANSMITTERS

STRUCTURE KEY: ● Carbon atom ○ Hydrogen atom ○ Oxygen atom ○ Nitrogen atom ○ Rest of molecule

ADRENALINE

Fight or flight neurotransmitter



Produced in stressful or exciting situations. Increases heart rate & blood flow, leading to a physical boost & heightened awareness.

GABA

Calming neurotransmitter



Calms firing nerves in CNS. High levels improve focus; low levels cause anxiety. Also contributes to motor control & vision.

NORADRENALINE

Concentration neurotransmitter



Affects attention & responding actions in the brain, & involved in fight or flight response. Contracts blood vessels, increasing blood flow.

ACETYLCHOLINE

Learning neurotransmitter



Involved in thought, learning, & memory. Activates muscle action in the body. Also associated with attention and awakening.

DOPAMINE

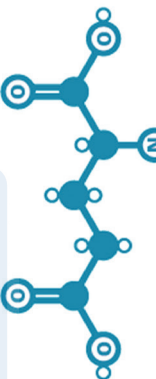
Pleasure neurotransmitter



Feelings of pleasure, and also addiction, movement, and motivation. People repeat behaviours that lead to dopamine release.

GLUTAMATE

Memory neurotransmitter



Most common brain neurotransmitter. Involved in learning & memory, regulates development & creation of nerve contacts.

SEROTONIN

Mood neurotransmitter



Contributes to well-being & happiness; helps sleep cycle & digestive system regulation. Affected by exercise & light exposure.

ENDORPHINS

Euphoria neurotransmitters



Released during exercise, excitement, & sex, producing well-being & euphoria, reducing pain. Biologically active section shown.

CIVIL REGISTRATION SYSTEM

The Registrar General of India (RGI) released the "Vital Statistics of India Based on the Civil Registration System (CRS)".

About

- The Civil Registration System (CRS) in India is a unified process for the continuous, permanent, and compulsory recording of vital events such as births, deaths, and stillbirths.
 - ♦ It does not include registration of marriages or divorces.
- The system operates under the Registration of Births and Deaths (RBD) Act, 1969,
 - ♦ which mandates compulsory reporting of all births and deaths to the designated Registrar of the area where the event occurred.

Key Findings of the CRS 2023 Report

- **Births Registered:** 2.52 crore births were registered in 2023, around 2.32 lakh fewer than in 2022.
 - ♦ **Overall birth registration** stood at **98.4%**, indicating near-complete coverage.
 - ♦ **Institutional births:** 74.7% of total registered births.
- **Deaths Registered:**
 - ♦ 86.6 lakh deaths were registered in 2023, a marginal increase from 86.5 lakh in 2022.
 - ♦ A significant jump had been noted in 2021, when deaths rose to 102.2 lakh (up by 21 lakh from 2020) due to the second wave of COVID-19.

Sex Ratio at Birth (SRB)

- **Lowest SRB:** Jharkhand (899), Bihar (900), Telangana (906), Maharashtra (909), Gujarat (910), Haryana (911), and Mizoram (911).
- **Highest SRB:** Arunachal Pradesh (1,085), Nagaland (1,007), Goa (973), Tripura (972), and Kerala (967).
- **Trend:** Bihar continues to record the lowest SRB since 2020, highlighting persistent gender imbalance.

SC FORMS PANEL ON TRANSGENDER PERSONS

The Supreme Court criticised the Centre and States for apathy toward transgender rights and formed a committee headed by Justice Asha Menon to draft a national equal opportunity policy.

About Transgender

- A transgender person is someone whose gender identity does not align with the sex assigned at birth.

- This category includes trans-men, trans-women, individuals with intersex variations, gender-queer persons, and socio-cultural identities such as kinnars and hijras.

Supreme Court's Recent Observations

- **SC highlighted systemic barriers** in employment, healthcare, education, and public institutions, including the lack of a 'third gender' option and the expectation for transgender individuals to conceal their identity, **violating their dignity under Article 21**.
- **Exercising powers under Article 142**, the Court mandated the designation of appellate authorities under Rule 9, creation of welfare boards in all states and UTs, and establishment of Transgender Protection Cells under district magistrates and DGPs.
- It also called for a **nationwide toll-free helpline** and recommended safeguards such as ensuring no transwoman is arrested without a female officer present.
- It also urged all **public and private institutions** to foster **gender-inclusive environments** and suggested gender-diverse screening points at public venues to ensure dignity and safety for transgender individuals.

Challenges Transgender Facing

- **Accessibility of benefits:** Linking welfare schemes to a mandatory transgender ID card creates bureaucratic hurdles and may exclude many eligible persons.
- **Lack of reasonable accommodation:** Transgender individuals struggle to access educational institutions and 'Garima Greh' shelter homes due to inadequate infrastructural support.
- **Administrative inefficiency:** Most States have not established Transgender Protection Cells, reflecting poor implementation of statutory mandates.
- **Deep-rooted societal stigma:** Limited social acceptance and low awareness continue to fuel prejudice and hamper gender-inclusive environments.
- **Legal and identity issues:** The requirement of certification by the District Magistrate undermines the right to self-identified gender.
- **Homelessness:** Family rejection and limited housing options force many transgender youth onto the streets, exposing them to abuse, mental health problems, and substance use.
- **Transphobia:** Societal intolerance results in frequent violence, harassment, and discrimination against transgender individuals.
 - ♦ **Meaning of Transphobia:** Transphobia denotes prejudice, fear, hostility, or negative attitudes towards transgender persons.

- **Psychological Distress:** Lack of support systems leads to high levels of anxiety, depression, and suicidal tendencies within the community.
- **Public Representation:** Stereotypical and negative media portrayals reinforce prejudice, contributing to social exclusion and violence.

Steps taken to Improve the Lives of Transgender Persons

- **NALSA (2014):** Recognized transgender persons as a third gender and affirmed self-identification, forming the jurisprudential basis for reservations and affirmative measures.
- **Transgender Persons (Protection of Rights) Act- 2019:**
 - ♦ **Definition:** A transgender person is defined as someone whose gender identity does not correspond to the sex assigned at birth.
 - ♦ **Recognition of Identity:** The Act upholds the right to self-perceived gender identity, with a Certificate of Identity issued by the District Magistrate granting legal recognition.
 - ♦ **Prohibition of Discrimination:** Discrimination against transgender persons in education, employment, housing, and related sectors is prohibited.
 - ♦ **Government Responsibilities:** The government must design welfare schemes such as vocational training and healthcare support to enable fuller social participation.
- **National Council:** Provides for the establishment of the National Council for Transgender Persons to advise and monitor policy implementation.
- **Composition:** Chaired ex-officio by the Union Minister of Social Justice & Empowerment.
 - ♦ The Minister of State for Social Justice & Empowerment serves as Vice-Chairperson.
 - ♦ Includes representatives from key central Ministries and Departments.
 - ♦ Has five nominated members from the transgender community.
 - ♦ Also comprises representatives from NHRC, NCW, State/UT governments, and NGO experts.
- **National Portal for Transgender Persons:** Enables online applications for identity certificates and cards to reduce friction and physical interface in accessing rights.
- **SMILE scheme:** Government program aimed at comprehensive welfare and rehabilitation support for transgender persons, including livelihood and social security components.

Major Judgement of Supreme Court

- **NALSA v. Union of India (2014):** Recognised transgender persons as the 'third gender' and affirmed the right to self-identified gender.

- **Justice K.S. Puttaswamy Case (2017):** Established privacy as a fundamental right, strengthening autonomy over gender identity.
- **Navtej Singh Johar v. Union of India (2018):** Decriminalised consensual same-sex relations and upheld dignity of gender and sexual minorities.
- **Shavani Ponnusamy v. Ministry of Civil Aviation (2022):** Directed government to frame reasonable accommodation policies for transgender persons in employment.
- **Jane Kaushik Case (2025):** Criticised State apathy, ordered compensation, and mandated creation of protection cells and welfare mechanisms.

WE RISE INITIATIVES

'We Rise (Women Entrepreneurs Reimagining Inclusive and Sustainable Enterprises) initiative was launched recently.'

About

- Launched jointly by NITI Aayog and DP World under the WEP's Award to Reward (ATR) initiative.
- Aims to support Indian women entrepreneurs in scaling businesses globally through trade facilitation, mentorship, and strategic partnerships.
- Focuses on empowering product-based women entrepreneurs through collaborative efforts of WEP and DP World.
- Represents a public-private partnership designed to expand trade access and unlock growth opportunities for women-led enterprises.

Women Entrepreneurship Platform (WEP)

- Established by NITI Aayog in 2018 as an aggregator platform and transitioned into a public-private partnership model in 2022.
- Acts as a national ecosystem enabler to advance women-led development and entrepreneurship.
- **Addresses six major support areas:** access to finance, market linkages, skilling and training, mentorship and networking, compliance/legal assistance, and business development services.

Award to Reward (ATR) Initiative

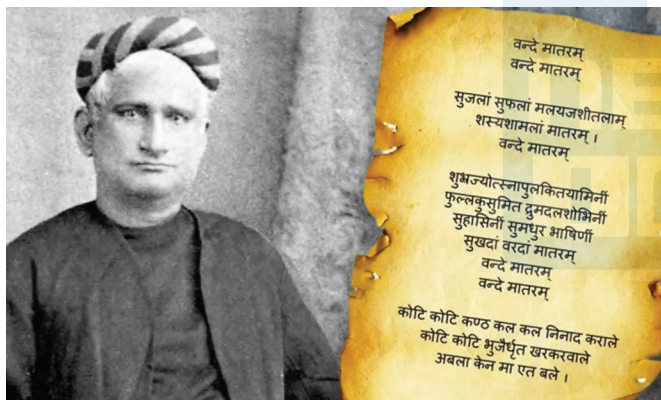
- It was launched in 2023 to institutionalize WEP's partnership framework by bringing together ecosystem stakeholders to address specific needs of women entrepreneurs while celebrating their success stories.
- It serves as a plug-and-play model fostering scalable collaborations and measurable impact.

150th ANNIVERSARY OF VANDE MATARAM

The Union Cabinet announced nationwide celebration of the 150th anniversary of the national song 'Vande Mataram'.

About

- Vande Mataram composed by Bankim Chandra Chatterjee in Sanskrit and first appeared in the novel **Anandamath (1882)**.
- Its first public recital by **Rabindranath Tagore at the 1896 INC session** gave it national exposure.
- The national song has **equal status with Jana Gana Mana**, as declared by a 1950 Presidential order.
- Article 51A(a) mandates respect for the anthem but not for a national song, indicating a sensitive balance.
- The song was a rallying cry for anti-colonial revolutionaries and a symbol of collective resolve during the independence movement.



UNESCO'S NEW VIRTUAL MUSEUM OF STOLEN CULTURAL OBJECTS

UNESCO officially launched the Virtual Museum of Stolen Cultural Objects at MONDIACULT 2025.

About: UNESCO Background

- The idea of **World Heritage** arose after **World War II**, in response to the **widespread destruction of cultural monuments and natural sites**.
- These global concerns led to the adoption of the **1972 Convention Concerning the Protection of the World Cultural and Natural Heritage**, commonly known as the **World Heritage Convention**.
- **India** became a signatory to the Convention on **November 14, 1977**.

UNESCO's new Virtual Museum of Stolen Cultural Objects

- It was developed in response to Member States' call for coordinated action **against illicit trafficking** and it is the first global initiative of its kind.
- It offers a globally accessible, immersive digital platform to raise awareness about stolen heritage.
- It currently showcases around 240 missing objects from 46 countries, with the goal of gradually "emptying itself" as items are recovered and returned to their countries of origin.
- It was introduced by architect **Francis Kéré** and uses 3D modelling and virtual reality to digitally reconstruct stolen cultural items submitted by Member States.
- It features interactive tools, educational content, community testimonies, and a dedicated space for showcasing successful restitution cases.
- It is financially supported by Saudi Arabia and implemented with INTERPOL.

Indian Artifacts Featured

- **Nataraja Figure:** A 9th-century sandstone sculpture from Mahadev Temple, Pali (Chhattisgarh), depicting Lord Shiva's cosmic dance.
- **Brahma Sculpture:** Shows Brahma with three faces and four arms, seated in lalitasana, symbolizing creation and wisdom.

TRADITIONAL RITUAL THEATRES OF INDIA

India's ritual theatres are living cultural traditions that connect the divine and daily life through myth, music, and community participation.

Ritual Theatre

- It is a traditional form of performance that blends sacred rituals with dramatic elements like acting, music, dance, and narration, often rooted in religious festivals and collective memory.
- These performances go beyond entertainment, serving as vital expressions of cultural identity, social cohesion, and continuity.
- UNESCO designates such practices as **Intangible Cultural Heritage (ICH)**, promoting their preservation.
 - ♦ ICH includes both traditional and evolving practices, shared across generations and communities.
- **UNESCO defines ICH across five domains:** Oral Traditions and Language, Performing Arts, Social Practices and Rituals, Knowledge of Nature and the Universe, and Traditional Craftsmanship.

TRADITIONAL RITUAL THEATRES OF INDIA

Kutiyattam



- It is one of India's oldest surviving theatrical traditions, dating back over 2,000 years.
- It is Kerala's ancient Sanskrit theatre tradition, blends classical drama with local rituals, using intricate eye and hand gestures to convey deep emotion.
- Performed in temple theatres (**kuttampalams**), it retains a sacred character and involves intense training over 10–15 years.
- **Kutiyattam** fuses drama, music, and stylized acting, preserving ethical and aesthetic values across generations.

Mudiyettu



- It is a ritual dance-drama from **Kerala** that enacts the mythological battle between **Goddess Kali and the demon Darika**, performed annually in temple precincts (Bhagavati Kavus) after the harvest.
- Rooted in sacred rituals like kalamezhuthu (ritual drawing) and invocations.
- It involves collective village participation across castes mask makers, performers, and artisans fostering social cohesion.
- Blending dance, music, visual art, and drama, Mudiyettu is a vibrant, community-driven sacred performance.

Ramman



- Ramman is an annual religious festival celebrated in late April in the twin villages of Saloor-Dungra, Uttarakhand, in honour of the local deity Bhumiya Devta.
- It features complex rituals, recitations of the Ramayana, songs, and masked dances, with each caste and group playing distinct roles.
- **Some of the instruments documented include:** Dhol (a type of drum), Damau (smaller percussion drum), Manjira (small hand cymbals), Jhanjhar (larger cymbals) and Bhankora (a kind of trumpet).

Ramlila



- literally meaning "Rama's play," is a dramatic re-enactment of the Ramayana epic, performed through a sequence of scenes that combine song, narration, recitation, and dialogue.
- Traditionally staged across northern India during the autumn festival of Dussehra, Ramlila follows the ritual calendar and varies in scale and duration.
- Some of the most renowned Ramlilas are staged in **Ayodhya (birthplace of Lord Ram), Ramnagar, Varanasi, Vrindavan, Almora, Satna, and Madhubani.**

OTHER RITUAL THEATRES OF INDIA

Bhand Pather (Kashmir)



- A traditional folk theatre of Kashmir combining **satire, dance, and music.**
- Often performed in open spaces, addressing **social and political themes** through humor.
- The **Bhand** (performer) uses masks, improvisation, and exaggerated acting.

Swang (Haryana & Western UP)

- A musical folk drama known for dialogue-based storytelling and mimicry.
- Traditionally performed by **male actors**, even in female roles.
- Emphasizes **songs, jokes, and social commentary** more than elaborate sets.

Nautanki (Uttar Pradesh & Rajasthan)

- A popular **operatic folk theatre** known for its **melodious singing and dramatic narratives**.
- Themes often draw from folk tales, romance, and heroic legends.
- Uses colorful costumes, rhythmic music, and powerful vocal delivery.

Raasleela (Uttar Pradesh – Braj Region)

- A devotional performance depicting the life and divine play (leela) of Krishna and Radha.
- Strongly rooted in Braj culture, classical music, and expressive dance.
- Performed especially during Janmashtami and Holi, with an emphasis on bhakti (devotion).

Bhavai (Gujarat)

- A folk theatre form combining dance, acting, and storytelling with minimal props.
- Often satirical, highlighting social issues and human follies.
- The **Bhavai performer (Bhavaiya)** plays multiple roles with swift improvisation.

Jatra (West Bengal, Odisha, Assam, Bangladesh)

- Known for loud, high-energy singing and declamatory dialogue.
- Traditionally performed in **open-air stages** with dramatic lighting and music.
- Themes include mythology, nationalism, and contemporary social issues.

Maach (Madhya Pradesh – Malwa Region)

- A musical theatre form with extensive use of raga-based singing.
- Performances are **overnight**, involving elaborate costumes and stylized acting.
- Storylines come from Puranas, folklore, and historical legends.

Bhaona (Assam)

- Created by Srimanta Sankardeva, it is a Vaishnavite theatrical tradition.
- Uses Ankiya Naats (one-act plays) with devotional themes.
- Characterized by musical narration (Sutradhar), masks, and traditional Assamese instruments.

Tamasha (Maharashtra)

- A lively folk theatre mixing dance, music, and humor, often with Lavani songs.
- Known for expressive, fast-paced storytelling and strong rhythmic beats.
- Traditionally performed by traveling troupes called Phads.

Dashavatar (Goa & Coastal Regions)

- A traditional folk theatre depicting the ten incarnations (avatars) of Lord Vishnu.
- Uses elaborate masks, makeup, and symbolic costumes to represent mythological characters.
- Performances combine dance, acting, and devotional singing, often staged during temple festivals.

Krishnattam (Kerala)

- A sacred temple art form narrating the life and exploits of Lord Krishna, based on the *Krishnagiti* by Manaveda.
- Performed in a **strict ritualistic format** over eight nights, each dedicated to a specific episode.
- Features classical dance movements, colorful facial makeup, and traditional percussion like chenda and maddalam.

Yakshagana (Karnataka & Parts of Kerala)

- A vibrant folk theatre blending dance, music, dialogue, and elaborate costumes.
- Stories are drawn from the Ramayana, Mahabharata, and Puranas, performed through stylized acting.
- Known for its energetic dance, heavy makeup, large headgear, and powerful singing (Bhagavata).

Therukoothu (Tamil Nadu)

- A street-theatre tradition performed in open public spaces, especially during festivals.
- Focuses on mythological stories, especially from the Mahabharata, through expressive acting and narration.
- Characterized by vibrant costumes, dramatic makeup, and strong vocal delivery accompanied by traditional instruments.

BATHUKAMMA FESTIVAL

The Bathukamma festival set Guinness World Records for the largest floral arrangement and the most synchronized female dance participants.

About

- Bathukamma is a floral festival celebrated mainly by women in Telangana.
- The word "Bathukamma" means "Mother Goddess Come Alive", symbolizing feminine energy, life, and protection.

Historical Background

- The festival is rooted in **Telangana's local folklore** and traditions.
- One legend associates it with **Goddess Gauri**, who is believed to have come back to life, while another links it to **King Dhramangada** and **Queen Satyavati** of the **Chola dynasty**.
- During the **Kakatiya dynasty**, Bathukamma was promoted as a celebration of **womanhood, fertility, and agricultural prosperity**.

Celebration and Duration

- Bathukamma is celebrated annually during **September–October**, coinciding with the **Durga Navratri** period.
- The festival lasts for **nine days**, ending with "**Saddula Bathukamma**" or "**Pedda Bathukamma**" on the final day.
- It is followed by **Boddemma**, a **seven-day festival** marking the transition to the monsoon season.



BATHOU RELIGION

The Bathou religion of the Bodo community in Assam has been officially granted a separate code in the upcoming national census.

Bathou Community

- **Religion of:** The Bodo community of Assam.
- **Nature:** Indigenous, animistic and nature-worshipping faith.

- **Meaning:** "Ba" (five) + "Thou" (deep philosophy) → represents five natural elements (earth, air, fire, water, sky).
- **Main Festival:** Kherai Puja.
- **Significance:** Preserves Bodo cultural identity and ecological traditions.

Bodo Community

- **Ethnic Group:** Indigenous Tibeto-Burman tribe of Assam.
- **Region:** Mainly in Bodoland Territorial Region (BTR) — Kokrajhar, Chirang, Baksa, Udalguri.
- **Language:** Bodo language (Tibeto-Burman family); part of the 8th Schedule.
- **Status:** Scheduled Tribe (Plains) in Assam.
- **Religion:** Predominantly Bathouism; also influenced by Hinduism and Christianity.
- **Culture:** Bagurumba dance, Bwisagu festival, and Dokhona dress.
- **Political Identity:** Bodoland Territorial Council (BTC) under Sixth Schedule (2003); became Bodoland Territorial Region (BTR) in 2020 Peace Accord.

RANI CHENNAMMA

The Kittur Rani Chennamma Utsav, a three-day festival to honour the bravery of Rani Chennamma, began in Kittur, Karnataka.

About

- She was among the **earliest Indian rulers** to rebel against British rule — decades before the 1857 Revolt.
- Today, she is remembered as both a **symbol of Karnataka's pride and an early feminist icon**.

Revolt

- To prevent **British annexation**, Chennamma adopted a relative's son as heir.
- The British East India Company rejected this adoption — an **early example of what later became the Doctrine of Lapse** (formalised by Dalhousie).
- Faced with losing sovereignty, she chose to resist rather than submit to British control.
- Chennamma was imprisoned and died in captivity in 1829.

Legacy

- **Social:** A feminist and nationalist icon inspiring later generations.
- She is one of the **first female freedom fighters against British rule**.
- **Historical:** One of the earliest anti-colonial resistances in South India.
- **Cultural:** Embodied in Karnataka's folklore and collective memory.

SCHEDULE M NORMS

The Union Health Ministry has mandated strict compliance with the revised Schedule M norms for pharmaceutical manufacturers in India, following recent incidents of Diethylene Glycol (DEG) contamination in cough syrups.

About

- Schedule M is part of the **Drugs and Cosmetics Act, 1940**, prescribing Good Manufacturing Practices (GMP) for pharmaceuticals in India.
- It establishes minimum standards for plant, equipment, hygiene, and processes to ensure drug safety and quality.

Key Features of the Revised Schedule M

- The recent major revision in 2023–24 aligns Indian GMP norms with WHO-GMP and PIC/S international standards, strengthening India's position as a global pharmaceutical manufacturing hub.
- Compliance with the revised Schedule M became mandatory for all pharmaceutical units by December 31, 2025, with large units under stricter timelines and small and medium enterprises given conditional extensions.
- All records must be Attributable, Legible, Contemporaneous, Original, Accurate, Complete, Consistent, Enduring, and Available to ensure data reliability.

About Diethylene Glycol (DEG)

- DEG is a **colorless, odorless, syrupy industrial chemical (formula C₄H₁₀O₃)** used as a solvent, antifreeze, and in plastics but not approved for pharmaceutical or food use.
- Pharmaceutical contamination happens when industrial-grade DEG is mistakenly or fraudulently substituted for pharmaceutical-grade glycerine or propylene glycol during drug formulation, often due to poor quality control or cost-cutting.
- DEG contamination has tragically led to deaths linked to adulterated cough syrups like Coldriff.

MY BHARAT-NATIONAL SERVICE SCHEME (NSS) AWARDS

President Droupadi Murmu presented the MY Bharat-National Service Scheme (NSS) Awards for the year 2022–23 at Rashtrapati Bhavan.

About

- Instituted by the **Ministry of Youth Affairs and Sports** in 1993–94, the MY Bharat-NSS Awards are conferred annually to acknowledge outstanding voluntary community service.

- For 2022–23, a total of **50 awards** were presented – 10 NSS Units, 10 Programme Officers, and 30 NSS Volunteers – for their exemplary service and leadership.
- Each winning NSS Unit received ₹ 2 lakh and a trophy, Programme Officers received ₹ 1.5 lakh, a certificate, and a silver medal, while Volunteers were honoured with ₹ 1 lakh, a certificate, and a silver medal.

National Service Scheme (NSS)

- NSS, launched in **1969** during the **birth centenary of Mahatma Gandhi**, is one of the flagship youth programmes of the Government of India.
- It aims to foster the personality and character development of students through voluntary community service, inspired by the Gandhian ideals of selfless service.
- **The motto of NSS** – “Not Me, But You” (स्वयं से पहले आप) – reflects its core philosophy of prioritising community welfare above individual interest.
- Currently, the NSS has nearly **40 lakh active volunteers** across the country.
- The volunteers engage in diverse activities addressing issues of social relevance such as literacy and education, health and family welfare, environmental conservation, women's empowerment, disaster relief, Swachhata (cleanliness) drives, and programmes supporting economic and rural development.

INDIA CONFERRED WITH PRESTIGIOUS ISSA AWARD 2025

India has been awarded the prestigious International Social Security Association (ISSA) Award 2025 for 'Outstanding Achievement in Social Security' at the World Social Security Forum in Kuala Lumpur.

About

- It is the world's leading international organization for social security institutions, government departments and agencies.
- The ISSA, founded in 1927 under the International Labour Organization, promotes excellence in social security administration worldwide.
- It supports over 320 member institutions from 160+ countries by providing a professional community, developing standards and research, offering practical services, fostering innovation, and advocating for comprehensive social security systems globally.

India's Achievements

- International Social Security Association (ISSA) Award recognized India's expansion of social security coverage from 19% in 2015 to 64.3% in 2025, now reaching over 940 million citizens.

WORLD PARA ATHLETICS CHAMPIONSHIPS 2025

India won a record 22 medals, including six gold, nine silver and seven bronze in World Para Athletics Championships 2025.

About

- It is the premier global championship for para-athletics (track & field for athletes with impairments) outside of the Paralympic Games.
- Prior to 2017, it was called the **IPC Athletics World Championships**. Since 2011, the championships are held biennially (every two years) to provide high-level competition in non-Paralympic years.
- The **first edition was in Berlin, Germany, 1994**.
- Athletes compete in different classes depending on their impairment type and severity (e.g. visual impairment, limb deficiency, cerebral palsy, wheelchair classes).
- In the 2025 Championships, the mascot is **named Viraj** — a figure embodying strength, resilience, and spirit of para-athletes.

NOBEL PRIZE IN LITERATURE, 2025

The 2025 Nobel Prize in Literature was awarded to Hungarian writer **László Krasznahorkai** for his "compelling and visionary oeuvre that, in the midst of apocalyptic terror, reaffirms the power of art."

About

- His major works include *Satantango* (1985), *The Melancholy of Resistance* (1989), *War & War* (1999), *Seiobo There Below* (2008), and *Baron Wenckheim's Homecoming* (2016).

About the Nobel Prize

- **Founder:** The Nobel Prize was established by Alfred Nobel, a Swedish chemist, inventor, and industrialist, who is best known for inventing dynamite.
- **First Awarded:** The inaugural Nobel Prizes were awarded in 1901, five years after Nobel's death.
- **Administering Body:** The prizes are managed by the Nobel Foundation, established in 1900 to oversee the finances and administration of the awards. The Foundation invests Nobel's endowment to fund the prizes perpetually.
- **Categories (6):** Peace, Physics, Chemistry, Medicine, Literature & Economic Sciences.

- **Rewards:** It carry a cash award of 11 million Swedish kronor (approximately ₹1.03 crore)

Additional Information

In 1913, Rabindranath Tagore became the first and only Indian to win the Nobel Prize in Literature for *Gitanjali*.

OPERATION HAECHI-VI

The Central Bureau of Investigation (CBI) has arrested eight accused and identified 45 suspects as part of Interpol's Operation HAECHI-VI.

About

- The operation focused on **seven categories of offences:** cyber-enabled financial crime, voice phishing, love and romance scams, online sextortion, investment fraud, money laundering linked to illegal online gambling, business email compromise, and e-commerce fraud.
- Investigators worked together to detect and disrupt **online fraud as well as money laundering activities**, blocking over **68,000 associated bank accounts** and freezing close to 400 cryptocurrency wallets.

NOBEL PEACE PRIZE, 2025

The 2025 Nobel Peace Prize has been awarded to **María Corina Machado**, the Venezuelan opposition leader, for her efforts in promoting democracy and driving political change.

About the Prize

- It is awarded by a committee elected by the **Norwegian Parliament (Stortinget)**. Peace was the **fifth and final prize area** that **Alfred Nobel** mentioned in his will.
- Since 1901 the Nobel Peace Prize has been awarded 105 times, to 139 laureates: 92 men, 19 women and 28 organizations.
- **Mahatma Gandhi**, despite being nominated five times, never won, though his ideals closely align with the UN Charter.
- In 2024, the Nobel Peace Prize was awarded to **Japanese organisation Nihon Hidankyo**, a grassroots movement of atomic bomb survivors from Hiroshima and Nagasaki, also known as **Hibakusha**.
- The Nobel Peace Prize **cannot be awarded posthumously**. It has been skipped **19 times**, mostly due to wars or absence of a suitable candidate.

KENTON R. MILLER AWARD

Dr Sonali Ghosh, Field Director of Kaziranga National Park became the first Indian to receive the prestigious WCPA-Kenton Miller Award at the IUCN World Conservation Congress held in Abu Dhabi, UAE.

About

- Established in **2006**, the **Kenton R. Miller Award for Innovation in National Parks and Protected Area Sustainability** is presented **every two years** by the **World Commission on Protected Areas (WCPA)**.
 - WCPA is one of the six technical commissions of the International Union for Conservation of Nature (IUCN).
- The award honors individuals who demonstrate innovation and leadership in conserving national parks and protected areas, particularly in ensuring their long-term sustainability.
- The **award is named after Dr. Kenton R. Miller**, a former IUCN Director General and a prominent global leader in protected area management.

ABEL PRIZE 2025

Japanese mathematician **Masaki Kashiwara** was awarded the **Abel Prize 2025 for contributions to algebraic analysis and representation theory**.

Contributions of Masaki Kashiwara

- He pioneered the theory of **D-modules**, an algebraic framework to study systems of linear partial differential equations (PDEs).
- He developed tools like **microsupport and characteristic varieties**, which reveal how singularities in equations propagate.
- His work on **sheaf theory**, deepened understanding of how local analytical data connects to global geometric structure.

About Abel Prize

- The **Abel Prize** is an international award recognizing outstanding scientific work in mathematics, often considered the equivalent of a **Nobel Prize for mathematicians**.
 - It is named in honor of the 19th-century Norwegian mathematician **Niels Henrik Abel**.
- Awarded by:** The Norwegian Academy of Science and Letters on behalf of the Government of Norway.
- Selection process:** An expert committee of **five internationally recognized mathematicians** recommends the laureate(s) to the Norwegian Academy of Science and Letters.
- The prize was established** by the Norwegian Parliament in **2002** and first awarded in **2003**.
 - It can be awarded to mathematicians of any age and nationality.

Some Notable Laureates

- Jean-Pierre Serre:** First laureate (2003) for contributions in algebraic geometry and topology.
- Srinivasa S. R. Varadhan:** Indian-origin mathematician, won in **2007**.
- Michel Talagrand (France)** for contributions to probability theory and functional analysis won in **2024**.

HENLEY PASSPORT INDEX

The **2025 edition of the Henley Passport Index**, which assesses global passport strength based on visa-free travel access, reflects notable shifts in the rankings.

About

- The **Henley Passport Index** is a global ranking system that evaluates the travel freedom provided by the passports of different countries.
- It's based on the number of destinations their holders can access without a prior visa.
- The index is compiled and published by **Henley & Partners**, using exclusive data from the International Air Transport Association (IATA) and enhanced by in-house research.
- India's position has slipped from 80th to 85th on the index**, offering visa-free entry to 57 countries, after having earlier climbed to 77th place this year.
- Top Ranked Passport:**
 - Singapore:** Offers visa-free entry to 193 destinations.
 - South Korea:** Allows travel to 190 destinations without a visa.
 - Japan:** Provides visa-free access to 189 destinations.

Scoring Criteria

- A score of 1 is given if no visa is required, or if a visa on arrival, visitor permit, or electronic travel authority (ETA) is available without pre-departure approval.
- A score of 0 is assigned if a visa or government-approved e-Visa is required before travel, or if pre-departure approval is needed for visa on arrival.
- A passport's total score equals the number of destinations that qualify as visa-free under these rules.

COMMONWEALTH GAMES

India will host the **centenary Commonwealth Games in 2030**, with **Ahmedabad proposed as the venue**, strengthening its campaign to host the **2036 Olympics**.

About Commonwealth

- Origin:** During the 1926 conference, Britain and its Dominions agreed to be equal partners within the British Empire.
- Members continued to show loyalty to the British monarch, but the United Kingdom no longer governed them directly.
- This association was named the **British Commonwealth of Nations**, later shortened to the **Commonwealth**.
- Membership:** Consists of **56 countries** (including India), located across Africa, Asia, Europe, the Americas, and the Pacific.
- New Additions:** The most recent members are **Gabon** and **Togo**, which joined in **2022**.

- The **London Declaration (1949)** allowed republics and other states to join the Commonwealth.
- **Board of Governors:** Member governments are represented on the Commonwealth Secretariat's Board through their High Commissioners.
- **Commonwealth Secretariat (London):** Established in **1965** as the central intergovernmental body coordinating the Commonwealth's work.

Commonwealth Games (CWG)

- The Commonwealth Games are a quadrennial multi-sport event conducted among Commonwealth nations.
- The first edition took place in 1930 at Hamilton, Canada, while the 19th (XIX) Games were hosted in Delhi in 2010.
- Previous names of the event include: **British Empire Games (1930-1950)**, **British and Commonwealth Games (1954-1964)**, and **British Commonwealth Games (1970-1974)**.
- The Commonwealth Games is the world's second-largest multi-sport event and the fourth most-watched global broadcast sports event, featuring athletes from **71 nations and territories**.

Indian Olympic Association (IOA)

- Formed in **1927**, with **Sir Dorabji Tata** as President and **Dr. A.G. Noehren** as Secretary-General.
- It is a **non-profit body** registered under the **Societies Registration Act, 1860**, and is recognised by the **Ministry of Youth Affairs and Sports**.

Functions:

- Acts as the **national authority** for the Olympic Movement and the Commonwealth Games in India.
- **Serves as an affiliated member of the:**
 - ♦ International Olympic Committee (IOC)
 - ♦ Commonwealth Games Federation (CGF)
 - ♦ Olympic Council of Asia (OCA)
 - ♦ Association of National Olympic Committees (ANOC)
- Handles the **selection and representation** of Indian athletes/teams for the Olympic Games, Commonwealth Games, Asian Games, and other major events.
- Operates through a **32-member Executive Council**, led by the President.

SAKHAROV PRIZE-2025

Two imprisoned journalists from Belarus and Georgia have been awarded the EU's top human-rights honour, the Sakharov Prize 2025.

About the Prize

- The **Sakharov Prize for Freedom of Thought** is the European Union's highest human rights award, established in **1988** and named after **Soviet dissident and Nobel Peace laureate Andrei Sakharov**.

- It honours individuals or groups defending **human rights and fundamental freedoms**.
- The final winner or winners of the Sakharov Prize are chosen by the **Conference of Presidents**, a European Parliament body led by the president.
- It includes the leaders of all the political groups represented in the Parliament, making the choice of laureates a truly European choice.
- The award carries an **endowment of €50,000** and is presented at the **European Parliament in Strasbourg** (France) each December.

Winners (2025)

- **Andrzej Poczobut (Belarus):** Correspondent for Polish newspaper *Gazeta Wyborcza*, jailed for alleged threats to national security.
- **Mzia Amaghlobeli (Georgia):** Founder of two independent media outlets, imprisoned after protesting and accused of assaulting a police chief.
- **Reason for Award:**
 - ♦ Both are imprisoned on **politically motivated charges**.
 - ♦ Their imprisonment symbolizes **suppression of press freedom and struggle for democracy**.
 - ♦ Honoured for **courage**, defence of **free media**, and speaking against injustice.

INTERNATIONAL CONVENTION AGAINST DOPING IN SPORT

India was re-elected as Vice-Chairperson of the Bureau representing the Asia-Pacific (Group IV) during the 10th Session of the Conference of Parties (COP10) to UNESCO's International Convention against Doping in Sport.

About

- It is a **global treaty** under which participating nations commit to applying domestic and international actions to curb and remove doping practices in sports.
- **Adoption:** The Convention was approved during the **33rd UNESCO General Conference** on **19 October 2005** and came into legal force on **1 February 2007**.
- **Members:** A total of **192 countries** have joined this Convention, making it the **second most widely ratified treaty** under UNESCO.
- **Aim:** Its objective is to **standardize anti-doping laws, policies, protocols, and mechanisms** across nations to ensure a fair, uniform, and secure sporting environment for athletes.
- **Governance:** The **Conference of Parties (COP)** serves as the highest decision-making authority, convening every **two years**. It holds primary accountability for the Convention's enforcement and further development.

Features

- The Convention enables national governments to officially acknowledge the **World Anti-Doping Agency (WADA)** and its **Anti-Doping Code**.
- It functions through a **supportive implementation framework**, offering technical assistance, monetary aid, training programs and capacity-enhancement initiatives to help States Parties strengthen compliance with the Convention.
- It establishes a **global platform** where both public authorities and private entities linked to sports ethics can collaborate and engage.
- **Funding mechanism:** An **Anti-Doping Fund** has been established to promote awareness and education on doping issues.
- **Educational Role:** The Convention supports the **Values Education through Sport (VETS)** initiative, which uses sports-based learning to instill ethical values and strengthen the moral basis of anti-doping awareness.

National Anti-Doping Agency (NADA)

- Established in **2005** as a registered society under the **Societies Registration Act, 1860** to promote doping-free sports in India.
 - ♦ Responsible for planning, executing, and coordinating national anti-doping measures in line with **WADA** rules and guidelines.
- The **National Anti-Doping Act, 2022** grants statutory authority to NADA to regulate anti-doping activities and implement the **UNESCO Convention** against doping.
 - ♦ The **National Anti-Doping (Amendment) Act, 2025** strengthens enforcement, improves accountability, and aligns India's framework with updated global standards.

RAMPUR AND MUDHOL HOUND DOG BREEDS

The Border Security Force (BSF) has begun training 150 indigenous Rampur and Mudhol Hound dogs for border security, counterinsurgency, and special operations.

Mudhol Hounds

- Mudhol Hounds are thought to have been initially developed by **Raja Malojirao Ghorpade** of the former Mudhol kingdom (present-day Bagalkot).
 - ♦ It is inspired by the traits of hunting dogs maintained by local tribal groups.
- It is said that the Raja gifted a pair of these dogs to **King George V** during his visit to England, after which the breed became known as the **Mudhol Hound**.
- **Characteristics:** Mudhol Hounds, known for their speed, stamina, sharp vision, and strong guarding instincts, were

sent by the Indian Army to the Remount and Veterinary Corps (RVC) training centre in Meerut in 2016.

- ♦ This is the first time an indigenous breed was trained there.
- ♦ Also Known as Karwaani, Karvani dog Pashmi, Caravan Hound, Pisuri Hound.

The Rampur Hound

- Rampur Hounds, bred 300 years ago in Uttar Pradesh by the Nawab of Rampur from Afghan and English Greyhounds, were historically used for hunting and guarding.
- The breed declined after India's Independence, making purebreds rare today, though preservation efforts are ongoing.
- **Characteristics:**
 - ♦ Rampur Hounds are fast, athletic sighthounds built for speed and endurance.
 - ♦ They are loyal and obedient to their families, intelligent in hunting and running tasks, and reserved with strangers. Naturally timid.
 - ♦ They can be protective and alert, making them effective guard dogs.
 - ♦ Also known as North-Indian Greyhound, Rampur Hound

CLIMATE INEQUALITY REPORT 2025

The Climate Inequality Report 2025 by the World Inequality Lab shows that wealthy individuals fuel the climate crisis mainly through investments and suggests policy measures to curb this impact.

Key Findings Reports

- It highlights that wealthy individuals contribute more to the climate crisis through asset ownership than consumption.
- The top 1% responsible for 41% of emissions linked to private capital and 15% of consumption-based emissions.
- Their per-capita emissions are up to 680 times higher than those in the bottom 50%.
- Ownership-based emissions in countries like the US, France, and Germany far exceed consumption-based estimates.
- Wealthy individuals contribute to the climate crisis significantly, not just through consumption and lifestyle choices but even more through their investment portfolios.
- On a per-person basis, emissions from those in the top 1% are **75 times** higher than individuals in the bottom 50% (consumption-based), rising to **680 times** when assessed by asset ownership.
- Climate change can exacerbate existing wealth disparities, but effective policy measures can help narrow inequality.
- The wealth share of the top 1% could rise from **38% to 46%** by **2050** if they dominate ownership of future low-carbon assets.
- Estimates suggest that **100 companies** have generated **71%** of industrial greenhouse gas emissions since the Industrial Revolution.

ADR (Alternative Dispute Resolution)

- **Judicial Pendency Crisis:** Over 5 crore cases pending (Mar 2025); 81,734 in Supreme Court and 62 lakh in High Courts, slowing justice.
- **Judicial Vacancy Challenge:** 33% vacancies in High Courts and 21% in District Courts increase case backlogs.
- **Low Judge-to-Population Ratio:** India has only 15 judges per million people against the recommended 50.
- **Long-Delayed Cases:** Around 20–30% cases pending for over 5–10 years, delaying substantive justice.

EFTA & TEPA

- **EFTA Market Access Offer:** Covers 100% of non-agri products and tariff cuts on processed agricultural products (PAP).
- **Investment Commitments:** EFTA to invest USD 100 billion in 15 years and create 1 million direct jobs in India.
- **India's Offer to EFTA:** India opened 82.7% tariff lines covering 95.3% of EFTA exports, mostly gold (no duty change).
- **Chemicals and Allied Products:** Zero tariffs on 95% of Indian exports, improving compliance and global competitiveness.

Different Financing Entities' Share in Agricultural Credit

- **Commercial Banks:** Hold 65–70% share of institutional agricultural credit, mainly through KCC and crop loans.
- **Cooperative Banks:** Account for 20–25% share, including PACS and DCCBs refinanced by NABARD.
- **Regional Rural Banks (RRBs):** Provide 5–10% of agricultural credit, targeting small and marginal farmers.
- **Kisan Credit Card (KCC, 1998; Enhanced FY 2025-26):** Loan limit up to Rs 5 lakh with interest subvention; includes allied farm activities.
- **Rising Credit Targets:** NABARD projects Rs 32 lakh crore agricultural credit target for FY 2025-26.

Mental Health and Well-being Overview

- **Global Burden:** 1 in 7 people (1.1 billion) suffer mental disorders; anxiety and depression lead globally.
- **India's Prevalence:** About 10.6% adults affected; lifetime prevalence 13.7%, higher in urban areas.
- **Gender Gap:** Women (20%) show higher mental illness rates than men (10%).
- **Suicides (2023):** India reported 1.71 lakh suicides — 73% male, 27% female.
- **Treatment Gap:** 70–92% receive no treatment due to stigma and lack of specialists.
- **Workforce Shortage:** Only 0.75 psychiatrists/lakh, far below WHO's 3/lakh standard.

- **Physical Impact:** Depression raises risk of heart disease by 72%.
- **Economic Loss:** Mental illness costs \$1 trillion yearly in lost productivity.
- **Youth Vulnerability:** Half of mental illnesses start by 18 years, most by 24 years.

Crime in India 2023 Report

- **Overall Crime Trends:** India recorded 62.4 lakh cognizable crimes, up 7.2% from 2022; the national crime rate rose to 448.3 per lakh population.
- **Urban Crime Pattern:** Metropolitan cities saw a 10.6% rise, with theft (44.8%), rash driving (9.2%), and obstruction (8.1%) most common.
- **Changing Pattern of Crime:** Traditional violent crimes declined; cyber and urban-related offenses increased.
- **Cybercrimes:** Cybercrime cases rose 31.2% to 86,420, with 69% online fraud; Karnataka led with 21,889 cases.
- **Crimes against STs:** Cases against Scheduled Tribes rose 28.8%, from 10,064 (2022) to 12,960 (2023).
- **Crimes against Women:** Marginal rise of 0.4%; major causes — cruelty by husband/relatives (29.8%), kidnapping (19.8%), and assault (18.7%).
- **Mental Health & Illness-Linked Suicides:** Suicides due to illness rose 3.2%; 20% linked to diseases and mental disorders; 13,978 suicides due to mental illness.

Gender Representation in Higher Judiciary

- **Supreme Court of India:** Only 11 women judges appointed in history (~3.8% of total).
- **High Courts (as of Aug 2024):** 106 women out of 754 judges — around 14.1% representation.
- **High Courts (as of Jan 2023):** Out of 775 working judges, 669 men and 106 women (~13.6% women).

Post-Harvest Agriculture

- **Cold Chain Projects:** 423 approved, 312 operational; created 12 lakh MT storage and 9.5 lakh MT/year processing capacity.
- **Operation Greens:** Stabilizes Tomato, Onion, Potato (TOP) prices; expanded in 2022 to 41 perishable crops ("TOP to TOTAL").

India's Service Sector

- **Service Sector's GVA Share:** Risen from 50.6% (FY14) to 55.3% (FY25).
- **Service Sector Growth Rate:** Grew at 8.3% (FY23–FY25), driving India's GDP growth.



TEST YOURSELF

Objective Questions

Visit: www.nextias.com for monthly compilation of Current based MCQs

SUBJECTIVE QUESTIONS

GS PAPER-I

1. Examine the role and challenges of the Archaeological Survey of India (ASI) in conserving India's cultural heritage.
(10 Marks, 150 Words)
2. "India's growing forest cover hides a decline in forest quality." Comment in light of FAO's Global Forest Resources Assessment (GFRA) 2025.
(10 Marks, 150 Words)
3. Explain the climatic and geographical factors responsible for the increasing frequency of lightning strikes in India.
(10 Marks, 150 Words)
4. How has the feminisation of agriculture increased women's participation but not their empowerment? (10 Marks, 150 Words)
5. The introduction of a Public-Private Partnership (PPP) model in heritage management marks a major policy shift. Discuss its rationale, benefits, and risks in preserving India's monuments.
(15 Marks, 250 Words)
6. Despite India's rise to 9th position globally in total forest area, challenges like degradation and diversion persist. Critically examine India's forest conservation framework and suggest reforms.
(15 Marks, 250 Words)
7. Lightning has become one of the leading causes of disaster-related deaths in India. Explain its formation mechanism and assess the effectiveness of mitigation initiatives such as the Damini App and NDMA guidelines.
(15 Marks, 250 Words)

GS PAPER-II

8. Examine how the Mental Healthcare Act, 2017 integrates mental health into India's rights-based legal framework.
(10 Marks, 150 Words)
9. Highlight the key areas of cooperation and challenges in realizing the full potential of the India-UK Comprehensive Strategic Partnership.
(10 Marks, 150 Words)
10. Mental health disorders have emerged as a silent epidemic in India. Discuss the major causes behind this rise and evaluate the effectiveness of initiatives like Tele MANAS and the National Suicide Prevention Strategy.
(15 Marks, 250 Words)

11. "ASEAN is central to India's Act East Policy and Indo-Pacific vision." Discuss major areas of cooperation and the key challenges to strengthening this partnership.
(15 Marks, 250 Words)
12. India's engagement with the Taliban regime reflects a balance between strategic realism and moral diplomacy. Analyze this approach and its implications for India's security and regional interests.
(15 Marks, 250 Words)

GS PAPER-III

13. Explain the significance of the Integrated Cold Chain and Value Addition Infrastructure (ICCVAI) scheme under PMKSY in reducing post-harvest losses.
(10 Marks, 150 Words)
14. Discuss the major challenges in ensuring balanced fertilizer use in India and evaluate the role of the Nutrient-Based Subsidy (NBS) scheme.
(10 Marks, 150 Words)
15. Evaluate the significance of e-waste management in promoting a circular economy and reducing environmental hazards.
(10 Marks, 150 Words)
16. Examine the key factors responsible for the decline of Left Wing Extremism (LWE) in India.
(10 Marks, 150 Words)
17. Post-harvest losses remain a bottleneck in India's agricultural value chain. Discuss the role of ICCVAI under PMKSY and suggest measures for sustainable post-harvest management.
(15 Marks, 250 Words)
18. Fertilizer subsidies in India have ensured food security but created fiscal and environmental stress. Critically evaluate the government's reform measures, including DBT and the Digital Fertilizer Targeting Platform.
(15 Marks, 250 Words)
19. India has emerged as one of the largest generators of e-waste globally. Discuss the evolution of e-waste management policies (2011-2024) and assess the effectiveness of the Extended Producer Responsibility (EPR) framework.
(15 Marks, 250 Words)
20. "India's services sector has been output-rich but employment-poor." Discuss this paradox in light of NITI Aayog's findings and suggest measures to make the sector more inclusive and job-intensive.
(15 Marks, 250 Words)