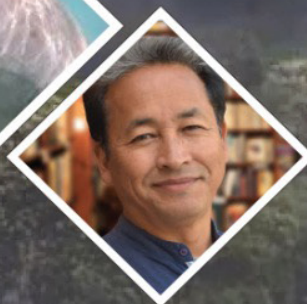




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Nepal in Transition:

Gen Z Movement, Political Upheaval & Indian Equation



» SPECIAL FEATURES

Power Packed News | UPSC Prelims based MCQs | News Analysis

New Batch

General Studies



3 NOV 2025



8:30 AM

(Hindi Medium)



TOPIC:

Post Independence

by

Vinay Sir



8853467068, 7459911157

Message



An officer with a right mindset is an officer that a nation aspires for. A right mindset doesn't necessarily comprise unlimited jargon of knowledge rather a right amount of knowledge and its appropriate execution. Especially, when it comes to UPSC and State PSCs preparation, the crux is not to accumulate the knowledge but its effective implementation and utilization in tackling any situation. The situation here can be anything from UPSC CSE Prelims to the major issues that need to be addressed. The journey is hard but it is worth.

Perfect 7 has been part of many UPSC and State PSCs aspirants in their journey of becoming well reputed officers serving nationally and internationally. The magazine itself had gone through constant ebb and flows of change and improvements. Now, that the magazine is in its monthly era, I hope it becomes your perfect preparation partner and guides you through this ever learning endeavor of Civil Services Preparation.

With Best wishes.

Vinay Singh
Founder
Dhyeya IAS

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PERFECT



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Indian Society & Art and Culture

National Institutional Ranking Framework Ranking 2025: Analyzing the Indian Higher Education Landscape

Education is the cornerstone of any nation's progress and intellectual prosperity. India, which is home to the world's largest youth population today, is not only nurturing talent through its higher education system but is also strengthening its position in the global competition. Against this backdrop, the National Institutional Ranking Framework (NIRF), launched by the Ministry of Education in 2015 and implemented since 2016, has become the most reliable tool for evaluating and comparing higher education institutions.

When the tenth edition of NIRF was released recently in 2025, it became not just a ranking list but a symbol of the strengths, weaknesses and future direction of Indian higher education. This year's rankings cover 17 categories such as engineering, management, medicine, law, research institutes, etc. Notably, a new category based on Sustainable Development Goals (SDGs) has been added in 2025, reflecting the growing importance of education in sustainable development and societal contribution.

Why is National Institutional Ranking Framework (NIRF) important?

- ❖ The Indian higher education system is one of the largest systems in the world. It includes more than 1000 universities, more than 40,000 colleges and lakhs of students.

Evaluating quality in such a wide network is a difficult task. In such a situation, NIRF not only presents transparent criteria, but also helps students, parents and policy makers to take informed decisions.

National Institutional Ranking Framework (NIRF), 2025

Transparent, credible & inclusive rankings for India's Higher Education Institutions.

Categories

- Overall
- Universities
- Colleges
- Research Institutions
- Innovation
- Open University
- Skill University
- State Public University ... & more

- ❖ It has five major evaluation parameters:
 - » **Teaching, Learning and Resources (TLR):** infrastructure, teacher-student ratio and quality of curriculum.
 - » **Research and Professional Practice (RPC):** research publications, patents and industry collaboration.
 - » **Graduate Outcome (GO):** placement, progress in higher education and success in competitive examinations.
 - » **Connectivity and Inclusivity (OI):** social and regional diversity, gender balance

and the tendency to take everyone along.

- » **Image (Perception):** reputation and credibility of the institution in the academic world and industry.
- ❖ The addition of SDG parameters in 2025 to these parameters is noteworthy as it does not limit the institutions to academic excellence but also measures their responsibility towards society and the environment.

New initiatives in the 2025 rankings:

- ❖ This year, NIRF has made logical and far-sighted changes:
 - » 7,692 institutions were included in 17 categories, which is the highest ever.
 - » For the first time, the Sustainable Development Goals (SDG) category has been added, making the global objectives of 'green campus', socio-cultural responsibility and sustainable education a part of the ranking.
 - » In line with the National Education Policy (NEP) 2020, concepts like 'Indian knowledge system', 'regional language' and 'flexible educational system' have also found a place in the index.

SDGs: New direction of education:

- ❖ In 2025, NIRF took a revolutionary step and included the SDG based assessment category. Its importance is twofold:
 - » **Educational responsibility:** Universities and colleges are not just degree-granting units, but also institutions that improve society. By working on the SDGs, they can make a concrete contribution to issues such as climate change, poverty eradication, gender equality and quality education.
 - » **Global competitiveness:** Today, major ranking frameworks around the world (such as QS and THE) are also making Sustainable Development Goals an important criterion. India's NIRF is further strengthening its credibility by keeping pace with this trend.
- ❖ This will also inspire students and researchers to actively participate in society-oriented research and projects, rather than

being just career-oriented.

TOP 10 INSTITUTIONS IN THE UNIVERSITY CATEGORY

- 1 Indian Institute of Science, Bengaluru
- 2 Jawaharlal Nehru University, New Delhi
- 3 Manipal Academy of Higher Education, Manipal
- 4 Jamia Millia Islamia, New Delhi
- 5 University of Delhi, Delhi
- 6 Banaras Hindu University, Varanasi
- 7 Birla University of Science and Technology, Pilani
- 8 Amrita Vishwa Vidyapeetham, Coimbatore
- 9 Jadavpur University, Kolkata
- 10 Aligarh Muslim University, Aligarh

Wider implications:

- ❖ **For students:** Rankings help them choose institutes. For example, if someone wants to study engineering, they may look at IIT Madras, IIT Delhi or IIT Bombay. On the other hand, medical aspirants will prefer institutes like AIIMS Delhi or KGMU.
- ❖ **For parents:** NIRF gives them assurance that the institute their child is studying in meets the standards of education quality.
- ❖ **For institutes:** Rankings are also a form of competition. Every institute wants to move up the list, so it constantly strives to improve infrastructure, research and inclusiveness.
- ❖ **For policymakers:** These rankings tell them which areas need investment and improvement. For example, if private universities are growing faster in a category, it means that government universities need additional support.

Challenges:

- ❖ Although NIRF is an important step, it is not free from challenges.
 - » **Ranking vs. Reality:** Many times institutions manipulate data to improve

rankings.

- » **Lack of level playing field:** Institutions in metros are more resource-rich than universities in rural and small towns.
- » **Limited scope of parameters:** Despite adding SDGs, many human and social aspects are still not given enough importance.
- » **More emphasis on perception:** The image of an institution can sometimes be different from actual performance.
- ❖ To overcome these challenges, NIRF needs to constantly improve its assessment mechanism and increase transparency.

Way forward:

- ❖ **Strengthening research and innovation:** Indian universities need to become world-class research centres, not just limited to teaching. For this, industry-academia partnerships and financial investment are necessary.
- ❖ **Mainstream Sustainable Development Goals:** Contributions to Sustainable Development Goals should be measured by concrete actions—such as green campuses, rural development projects, gender inclusion—rather than tokenism.
- ❖ **Reduce regional imbalances:** State

universities and institutions in rural areas should be given special grants and administrative support.

- ❖ **Ensure transparency:** Independent audit systems should be in place for data collection and evaluation to ensure no data manipulation.
- ❖ **Encourage international collaboration:** Indian institutions should partner with foreign universities to ensure that their research and curriculum are at par with international standards.

Conclusion:

NIRF Rankings 2025 has proved that Indian higher education is no longer limited to the country but is moving towards global standards. IIT Madras's continued top position shows that world-class recognition is possible if institutions focus on excellence, research, and social responsibility. The new SDG category makes it clear that education is not just about academic achievement but also socio-environmental contributions. In the times to come, this approach can establish India not only as a "knowledge superpower" but also as a "leading nation in sustainable development".

Short Issues

Himachal Pradesh Declared 'Fully Literate' State

Context:

Himachal Pradesh was officially declared "fully literate" under the ULLAS (Understanding Lifelong Learning for All in Society) initiative, becoming the fifth state/UT in India to do so. While it doesn't imply 100% literacy, the state achieved a 99.3% literacy rate, surpassing the government's threshold of 95% for full literacy.

- This milestone is emblematic of India's broader literacy goals under NEP 2020 and

the UN Sustainable Development Goals (SDG 4), which aim to achieve universal literacy by 2030.

Factors Leading to Success:

- **High baseline literacy:** 82.8% as per the 2011 Census.
- Strong community participation and governance.
- Smaller population for easier outreach.
- Effective use of volunteers and tech-based learning platforms.

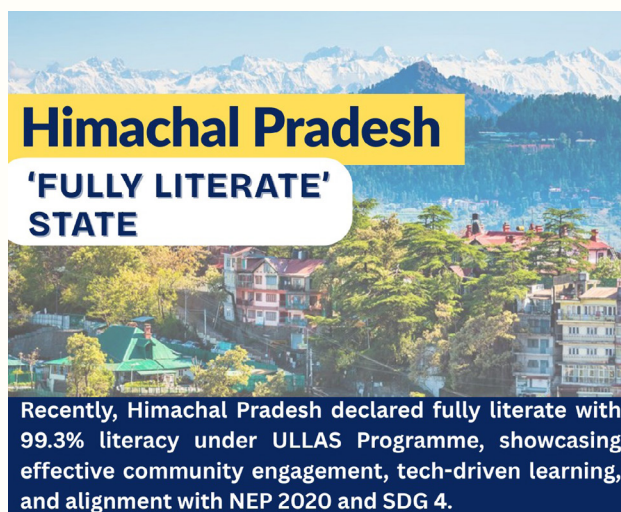
About ULLAS Program:

- The programme was launched in 2022 with

a target to achieve 100% literacy by 2030

▪ **Key Features:**

- » Focuses on adults aged 15 and above who missed out on formal education.
- » Teaches basic reading, writing, numeracy, and life skills (e.g., using bank cheques, mobile payments, calendars, time).
- » Delivered via mobile apps and community volunteers.
- » Learners are tested via the FLNAT (Functional Literacy and Numeracy Assessment Test).
- » Certification by the National Institute of Open Schooling (NIOS).



National Educational Framework Supporting Literacy:

- India's literacy goals are embedded within a larger ecosystem of school and adult education reforms. The following flagship initiatives are working in tandem:

Initiative	Objective / Focus
NEP 2020	Holistic, flexible, and multidisciplinary education reform from pre-school to higher education.
PM SHRI Schools	Develop 14,500 NEP-aligned model schools for quality demonstration.

NIPUN Bharat Mission	Ensure Foundational Literacy and Numeracy (FLN) by Grade 3 by 2026–27.
DIKSHA Portal	National digital platform for teacher training and e-content. Supports NISHTHA and FLN modules.
National Curriculum Framework (NCF)	Promotes experiential and competency-based learning in line with NEP.
PM e-Vidya	Multi-modal access to digital education (TV, radio, online platforms).
ULLAS	Adult education program under Nav Bharat Saaksharta Karyakram. Focuses on lifelong learning and certification.

- These programs synergize formal schooling with adult education, aiming for inclusive, equitable, and lifelong access to learning.

Challenges to Universal Literacy:

- **Regional Disparities:** States like Bihar, MP, and Andhra Pradesh still lag behind.
- **Gender Divide:** Female literacy remains lower, especially in rural areas.
- **Digital Divide:** Limited internet access hinders tech-based learning.
- **Outdated Data:** The last Census was in 2011, hampering real-time policy targeting.
- **Dropout Rates:** Migrant and working populations face difficulty completing training.

Conclusion:

Himachal Pradesh joins an elite group of states and union territories that have achieved full literacy, including Goa, Mizoram, Ladakh and Tripura. This achievement sets a roadmap for other states to follow, demonstrating the impact of committed policies, grassroots campaigns and community participation in promoting education.

Seven New Indian Sites Added to UNESCO's Tentative World Heritage List

Context:

India has recently added new natural heritage sites from different parts of the country to UNESCO's Tentative List of World Heritage Sites. With this, the total number of Indian sites on the Tentative List has gone up from 62 to 69. Out of these, 49 are cultural, 17 are natural, and 3 are mixed heritage sites.

The Seven Newly Added Sites:

- **Deccan Traps at Panchgani and Mahabaleshwar, Maharashtra**
 - » Part of the Deccan Traps, one of the world's largest volcanic regions.
 - » Known for their well-preserved lava flows.
 - » Located inside the Koyna Wildlife Sanctuary, which is already a World Heritage Site.
- **St. Mary's Island Cluster, Karnataka**
 - » Famous for its rare columnar basaltic rocks.
 - » These rocks were formed about 85 million years ago during the Late Cretaceous period.
 - » They are both geologically important and visually unique.
- **Meghalayan Age Caves, Meghalaya**
 - » Includes Mawmluh Cave, which is the global reference point for the Meghalayan Age of the Holocene Epoch.
 - » These caves preserve signs of climate change and geological events from the past.
- **Naga Hill Ophiolite, Nagaland**
 - » Shows a rare type of rock called ophiolite, which is oceanic crust lifted onto land.
 - » Helps scientists understand tectonic processes and movement of Earth's plates.
- **Erra Matti Dibbalu (Red Sand Hills), Andhra Pradesh**
 - » Striking red sand formations near

Visakhapatnam.

- » These dunes tell us about ancient climate, coastal changes, and Earth's natural history.
- **Tirumala Hills, Andhra Pradesh**
 - » Known for the Eparchaeon Unconformity, which shows a geological gap of more than 1.5 billion years.
 - » Also home to the natural rock arch Silathoranam, an iconic geological landmark.
- **Varkala Cliffs, Kerala**
 - » Beautiful cliffs along the Kerala coast that expose the Warkalli Formation of the Mio-Pliocene age.
 - » They have natural springs and erosional features, making them valuable for both science and tourism.

INDIA ADDS 7 NEW SITES TO UNESCO'S TENTATIVE WORLD HERITAGE LIST!

India's tally on UNESCO's Tentative List has now risen from 62 to 69 properties. With this, India has 49 cultural, 17 natural, and 3 mixed heritage sites.

- Deccan Traps (Panchgani & Mahabaleshwar, Maharashtra)
- Geological Heritage of St. Mary's Island Cluster (Karnataka)
- Meghalayan Age Caves
- Naga Hill Ophiolite
- Erra Matti Dibbalu (Andhra Pradesh)
- Tirumala Hills
- Varkala Cliffs (Kerala)



About UNESCO's Tentative List:

- Before a site can become a World Heritage Site, it must first be placed on a country's Tentative List. This is like the first stage of selection, where the site's importance and universal value are studied before sending it for final nomination to UNESCO.
- The Archaeological Survey of India (ASI), which handles India's World Heritage matters, prepared and submitted the nominations.

- India also showed leadership in heritage conservation by hosting the 46th Session of the World Heritage Committee in New Delhi in July 2024, which saw over 2,000 delegates from 140 countries.

About UNESCO:

- UNESCO (United Nations Educational, Scientific and Cultural Organization) is a UN agency established in November 1945.
- With its headquarters in Paris, UNESCO has 194 member states and promotes quality education, scientific research, and cultural preservation through initiatives like the World Heritage List.

Conclusion:

The addition of these seven natural sites reflects India's commitment to protecting its extraordinary geological and ecological treasures. It is also a step toward ensuring that these unique places are preserved for the world to see and for future generations to learn from.

Adi Vaani

Context:

Recently, the Ministry of Tribal Affairs launched the Beta version of "Adi Vaani", India's first AI-powered translator for tribal languages. This is a major step towards protecting endangered tribal languages and helping tribal communities connect with the rest of the country.

About Adi Vaani:

- Adi Vaani is an AI-based translation tool that can translate speech and text between Hindi/English and tribal languages.
- It's being developed by top institutions like IIT Delhi, BITS Pilani, IIIT Hyderabad, and IIIT Raipur, along with help from Tribal Research Institutes in several states.
- A beta version is a pre-release version of software, hardware, or an application that is distributed to a select group of users for testing and feedback before its final launch.
- The app will be field-tested across the country as part of the Adi Karmayogi initiative, a nation-wide capacity-building

effort in tribal districts. The initiative aims to train 20 lakh volunteers and community leaders across 1 lakh tribal villages in 550 districts

Key Features of Adi Vaani:

- Translates text and speech between Hindi/English and tribal languages.
- Supports Text-to-Speech, Speech-to-Text, and even Speech-to-Speech.
- Offers language learning tools for students.
- Uses AI and OCR to digitize old tribal manuscripts and books.
- Includes subtitles for PM's speeches, health messages, and info on government schemes in tribal languages.



Languages Covered (Beta Version):

- Santali (Odisha)
- Bhili (Madhya Pradesh)
- Mundari (Jharkhand)
- Gondi (Chhattisgarh)
- Kui and Garo are being added soon.

Importance of Adi Vaani:

- India has over 461 tribal languages, and

many are endangered. Without action, some could disappear. Adi Vaani helps by:

- » Preserving tribal languages using AI
- » Improving education and healthcare access in tribal areas
- » Helping people understand government schemes and rights in their own language
- » Promoting inclusion and digital literacy in remote communities
- » Saving oral traditions, folklore, and culture in digital form

India's Tribal Linguistic Diversity

- According to the 2011 Census:
 - » **Bhili** is spoken by over 1.04 crore people (mainly in MP, Rajasthan, Maharashtra, Gujarat)
 - » **Santali** – 73.68 lakh speakers (Jharkhand, West Bengal, Odisha, Bihar, Assam)
 - » **Gondi** – 29.84 lakh (Chhattisgarh, MP, Andhra Pradesh, Maharashtra)
 - » **Mundari** – 11.28 lakh (Jharkhand, Odisha)
 - » **Kui** – 9.41 lakh (Odisha)
 - » **Garó** – 11.45 lakh (Meghalaya, Assam)

Conclusion:

Aadi Vaani is not just a translator—it's a tool for inclusion, enabling tribal citizens to access education, government services, and public information in their own languages. Adi Vaani also supports key national missions like Digital India, Ek Bharat Shreshtha Bharat, PM JANMAN, Adi Karmayogi, and Gram Utkarsh. By using AI to preserve endangered tribal languages, it promotes inclusion, empowers communities, and strengthens governance, positioning India as a global leader in technology-driven linguistic and cultural preservation.

Bihar Rajya Jeevika Nidhi for Rural Women Entrepreneurs

Context:

Prime Minister Narendra Modi virtually inaugurated the Bihar Rajya Jeevika Nidhi

Saakh Sahkari Sangh Limited in Bihar. The initiative aims to strengthen rural women's entrepreneurship and self-reliance in the poll-bound state. As part of the launch, Rs.105 crore was directly transferred into the institution's bank account.

About the Initiative:

JEEVIKA NIDHI vs OTHER LOAN SCHEMES

DISTRICT-WISE & SCHEME-WISE COMPLETE COMPARISON 2025



JEEVIKA NIDHI BIHAR

TARGET GROUP Gramin Mahila (SGR mbers)
 LOAN AMOUNT ₹ 50,000 – ₹ 2 Lakh
 INTEREST RATE Bahut Kam Byaj Dar (Subsidy Option)
 OPERATOR AGENCY BRLPS Jeevika + Cooperative Federa-
 SPECIAL FEATURE Women Empowerment + Self Employm-



MICROFINANCE (MFI)

TARGET GROUP Rural & Urban Poor
 LOAN AMOUNT ₹ 10,000 – ₹ 1 Lakh
 INTEREST RATE 15% – 24% (High Interest)
 OPERATOR AGENCY Private MFIs
 SPECIAL FEATURE Quick Loan but Heavy Burden



MUDRA LOAN

TARGET GROUP Chhote Udyami (Small Entrepreneurs)
 LOAN AMOUNT ₹ 50,000 – ₹ 10 Lakh
 INTEREST RATE 8% – 12% (Bank Dependent)
 OPERATOR AGENCY Banks & NBECs
 SPECIAL FEATURE Shishu, Kishor, Tarun Categories



NRLM SHG BANK LINKAGE

TARGET GROUP Gramin Mahila Swayam Sahayta Samooh
 LOAN AMOUNT ₹ 50,000 – ₹ 5 Lakh
 INTEREST RATE Low Interest Loan
 OPERATOR AGENCY Banks + NRLM

- The Jeevika Nidhi will serve as a cooperative society for rural women associated with Jeevika self-help groups (SHGs).
- All registered cluster-level federations under Jeevika will be members.
- The central and Bihar governments will jointly contribute funds for its operations.
- The system will function entirely online, enabling transparent and speedy fund transfers directly into beneficiaries' accounts.
- To support implementation, 12,000 community cadres will be equipped with tablets to assist with digital and financial literacy.

Objective:

- Provide easy access to institutional credit for women entrepreneurs.
- Empower women-led self-help groups to expand micro-enterprises.
- Promote financial independence and reduce reliance on informal credit.
- Integrate digital tools into rural development processes.

Rural Women in the Labour Market (PLFS June 2025 Data):

- **Labour Force Participation Rate (LFPR):** 35.2% of rural women (15+ years) were in the labour force, marking a decline compared to May 2025.
- **Worker Population Ratio (WPR):** 33.6% of rural women were actually working, reflecting seasonal shifts and a fall in unpaid agricultural labour.
- **Shift in Roles:** Many women from higher-income rural households moved from unpaid agricultural work to domestic duties. The female share in agriculture dipped slightly from 70.2% (May) to 69.8% (June).
- **Rise in Own-Account Work:** Despite the decline in overall participation, more women turned to self-initiated small-scale activities such as petty trade, repair work, or services—indicating growth in grassroots entrepreneurship.
- **Implication:** While formal participation fell, rural women are increasingly engaging in entrepreneurial activities as a buffer during agricultural or seasonal downturns.

Significance of Jeevika Nidhi:

- Provides formal credit support at a time when women are shifting toward self-employment and micro-businesses.
- Strengthens the Jeevika programme's impact on mobilizing rural women into SHGs.
- Encourages women-led development, a key theme in India's policy agenda.
- Enhances transparency and digital integration in welfare delivery.
- Supports inclusive growth by linking

women's entrepreneurship with institutional support.

Wider Implications

- The model could serve as a replicable framework for other states.
- Strengthens rural household economies by building women's financial independence.
- Complements national schemes such as Deendayal Antyodaya Yojana – NRLM and Digital India.

Conclusion:

The Bihar Rajya Jeevika Nidhi represents a major step toward institutionalizing financial access for rural women entrepreneurs. Coupled with recent PLFS trends showing a rise in self-directed economic activities among rural women, the initiative reinforces entrepreneurship as both an opportunity and a safety net. It reflects India's larger vision of empowering women as drivers of inclusive and resilient rural growth.

Global Peace Index (GPI) 2025

Context:

Global Peace Index (GPI) 2025 recently ranked Iceland as the most peaceful country for the 17th consecutive year. India was placed at 115th out of 163 countries, reflecting a modest improvement in its peace score compared to the previous year.

About the Global Peace Index (GPI):

- An annual ranking that measures the relative peacefulness of nations.
- Covers 163 independent states and territories, representing 99.7% of the global population.
- **Published by:**
 - » The Institute for Economics and Peace (IEP), a global think tank headquartered in Sydney, Australia. The GPI assesses nations based on 23 indicators grouped into three main domains

India's Position in the Global Peace Index:

- India has been ranked 115th in the 2025 GPI, reflecting a modest improvement

from the previous year. India's current GPI score stands at 2.229, indicating a 0.58% increase in peacefulness. Despite progress, the country still faces challenges related to internal conflicts, border tensions, and security concerns.

▪ **Top 10 Most Peaceful Countries:**

- » Iceland
- » Ireland
- » New Zealand
- » Finland
- » Austria
- » Switzerland
- » Singapore
- » Portugal
- » Denmark
- » Slovenia

▪ **Least Peaceful Countries:**

- » Russia, Ukraine, Sudan, Democratic Republic of Congo (DRC), Yemen.

Regional Insights:

- Europe continues to dominate the top 10.
- South America showed improvement, especially Argentina and Peru.
- Sub-Saharan Africa and the Middle East remain the least peaceful regions.
- Global peacefulness has declined overall due to rising internal conflicts, militarisation, and geopolitical tensions.

About Institute for Economics and Peace:

- The Institute for Economics and Peace (IEP) is an independent, non-profit think tank dedicated to measuring peace, understanding its economic impact, and identifying the social, economic, and institutional factors that foster lasting peace.
- **Key Concepts:**
 - » **Positive Peace:** IEP promotes the idea of "Positive Peace," defined by eight pillars including a well-functioning government, low corruption, sound business environment, equitable distribution of resources, and more.
 - » It highlights that peace is not merely the absence of violence, but the presence of structures that sustain societal

harmony.

▪ **Headquarters and Global Presence**

- » Headquartered in Sydney, Australia.
- » Global offices located in New York, Brussels, The Hague, Mexico City, and Harare.

Conclusion:

While India's slight improvement in the GPI 2025 ranking is a positive sign, substantial challenges remain. Tackling internal unrest, reducing militarisation, and promoting inclusive development will be key to ensuring long-term peace. The GPI serves as a critical benchmark to guide policy and measure progress on national and global stability.

WHO reports on Mental Health

Context:

The World Health Organization recently published two major reports — World Mental Health Today and Mental Health Atlas 2024 — providing updated global data on mental health conditions for the first time since the COVID-19 pandemic began. These reports highlight the ongoing and growing burden of mental health issues worldwide.

Key findings of these reports:

▪ **Global Mental Health Burden (2021)**

- » Over 1 billion people (1 in 7 globally) were living with mental health conditions in 2021.
- » Anxiety and depression accounted for more than two-thirds of all mental health cases.
- » Schizophrenia and bipolar disorder affected 1 in 200 and 1 in 150 adults, respectively.

▪ **Suicide:**

- » Suicide caused more than 1 in every 100 deaths worldwide in 2021.
- » It remains a leading cause of death among 15–29-year-olds.
- » Suicide disproportionately affects youth and marginalized populations.

- » Males are more likely to die by suicide than females.
- **Economic and Social Costs**
 - » Mental health conditions carry huge economic burdens, especially in lost productivity.
 - » Depression and anxiety cost the global economy over US\$1 trillion annually.
- **Gaps in Services and Policy**
 - » Since 2020, countries have strengthened policies, but legal reforms are lacking.
 - » Mental health spending remains at just 2% of health budgets, unchanged since 2017.
 - » Spending varies from US\$65 per person (high-income) to US\$0.04 (low-income countries).

India's Mental Health Crisis:

- India is grappling with a severe mental health crisis, with around 150 million people estimated to need mental health intervention.
- Depression affects approximately 56 million people, while 38 million suffer from anxiety disorders, resulting in a substantial disease burden and economic losses estimated at USD 1.03 trillion between 2012 and 2030.
- **Key Challenges:**
 - » **Treatment Gap:** A significant 70-92% of people with mental health conditions do not receive adequate care.
 - » **Societal Stigma:** Negative perceptions and fear of mental illness prevent many from seeking help.
 - » **Inadequate Infrastructure:** Mental health services remain poorly developed and insufficiently implemented at the grassroots level.
 - » **Contributing Factors:** Rapid urbanization, academic pressures, socioeconomic struggles, substance abuse, and the COVID-19 pandemic have worsened mental health issues.

India's Mental Health Initiatives:

- **Mental Healthcare Act, 2017** decriminalized suicide attempts, emphasizing rehabilitation and rights-based care.

- **National Mental Health Programme (NMHP), launched in 1982**, integrates mental health with general healthcare, promotes community involvement, and develops skilled professionals.
- **Tele MANAS program, started in 2022**, offers free 24/7 tele-mental health support in 20 languages, expanding accessibility nationwide.

Way forward:

The WHO urges governments and stakeholders to accelerate reforms by increasing investments, integrating mental health into primary care, expanding access to services, and addressing stigma. The reports underscore that mental health care is not a privilege but a fundamental right essential to human well-being and social development.

Swasth Nari, Sashakt Parivar Abhiyaan

Context:

Recently, Prime Minister Narendra Modi launched the 'Swasth Nari, Sashakt Parivar Abhiyaan' on September 17. This nationwide campaign aims to strengthen healthcare and nutrition services for women, adolescent girls, and children across India. The campaign runs until October 2, 2025, aligned with Gandhi Jayanti.

About Swasth Nari Sashakt Parivar Abhiyaan:

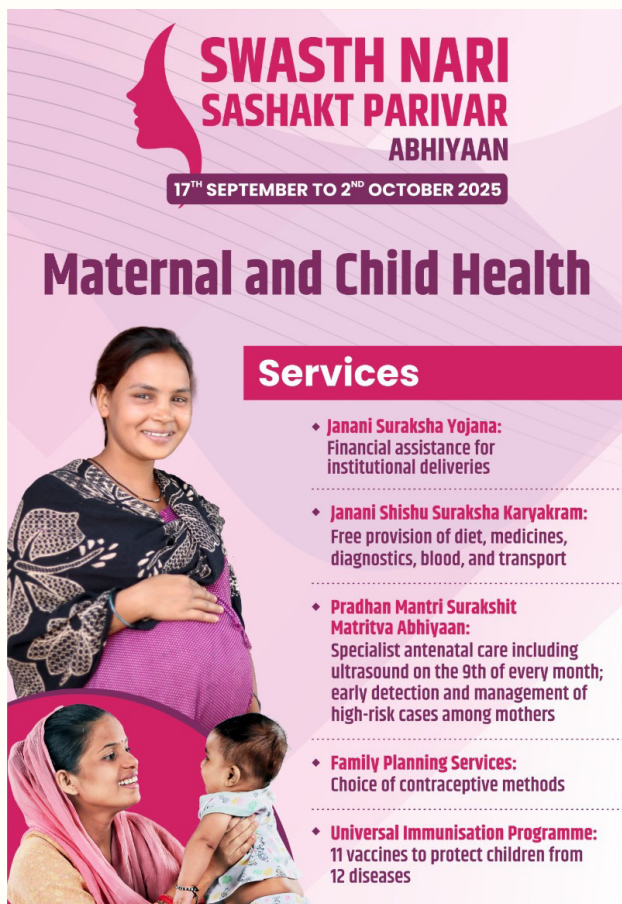
- The Swasth Nari Sashakt Parivar Abhiyaan (SNSPA) is a flagship health initiative launched by the Ministry of Health and Family Welfare (MoHFW) and the Ministry of Women and Child Development (MoWCD).
- The campaign aims to strengthen maternal and child health services, focusing on women's health, nutrition awareness, and preventive care.

Key Features:

- **Comprehensive Health Screenings:** Anaemia, hypertension, diabetes,

reproductive health issues, breast and cervical cancer, TB, and Sickle Cell Disease (SCD).

- **Health Camps:** Over 1 lakh health camps at Ayushman Arogya Mandirs and Community Health Centres.
- **Digital Monitoring:** A special digital portal, SASHAKT, for real-time tracking.
- **Integration with Schemes:** PM-JAY, ABHA, and Poshan 2.0.



**SWASTH NARI
SASHAKT PARIVAR
ABHIYAAN**

17TH SEPTEMBER TO 2ND OCTOBER 2025

Maternal and Child Health

Services

- ♦ **Janani Suraksha Yojana:** Financial assistance for institutional deliveries
- ♦ **Janani Shishu Suraksha Karyakram:** Free provision of diet, medicines, diagnostics, blood, and transport
- ♦ **Pradhan Mantri Surakshit Matritva Abhiyaan:** Specialist antenatal care including ultrasound on the 9th of every month; early detection and management of high-risk cases among mothers
- ♦ **Family Planning Services:** Choice of contraceptive methods
- ♦ **Universal Immunisation Programme:** 11 vaccines to protect children from 12 diseases

Objectives:

- **Improve Women's Health:** Comprehensive screenings and specialized care, especially in tribal and underserved areas.
- **Promote Family Well-being:** Maternal and Child Protection (MCP) cards, antenatal care, immunisation services, and education on menstrual hygiene, nutrition, and lifestyle.
- **Community Engagement:** Lasting behavioural change through community-

level engagement.

Other Relevant Schemes:

- **Janani Shishu Suraksha Karyakram (JSSK):** Provides free antenatal, postnatal, and neonatal care, including transport, diagnostics, and medicines. Benefited over 16.6 crore since its 2014 expansion, reducing out-of-pocket expenses.
- **Janani Suraksha Yojana (JSY):** A conditional cash transfer scheme promoting institutional deliveries among poor pregnant women, especially in rural areas. Over 11 crore beneficiaries by March 2025.
- **Surakshit Matritva Aashwasan (SUMAN):** Offers zero-cost, respectful healthcare for pregnant women, sick newborns, and mothers up to 6 months post-delivery at certified facilities.
- **Mission Indradhanush:** Launched in 2014 to boost immunisation for children and pregnant women under the Universal Immunisation Programme (UIP). Vaccinated 5.46 crore children and 1.32 crore women by Dec 2024.
- **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA):** Ensures 4 antenatal check-ups during pregnancy's first trimester to identify high-risk cases early.
- **Pradhan Mantri Matru Vandana Yojana (PMMVY):** Provides Rs.5,000 maternity benefits for the first and second child (if girl) to support maternal health and promote girl child welfare.
- **Suposhit Gram Panchayat Abhiyaan:** Recognises and incentivises top 1,000 Gram Panchayats for excellence in improving maternal and child nutrition at the grassroots.

Conclusion:

The SNSPA is expected to significantly improve key health indicators, particularly reducing maternal mortality rates through comprehensive antenatal care, screenings and immunizations. It contributes to Viksit Bharat 2047 by building resilient, healthy families through preventive care, digital tracking, and public awareness.

Indian Judicial System: Structural Crisis and Imperative of Reforms

The Indian Judiciary is considered the guardian of constitutional values and the final arbiter of justice. Yet, it is burdened with one of the heaviest caseloads in the world. The latest data released recently by the National Judicial Data Grid (NJDG) highlights the gravity of the problem. The number of cases pending in the Supreme Court has reached 88,417, the highest ever, when the Court is currently functioning with its full sanctioned judicial strength of 34 Judges.

The gap between admissions and disposals of cases is not new, but has become more severe in the years following the pandemic. The Supreme Court is functioning with its full sanctioned strength of 34 Judges and has adopted measures such as summer benches during “partial working days”, yet the pendency of cases continues to rise. This reflects that the Supreme Court itself is grappling with a rapidly increasing number of cases, raising serious questions about access to justice, the rule of law and the credibility of judicial administration.

Key highlights from the National Judicial Data Grid report:

- ❖ **All-time high pendency:** As of August, 88,417 cases are pending in the Supreme Court — 69,553 civil and 18,864 criminal.
- ❖ **Filing vs disposal gap:** Over 7,000 new cases were filed in August, while 5,667 were disposed of, with a disposal rate of 80.04%.
- ❖ **Backlog despite full strength:** The Supreme

Court is functioning with its full sanctioned strength of 34 judges, yet pendency continues to rise.

- ❖ **Summer bench initiative:** CJI B.R. Gavai increased the number of benches during the court’s summer holidays (renamed partial working days). Between May 23 and July, 21 benches sat, led initially by the CJI and five senior-most judges.
- ❖ **Historical trend:** Pending cases had similarly peaked in mid-2023 with over 82,000 cases awaiting hearing. The problem has worsened post-pandemic, especially in 2023.

National Judicial Data Grid (NJDG)

- The NJDG is a comprehensive digital repository of judicial data. Launched under Phase II of the e-Courts Project, it was created to bring transparency and efficiency into the justice delivery system.
- Covers 18,735 District and Subordinate Courts and all High Courts.
- Tracks instituted, pending, and disposed of cases in real time.
- Provides case details down to the Taluka level, enabling micro-level analysis.
- As of 2025, it holds records of 23.81 crore cases and 23.02 crore orders/judgments.
- **Development:**
 - » Built by the National Informatics Centre (NIC) with inputs from the Supreme Court’s Computer Cell.
 - » Features an interactive analytics dashboard to visualise trends.

▪ **Significance**

- » **Policy Input:** Identifies bottlenecks in laws and judicial administration (e.g., rising land disputes linked with state land records).
- » **Transparency:** Litigants can track real-time case status.
- » **Accountability:** Enables judges and administrators to monitor performance and delays.

Causes of Rising Pendency:

❖ **Expanding Role of the Supreme Court**

- » The Supreme Court was originally designed as a constitutional court focusing on matters of law and interpretation.
- » Over time, it has become a court of routine appeals and special leave petitions (SLPs). Nearly 40% of SC cases are SLPs, adding to its docket and leaving less time for constitutional matters.

❖ **Shortage of Judges**

- » India has 21 judges per million populations, far below the Law Commission's recommendation of 50.
- » Judicial vacancies persist:
 - **High Courts:** 30–35% posts vacant.
 - **Subordinate Courts:** Over 20% unfilled.
- » Globally, India lags behind: the US has 100+ judges per million, and European countries average 50–70 per million.

❖ **Procedural Inefficiencies**

- » Adjournments and frequent case transfers delay resolution.
- » Outdated legal provisions and multiple appeal layers prolong litigation.

❖ **Weak Infrastructure**

- » Many district courts lack modern courtrooms, adequate staff, and reliable digital systems.
- » Per-judge staff ratio in India is very low compared to advanced jurisdictions.

❖ **Underutilisation of ADR (Alternative Dispute Resolution)**

- » Mechanisms such as mediation and arbitration remain underdeveloped.

- » In commercial matters, courts still bear the burden of cases that could be settled outside.

❖ **Administrative Delays**

- » Delay in judicial appointments due to prolonged Collegium–Government consultations.
- » Outdated case management systems without digital prioritisation tools.

Challenges Posed by Pendency:

❖ **Justice Delayed is Justice Denied**

- » A 2009 Law Commission Report warned that clearing India's backlog would take 464 years at current disposal rates.
- » Delayed justice erodes faith in the rule of law and the authority of courts.

❖ **Economic Losses**

- » Contested tax revenues blocked due to legal delays equal 4.7% of GDP.
- » Nearly Rs.50,000 crore worth of projects remain stalled because of unresolved disputes.
- » Slow judicial outcomes reduce investor confidence and discourage business.

❖ **Impact on Society and Governance**

- » Weakens the rule of law, leading to weaker deterrence against crime.
- » Contributes to lower per capita income, unemployment, and poverty.
- » Reduces efficiency of public infrastructure and governance.

❖ **Human Rights Concerns**

- » Indian prisons are at 150% occupancy, with a majority being undertrials awaiting resolution.
- » Prolonged incarceration without trial violates constitutional rights under Article 21 (Right to Life and Liberty).

Constitutional and Judicial Responses:

❖ **Ad-Hoc Judges (Article 224A)**

- » Allows retired High Court judges to be reappointed temporarily with presidential approval.
- » Revived in Lok Prahari v. Union of India (2021), but only when vacancies exceed 20%.
- » Historically underused—only three

instances before 2021.

❖ **Collegium Concerns**

- » A 2023 resolution highlighted that the top court “cannot afford even one vacancy” due to rising pendency.
- » Urged urgent filling of posts at all levels.

❖ **Supreme Court Initiatives**

- » **Summer Benches (2025):** 21 benches worked during “partial working days” to clear backlogs.
- » **E-Courts:** Promotion of digitisation, online filing, and hybrid hearings.

Solutions to Reduce Pendency:

❖ **Fast-Tracking Pending Cases**

- » Time-bound disposal of PILs older than 10 years.
- » Categorisation of routine vs. constitutional cases.

❖ **Expanding Judicial Strength**

- » Filling all vacancies on priority.
- » Hiring retired judges for specific categories of cases.

❖ **ADR and Mediation**

- » Make mediation mandatory before litigation in commercial disputes.
- » Encourage Lok Adalats, arbitration, and conciliation.

❖ **Increasing Court Productivity**

- » Longer working days and reduced vacation periods.
- » Performance evaluation for judges and staff.

❖ **Technological Integration**

- » Expansion of NJDG with AI-based predictive tools.
- » Online filing, digital summons, and automated scheduling.
- » Use of big data analytics to identify systemic bottlenecks.

❖ **Legal and Administrative Reforms**

- » Repeal outdated laws to cut down unnecessary litigation.
- » Introduce Business Process Reengineering (BPR) to streamline procedures.

and across Indian courts highlights the urgent need for structural judicial reform. Despite initiatives like NJDG, e-Courts, and partial working benches, the inflow of cases continues to outstrip disposal rates. A multi-pronged approach is needed:

- ❖ Strengthening judge strength and infrastructure.
- ❖ Making ADR mainstream.
- ❖ Using technology for case management.
- ❖ Ensuring no judicial vacancies remain unfilled.

Without such systemic interventions, India risks not only a collapsing judicial system but also a weakening of its constitutional promise of justice—social, economic, and political.

Conclusion:

The pendency crisis in the Supreme Court

Short Issues

C. P. Radhakrishnan Elected as Vice-President of India

Context:

NDA candidate and Maharashtra Governor C. P. Radhakrishnan has been elected as the new Vice-President of India, succeeding Jagdeep Dhankhar. He defeated opposition candidate and former Supreme Court judge B. Sudershan Reddy by a margin of 152 votes.

Constitutional Provisions:

- The office of the Vice-President is governed by Articles 64 to 68 of the Indian Constitution.
 - » **Article 66:** Election by an Electoral College.
 - » **Article 67:** Term of five years, continues until successor assumes office.
 - » **Article 68:** Election within six months in case of vacancy.
 - » **Article 66(2):** Vice-President cannot be a member of Parliament or State Legislature.
- The Vice-President is also the ex-officio Chairman of the Rajya Sabha, responsible for presiding over its proceedings.

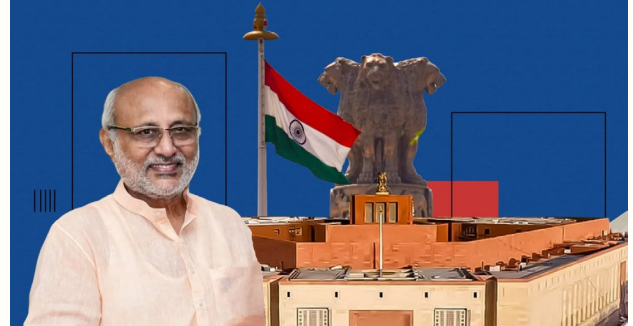
Electoral College and Voting Process:

- The Electoral College for this office consists exclusively of the members of both Houses of Parliament (Lok Sabha and Rajya Sabha), including nominated members.
- State legislatures do not participate in this election, making it purely a parliamentary affair.
- The voting system is based on:
 - » **Proportional representation by means of the single transferable vote (STV)** – ensuring that the winning candidate secures a broad consensus.
 - » **Secret ballot** – MPs cast their votes freely, without party whips. The Anti-Defection Law does not apply, guaranteeing independence of choice.
 - » **Equal vote value** – unlike the Presidential election, where MPs and MLAs' votes carry different weightage, here each MP's vote carries one value.

- For a candidate to be declared elected, he or she must secure more than 50% of the valid votes cast plus one.

India's New Vice President: Chandrapuram Ponnusamy Radhakrishnan

A look at the journey of the veteran leader from his ideological roots in the RSS to the second-highest office in the country.



Conduct of Election:

- The responsibility of conducting the election lies with the Election Commission of India (ECI), under the authority of Article 324 of the Constitution.
- By convention, the Secretary-General of either the Lok Sabha or the Rajya Sabha is appointed as the Returning Officer.
- Ballot papers are printed in pink colour, bilingual in Hindi and English, and contain columns for indicating voter preferences.
- The election is conducted in the Parliament House complex, and the counting of votes is usually completed on the same day, ensuring swift declaration of results.

Term and Succession:

- The Vice-President holds office for five years and continues until the successor takes charge.
- In case of vacancy due to resignation, death, or removal, a new election must be conducted within six months.

- Meanwhile, the Deputy Chairman of the Rajya Sabha presides over the House.

Conclusion:

The office of the Vice-President ensures continuity in governance and stability in the functioning of Parliament. By involving both elected and nominated MPs, the election process reflects broad representation, while the secret ballot guarantees independence of choice. The position remains central to India's constitutional design, bridging parliamentary responsibility with constitutional authority.

The Immigration and Foreigners Act, 2025

Context:

Immigration and Foreigners Act, 2025 recently came into effect from 1 September 2025.

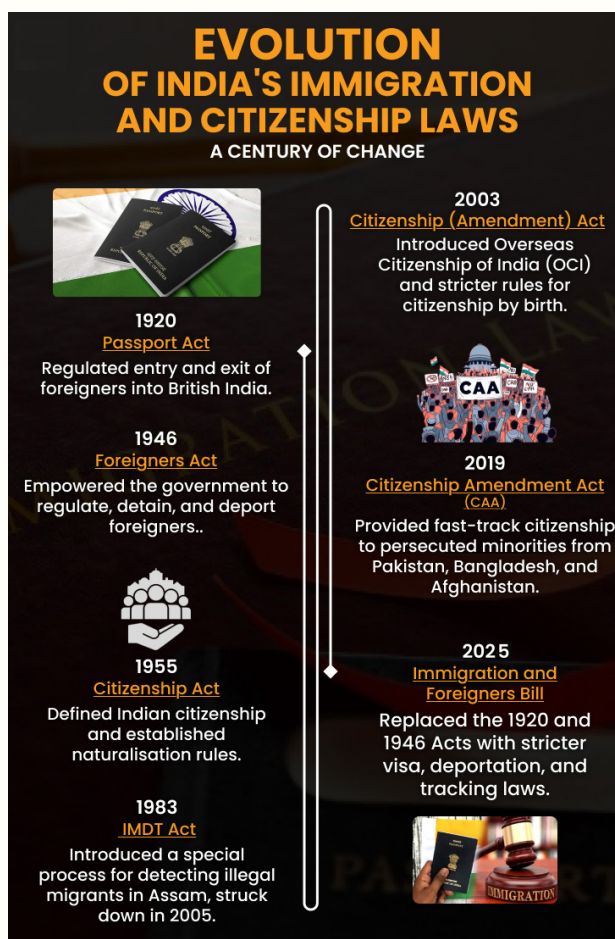
- Key Features of the Immigration and Foreigners Act, 2025:
 - » Legislative Consolidation
 - » The Act repeals four older legislations:
 - » The Passport (Entry into India) Act, 1920
 - » The Registration of Foreigners Act, 1939
 - » The Foreigners Act, 1946
 - » The Immigration (Carriers' Liability) Act, 2000
- This consolidation ends decades of fragmented and outdated rules governing immigration in India.

Major Provisions:

- **Entry Requirements:** Valid passport and visa are mandatory for all entrants unless explicitly exempted.
- **Digital Enforcement:** Mandatory online reporting by institutions like hotels, hostels, and hospitals; real-time national immigration database for security and policy planning.
- **Registration Requirements:** Foreigners must register with the District SP/DCP or FRRO.
- **Restricted Areas:** Special permits are required for prohibited or protected areas.
- **Graduated Penalties:**
 - » Fines ranging from Rs.10,000 to Rs.5

lakh

- » Imprisonment of up to 5 years
- » Lesser penalties for Tibetans, Mongolian monks, and certain refugees
- **Compounding Mechanism:** Allows administrative resolution of offences without court proceedings.
- **Centralised Power with Delegation:** Centre retains control but can delegate powers to States and UTs.



Exemptions:

- **Sri Lankan Tamil Refugees:** The September 2, 2025 notification under the Act exempts Sri Lankan Tamil nationals who sought shelter in India on or before January 9, 2015, from:
 - » Penalties for lacking valid passports or visas
 - » Any legal provisions of Section 3(1), 3(2), and 3(3) of the Act related to

documentation

- » Prosecution for overstay or undocumented stay
- **Minority Communities from Afghanistan, Pakistan, Bangladesh:** The same exemption order applies to undocumented members of six non-Muslim minority communities — Hindus, Sikhs, Buddhists, Jains, Parsis, and Christians — from Afghanistan, Pakistan, and Bangladesh, if they entered on or before December 31, 2024.
- **They are now exempt from:**
 - » Penalties for entering without valid documents or overstaying expired visas
 - » Prosecution or deportation under the Immigration and Foreigners Act, 2025
- However, exemption does not amend the Citizenship Amendment Act (CAA), 2019. The CAA cutoff remains December 31, 2014 for eligibility to fast-track Indian citizenship. However, the exemption allows these individuals to:
 - » Stay in India without facing criminal proceedings
 - » Apply for Long-Term Visas (LTVs) — a necessary step toward citizenship by naturalisation

Legal and Political Implications:

- **Humanitarian Relief without Citizenship Grant**
 - » The exemption provides legal relief from penalties, not citizenship.
 - » Citizenship for post-2014 entrants can still only be attained via naturalisation under the Citizenship Act, 1955, which requires 11 years of residence.
- **Alignment with India's Refugee Practice**
 - » Although India has no formal refugee law and is not a party to the 1951 Refugee Convention, it has historically used executive orders and exemptions to protect vulnerable groups.

Conclusion:

The Immigration and Foreigners Act, 2025 signifies India's commitment to streamlining its immigration system with a security-first yet humane approach. While the Act introduces

stringent penalties and digital controls to prevent illegal immigration, the exemption orders for Sri Lankan Tamils and minority communities underscore India's willingness to balance rule of law with compassion.

RTE Exemption for Minority Schools

Context:

The Supreme Court has recently called for a re-examination of its 2014 ruling in the *Pramati Educational and Cultural Trust vs Union of India* case. That judgment had exempted minority institutions from the provisions of the Right to Education (RTE) Act, 2009. The court now questions whether such an exemption undermines the goal of universal and inclusive elementary education.

About the Pramati Educational and Cultural Trust Case (2014):

- In 2014, the Supreme Court upheld the constitutional validity of Article 21A (Right to Education) and Article 15(5) (reservation in private institutions). However, it exempted unaided minority institutions under Article 30(1) from implementing the RTE Act.
- This meant that minority schools were not obligated to implement key RTE provisions, such as reserving 25% of seats for children from economically weaker sections (EWS) and disadvantaged groups under Section 12(1)(c).

What the Court Said:

- **Article 21A and Article 30(1) can coexist:** The right to education does not necessarily undermine the right of minorities to establish and administer institutions.
- **RTE should apply to minority schools:** Many such schools already admit students from outside their community, proving inclusivity is not incompatible with minority rights.
- **Exemption undermines inclusivity:** Allowing minority schools to bypass RTE norms weakens the constitutional vision of

universal elementary education.

- **Loophole created:** The exemption has encouraged institutions to seek minority status as a way to avoid RTE obligations.
- **Alternative approach:** On the 25% reservation clause, the Court suggested that minority schools could fulfill this requirement by admitting disadvantaged children from their own community. This would preserve cultural identity while ensuring intra-community upliftment.

Minority Educational Institutions in India:

- Minority institutions are protected under Article 30 of the Constitution, which allows religious and linguistic minorities to establish and administer educational institutions to preserve their culture and language.
 - » **Article 30(1):** Grants minorities the right to establish and administer institutions.
 - » **Article 30(2):** Prohibits discrimination in granting aid.
 - » **T.M.A. Pai Case (2002):** Clarified that minority status is determined state-wise.

The Right to Education Act, 2009:

- The RTE Act operationalises Article 21A by making free and compulsory education a fundamental right for children aged 6 to 14.
 - » 25% reservation in private schools for EWS and disadvantaged children.
 - » Prohibition of capitation fees, interviews, and unrecognised schools.
 - » Age-appropriate admission, no detention, and no expulsion until completion of elementary education.
 - » Infrastructure norms, pupil-teacher ratio, and appointment of trained teachers.
 - » Special training for out-of-school children to help them integrate.

Conclusion:

The Supreme Court's reconsideration of the 2014 ruling is significant. If the exemption for minority institutions is withdrawn, it could reshape the relationship between minority rights

and the right to education. The challenge lies in balancing cultural autonomy with the broader constitutional goal of universal, equitable, and inclusive education. The outcome of this case will have far-reaching consequences for India's education system, especially in terms of access and equity for disadvantaged groups.

Maharashtra Government on Maratha Quota

Context:

In a key move towards resolving the Maratha quota agitation, the Maharashtra government has agreed to implement the Hyderabad Gazette, a colonial-era administrative document that protesters argue supports the inclusion of Marathas in the Other Backward Classes (OBC) category. The move is seen as a crucial step toward resolving the long-standing reservation demand led by activist Manoj Jarange Patil.

About Hyderabad Gazette:

- The Hyderabad Gazette was issued by the then Nizam of Hyderabad, whose rule included Marathwada. It documents caste identities and occupations of that era, showing that Marathas were often referred to as Kunbis—an agricultural community.
- Other historic records, like one from 1884, also blur distinctions between the two groups.
- Activists say these documents prove Marathas were once officially classified as Kunbis and thus qualify for OBC benefits today.

Implication:

- With the Gazette now officially accepted, Marathas in Marathwada can obtain Kunbi caste certificates and access OBC reservations.
- The policy, however, applies only to Marathwada and not statewide.
- In other regions like Vidarbha, some Marathas are already listed as Kunbis, while many in Western Maharashtra identify as forward caste.

Issues with this policy:

- **Regional Disparity:** The decision applies only to Marathas in Marathwada, excluding those in other regions like Western Maharashtra.
- **Legal Challenges:** It may face constitutional scrutiny, as similar Maratha quotas were earlier struck down for exceeding the 50% reservation cap.
- **OBC Opposition:** Existing OBC groups may protest Maratha inclusion, fearing reduced access to jobs and education benefits.

Reservation Quota Stirs in India:

- Reservation in India is a constitutionally mandated policy to promote social justice and equitable representation for historically disadvantaged groups such as Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Classes (OBCs), and Economically Weaker Sections (EWS).
- However, demands for new quotas and modifications often lead to public protests, legal challenges, and political controversy.

Emerging Demands:

- **State-Specific Agitations:** Communities like Patidars in Gujarat, Jats in Haryana, and Kapus in Andhra Pradesh and Maratha in Maharashtra have held protests demanding OBC or separate reservations.
- **Quota-within-Quota:** Marginalized sub-groups within SC, ST, and OBC communities seek internal categorization to ensure benefits reach the most deprived sections.

Why These Stirs Happen:

- **Social Equity:** To address historical discrimination and ensure upliftment of marginalized groups.
- **Population Proportion:** Communities often demand reservation in line with their population share.
- **Representation:** Ensuring visibility in education, employment, and politics remains a key goal.
- **Legal & Constitutional Limits:** The 50% cap, as laid out in the Indra Sawhney case, remains a major point of contention.

Conclusion:

The implementation of the Hyderabad Gazette is a major step toward addressing the Maratha community's demand for inclusion in the OBC category. While it offers a region-specific solution, broader issues—like potential legal hurdles, opposition from existing OBC groups, and demands from Marathas in other regions—still remain, that need holistic solution from government side.

Gyan Bharatam Portal

Context:

On September 12, 2025, Prime Minister Shri Narendra Modi launched the Gyan Bharatam Portal as part of Gyan Bharatam Mission during the International Conference on Gyan Bharatam at Vigyan Bhawan, New Delhi. The portal is a dedicated platform designed to digitize, preserve, and provide public access to India's invaluable manuscript heritage.

The Gyan Bharatam Mission:

- The Gyan Bharatam Mission is a national initiative to preserve, digitize, and share India's vast manuscript collection. It integrates traditional knowledge with modern technology to safeguard these cultural treasures for future generations. The government has allocated Rs. 482.85 crore for the period 2024–31.
- Technology, especially Artificial Intelligence (AI), plays a pivotal role in the Gyan Bharatam Mission. AI technologies such as Handwritten Text Recognition (HTR) will be used to digitize ancient manuscripts with high accuracy.

Gyan Bharatam Mission's Core Objectives:

The Mission focuses on:

- **Identification and Documentation:** Establishing Manuscript Resource Centres (MRCs) across India for systematic documentation.
- **Conservation and Restoration:** Strengthening Manuscript Conservation Centres (MCCs) using scientific and traditional methods.
- **Digitization:** Large-scale digitization of

manuscripts using AI tools like HTR.

- **Research and Publication:** Reviving rare manuscripts through translations and critical editions.
- **Capacity Building:** Training experts in transcription, conservation, and manuscriptology.
- **Global Collaboration:** Collaborating internationally for manuscript retrieval and digitization.

About Manuscripts:

- A manuscript is a handwritten composition on paper, bark, cloth, metal, palm leaf or any other material dating back at least seventy-five years that has significant scientific, historical or aesthetic value. Lithographs and printed volumes are not manuscripts. Manuscripts are found in hundreds of different languages and scripts.
- Often, one language is written in a number of different scripts. For example, Sanskrit is written in Oriya script, Grantha script, Devanagari script and many other scripts.
- Manuscripts are distinct from historical records such as epigraphs on rocks, firmans, revenue records which provide direct information on events or processes in history. Manuscripts have knowledge content.

Significance of the Gyan Bharatam Mission:

- The Gyan Bharatam Mission aims to preserve, digitize, and make India's vast manuscript collection accessible to the world. It is not just an academic or governmental initiative but a proclamation of India's culture, literature, and consciousness.
- This mission will help safeguard India's intellectual heritage for future generations while also contributing to the global knowledge pool.

About National Mission for Manuscripts (NMM):

- Since its establishment in 2003, the NMM has been crucial in preserving India's manuscript legacy, documenting over 44 lakh manuscripts. The Gyan Bharatam

Mission builds on this foundation by incorporating cutting-edge AI technologies and creating national digital repositories to ensure global accessibility.

Conclusion:

PM Modi's launch of the Gyan Bharatam Portal marks a transformative step in preserving, digitizing, and sharing India's manuscript heritage. The Mission not only safeguards ancient wisdom but also empowers the youth to engage with and reimagine heritage in the digital age, ensuring India's intellectual legacy continues to inspire future generations.

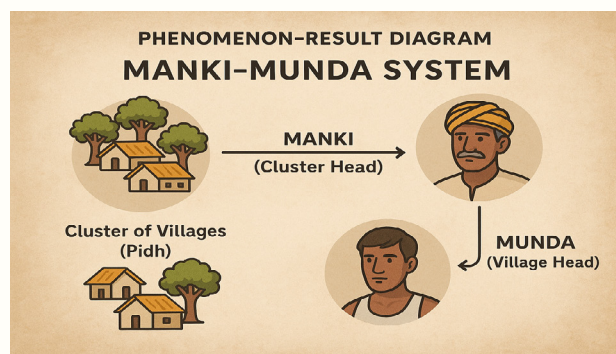
The Manki-Munda System

Context:

Recent protests by the Ho tribals in Jharkhand's Kolhan region have sparked a debate over the future of the Manki-Munda system, a traditional self-governance model central to the region's tribal administration.

Current Conflict and Protests:

- Protests in West Singhbhum district erupted after rumors circulated that the Deputy Commissioner (DC) was interfering with the Manki-Munda system by removing some Mundas.
- Despite the district administration's clarification, many Ho tribals fear losing their cultural autonomy and governance structure.



About Manki-Munda System:

- The Manki-Munda system is a decentralized,

community-driven model of governance followed by the Ho tribe in Jharkhand's Kolhan region.

- In this system, the Munda, the head of a village, resolves local disputes, while the Manki, overseeing a cluster of villages, handles unresolved issues from the Munda level.
- Operating independently of state-imposed taxes, this system historically maintained internal order based on community customs.

History of the Manki-Munda System

- **Pre-British Era:** The Ho tribe governed itself autonomously, with Mankis and Mundas serving as leaders in familial and social matters without external interference.
- **British Era:** The East India Company's arrival disrupted this system.
 - » The Permanent Settlement Act (1793) imposed land taxes, leading to tribal uprisings. To quell resistance, the British co-opted the Manki-Munda system, using it as intermediaries to control the region while maintaining local autonomy.
 - » In 1833, Captain Thomas Wilkinson formalized the system with Wilkinson's Rules, integrating it into British governance.

Wilkinson's Rules (1833)

- Drafted by Captain Thomas Wilkinson, Political Agent for Kolhan.
- Contained 31 rules, first formal codification of tribal customs in India.
- Recognised Mankis and Mundas but tied them to colonial administration.
- Objective: manage Kolhan by blending local traditions with British authority.

Structural Changes under British Rule

- Private property introduced; pattas (land deeds) issued.
- Adivasis became raiyats (tenants of the state) instead of communal owners.
- Demographic change: outsiders increased from 1,579 (1867) - 15,755 (1897).
- Railways accelerated in-migration and altered social balance.



Post-Independence:

- After India's independence, Wilkinson's

Rules continued to govern tribal affairs in Kolhan. Though Patna High Court in 2000 deemed these rules outdated, they remain in practice.

- The Nyaya Panch system was introduced in 2021 for revenue-related functions, but the Manki-Munda system persists, particularly in rural areas where traditional governance is still integral to community life.

Reform Demands by youth:

- There are growing calls for reform in the Manki-Munda system, particularly from the younger generation. Many argue that the hereditary nature of leadership no longer suits modern administrative needs, as many Mankis and Mundas lack formal education.
- Efforts to fill vacant positions and simplify the system are underway, but tensions remain as the community debates balancing tradition with modernity.

About Ho tribe:

- The Ho tribe is an Austroasiatic Munda ethnic group that primarily resides in the Chota Nagpur Plateau region of Jharkhand, India.
- Their population is also spread across parts of Odisha, West Bengal, and Bihar. This indigenous community has a rich cultural heritage and an enduring connection to the land they inhabit.

Conclusion:

The Manki-Munda system is an emblem of tribal self-governance, but as Jharkhand modernizes, the system faces pressure. While some argue for preserving tradition, the need for reform is undeniable. Striking a balance between cultural heritage and contemporary governance will shape the future of this ancient system.

Political Parties Not Covered Under POSH Act

Context:

On September 15, 2025, the Supreme Court of India dismissed a petition seeking the

inclusion of women political workers under the ambit of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013, commonly known as the POSH Act. The petition, filed by advocate M.G. Yogamaya, argued that political parties qualify as “employers” and that their offices should be treated as “workplaces” under the Act.

Supreme Court's Observations:

- A Bench led by Chief Justice of India B.R. Gavai questioned the logic of treating political parties as formal “employers” under the law.
- The Court warned that such an interpretation would “open a Pandora’s box,” as it would require legal regulation of informal, non-remunerative, and politically fluid environments, including party offices and field operations.
- The plea was ultimately dismissed, with the Bench indicating that such policy changes fall within the legislative domain, not the judiciary.

About the POSH Act:

- The POSH Act of 2013 is India's first dedicated legislation to prevent and redress sexual harassment of women at the workplace. It builds upon the Vishaka Guidelines (1997) laid down by the Supreme Court.



Key Aspects of the POSH Act:

- **Scope:** Applies to all women employees—government, private sector, NGOs, and unorganized sectors.
- **Definition of Sexual Harassment:** Includes unwelcome physical contact, sexual

advances, sexually colored remarks, or any verbal/non-verbal conduct of a sexual nature.

▪ **Employer Responsibilities:**

- » Establish Internal Complaints Committees (ICC) in establishments with 10+ employees.
- » In workplaces with fewer than 10 employees, complaints are directed to Local Complaints Committees (LCC).
- » Conduct awareness and training programs.
- » Ensure a safe and dignified work environment.

- **Penalties:** Non-compliance can result in fines and even cancellation of business licenses.

The Act’s core aim is to promote dignity, safety, and equality for women at the workplace—regardless of sector.

Conclusion:

Sexual harassment in the workplace is a violation of fundamental rights and contradicts the constitutional principles of equality, dignity, and liberty. The POSH Act, backed by international obligations like CEDAW, is not just a workplace policy—it’s a constitutional safeguard. However, as the judgment shows, certain informal sectors like politics remain outside its ambit, making legislative reform essential. As more women engage in electoral politics, campaign management, and grassroots activism, their right to a harassment-free political space must be legally ensured.

National Makhana Board

Context:

Prime Minister Narendra Modi recently inaugurated the National Makhana Board in Purnea, Bihar. This initiative, first announced in the Union Budget 2025, aims to boost the production, processing, and export of makhana—also known as fox nut.

Role and Objectives of the National Makhana Board

- The newly established National Makhana

Board will focus on several key areas to transform the sector: raising production standards, enhancing post-harvest management, introducing advanced technologies, expanding value addition, and improving marketing and export linkages.

- It will also support farmer-producer organizations and help makhana farmers access central government schemes, providing much-needed institutional backing to this traditional crop.



About Makhana:

- Makhana, or fox nut, is an aquatic flowering plant scientifically called *Euryale ferox*. It thrives in tropical and subtropical climates, growing in stagnant water bodies like ponds and wetlands with water depths of 4-6 feet. Often referred to as the "Black Diamond" because of its dark outer shell, makhana seeds turn white when popped.
- Bihar dominates India's production, accounting for around 90% of the total output. Other states such as West Bengal, Assam, and Manipur produce makhana commercially, while it is also cultivated internationally in countries including Nepal, Bangladesh, and China.
- The crop requires specific climatic

conditions, such as temperatures between 20°C to 35°C, relative humidity of 50-90%, and smooth loamy soil.

- Bihar's GI-tagged Mithila Makhana is already being exported to countries like the UAE, the US, Canada, and New Zealand. The government's new initiatives will further boost exports by improving quality standards, marketing, and international market access.

Nutritional Benefits and Traditional Production:

- Popped makhana is low in calories and fat but rich in plant-based protein, dietary fiber, and minerals like magnesium, potassium, and phosphorus.
- It also contains antioxidants, making it gluten-free and vegan-friendly—qualities that have increased its demand among health-conscious consumers worldwide.
- The cultivation and harvesting of makhana are labor-intensive. Farmers harvest spiky pods from shallow waters, dry the seeds, roast them at high temperatures, and then pop them to produce the familiar white kernels.
- This traditional process is crucial to livelihoods in Bihar's Mithilanchal and Seemanchal regions.

Agricultural Reforms:

- Makhana development is part of broader government efforts to boost rural agriculture. Key initiatives include
- Prime Minister Dhan-Dhaanya Krishi Yojana, targeting crop diversification and irrigation improvements across 100 districts;
- Mission for Aatmanirbharta in Pulses, focusing on pulse production with procurement support; and an increased Kisan Credit Card loan limit from Rs. 3 lakh to Rs.5 lakh.

Conclusion:

With the launch of the National Makhana Board, Bihar's makhana sector is poised for transformation—turning this regional specialty

into a globally recognized superfood and boosting rural prosperity.

Guidelines on DNA Evidence in Criminal Cases

Context:

The Supreme Court of India in a landmark judgment in *Kattavellai @ Devakar v. State of Tamil Nadu*, has issued uniform national guidelines to regulate the collection, handling, and presentation of DNA evidence in criminal cases.

Significance of the Guidelines:

- In the Devakar case, which involved charges of rape, murder, and robbery, the Court found unexplained delays in sending vaginal swab samples to the Forensic Science Laboratory (FSL) and a missing chain of custody, raising serious doubts about the reliability of the DNA evidence.
- Although some states had issued internal guidelines, the absence of uniform national procedures prompted the Supreme Court to intervene.

About DNA:

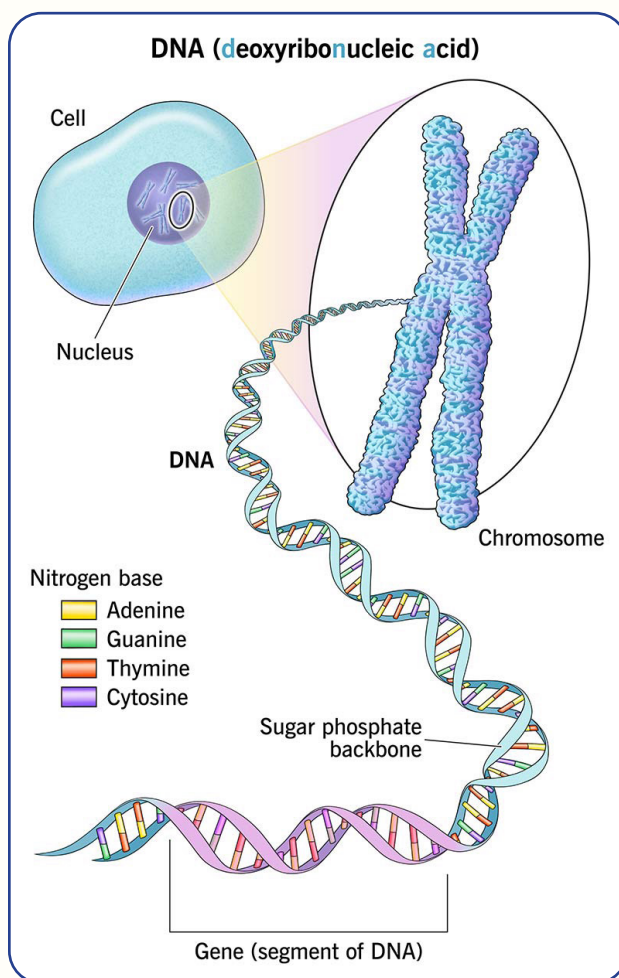
- DNA (Deoxyribonucleic Acid) is the genetic blueprint for all living organisms, responsible for heredity, cell function, and protein synthesis.
- DNA carries instructions passed from parents to offspring and defines traits such as eye color, height, and disease susceptibility.
- DNA is made of two long chains called polynucleotides, each composed of nucleotides containing a sugar (deoxyribose), a phosphate group, and one of four nitrogenous bases: adenine (A), thymine (T), cytosine (C), or guanine (G).
- These bases pair specifically (A with T, C with G) through hydrogen bonds.

About Four Key Guidelines:

- **Proper Documentation at Collection:** Once DNA samples are collected, they must be

appropriately labeled with the FIR number, date, relevant legal sections, and details of the investigating officer and medical examiner. Signatures from all involved, including independent witnesses, must be recorded to establish accountability.

- **Timely Transfer to FSL:** The investigating officer must ensure the DNA sample is delivered to the FSL within 48 hours of collection. Any delay must be recorded with valid reasons, and steps must be taken to preserve the sample during the interim.



- **Secure Storage Pending Trial:** While awaiting trial or appeal, DNA samples must not be opened, altered, or resealed without the express authorization of the trial court. This ensures the evidence remains untainted.
- **Maintaining the Chain of Custody Register:**

A detailed Chain of Custody Register must be maintained from the point of collection until the conclusion of the case (conviction/acquittal). This register becomes part of the trial court record. The investigating officer is held accountable for any procedural lapses.

Supreme Court earlier decisions on DNA:

- The Court clarified that DNA evidence is a form of opinion evidence under Section 45 of the Indian Evidence Act (Section 39 of the Bharatiya Sakshya Adhiniyam, 2023). This means it is not conclusive and must be weighed along with other evidence in the case.
- A match between DNA from a crime scene and a suspect indicates a common biological origin, but does not by itself establish guilt.

Major rulings:

- **Anil v. State of Maharashtra (2014):** DNA is valid and reliable, but only when lab quality control is ensured.
- **Manoj v. State of Madhya Pradesh (2022):** DNA from an open area was rejected due to possible contamination.
- **Rahul v. State of Delhi (2022):** DNA stored in police custody for two months was deemed unreliable due to potential tampering.

Conclusion:

The Supreme Court's guidelines mark a vital step toward reforming forensic practices in India's justice system. While DNA evidence can greatly aid investigations, it requires strict, uniform protocols to be legally reliable. By enforcing documentation, timely processing, and chain-of-custody standards, the Court has ensured greater transparency and accountability. These rules now provide a binding framework for all states, reinforcing that justice depends on both scientific rigor and procedural fairness.

Anand Marriage Act

Context:

Supreme Court, recently directed 17 states and 7 union territories that have not framed rules

under Section 6 of the Anand Marriage Act, 1909 to do so within four months. Until the rules are in place, the Court ruled that Anand Karaj marriages must be accepted and registered under existing marriage laws (civil frameworks) and be treated without discrimination.

About Anand Marriage Act:

- The Anand Marriage Act, 1909, recognizes the validity of marriages performed by the Sikh ceremony of Anand Karaj.
- The Act was enacted to eliminate doubts regarding the validity of Sikh marriages and provide legal recognition to the Anand Karaj ceremony. In 2012, the Act was amended to include provisions for registering Anand Karaj marriages.
- However, many states and UTs did not notify rules to operationalise Section 6, causing uneven access to legal recognition.

What Issues the Court Order Does Not Resolve:

- **Lack of Comprehensive Matrimonial Provisions**
 - » The Anand Marriage Act, even with its amendment, does not address divorce, maintenance, or other matrimonial disputes specifically for Anand Karaj marriages. In practice, Sikhs must use the Hindu Marriage Act, 1955 for these issues.
 - » This means that while registration is now being enforced, when it comes to dissolving marriages, property disputes, inheritance etc., there is still legal dependence on other laws that may not align with Sikh customs or expectations.
- **Identity and Distinct Community Recognition:**
 - » The Anand Marriage Act's limitations are also attributed to the lack of recognition of Sikhs as a distinct community, unlike Muslims and Christians.
 - » This has led to Sikhs being governed by the Hindu Marriage Act in matters of divorce and other matrimonial disputes, which can be seen as an infringement on their religious identity



States that have not implemented 1909 Anand Marriage Act

Uttarakhand	Sikkim
Karnataka	Tripura
Tamil Nadu	Arunachal
Jharkhand	Goa
UP, Assam	Manipur
Bengal	Jammu-Kashmir
Gujarat	Ladakh
Bihar	Chandigarh
Maharashtra	Lakshadweep
Telangana	Daman-Diu
Nagaland	Puducherry and
Sikkim	Andaman-Nicobar

Conclusion:

While the Supreme Court's direction to frame rules for registering Sikh marriages is a step in the right direction, it doesn't address the underlying issues with the Anand Marriage Act. The Act's limitations and lack of clarity on divorce and matrimonial disputes continue to be a concern for the Sikh community. A more comprehensive marriage act that recognizes Sikhs as a distinct community and addresses

their specific needs may be necessary to resolve these issues. Unless Parliament or states take further steps to fill these gaps — e.g., amending the Anand Marriage Act to include matrimonial dispute resolution, or drawing up uniform, detailed rules that respect Sikh customs — the old debates around identity, legal parity, and justice for Sikh couples will continue.

Sawalkote Dam on Chenab River

Context:

India's stalled Sawalkote Dam project on the Chenab River has recently re-emerged as a crucial component of the country's strategy to harness the hydropower potential of the Chenab basin. This renewed focus comes amid increasing demand for clean energy and a strategic approach to utilizing water resources shared under international agreements.

About Sawalkote Dam:

- The Sawalkote Hydroelectric Project (HEP) is a significant infrastructure initiative proposed on the Chenab River in the Ramban and Udhampur districts of Jammu & Kashmir. This project aims to harness the hydropower potential of the Chenab River, contributing to India's energy security and economic development.
 - » **Capacity:** 1,856 MW (comprising 8 units of 225 MW each and 1 unit of 56 MW for environmental flow)
 - » **Dam Type:** 192.5-meter-high Roller Compacted Concrete (RCC) gravity dam

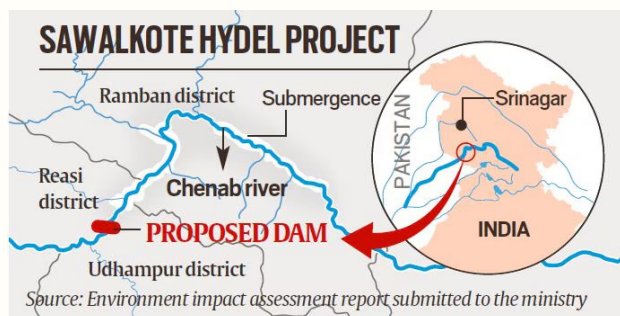
Legal and Diplomatic Context:

- The Chenab River, part of the Indus River System, is shared between India and Pakistan under the IWT signed in 1960.
- The treaty allocates the western rivers (Indus, Jhelum, and Chenab) to Pakistan, with India permitted to use them for non-consumptive purposes like hydropower generation.
- However, recent geopolitical developments have led to India placing the IWT in

abeyance, allowing for the revival of projects like Sawalkote

Strategic Significance:

- **Energy Security:** The Sawalkote HEP is poised to become Jammu & Kashmir's largest hydropower project, surpassing the 900 MW Baglihar project. Once operational, it will significantly contribute to the region's energy needs.
- **Economic Development:** The project is expected to boost local economies through job creation, infrastructure development, and enhanced power supply.
- **Environmental Considerations:** The project's design includes measures to mitigate environmental impacts, such as the construction of a 56 MW auxiliary unit to maintain ecological flow.



About the Chenab River:

- The Chenab River is a significant tributary of the Indus River system, which plays a vital role in the geography, economy, and politics of the region.
 - » **Origin:** The Chenab is formed by the confluence of two streams, the Chandra and Bhaga, in the Lahaul and Spiti districts of Himachal Pradesh.
 - » **Alternate Name:** In its upper reaches, it is called Chandrabhaga.
 - » **Course:** The river flows through the union territory of Jammu and Kashmir and Himachal Pradesh. After merging with the Jhelum River near Trimmu, it eventually drains into the Sutlej River.
- **Major Tributaries:** The Chenab's River system is fed by numerous tributaries,

categorized as follows:

- » **Left Bank Tributaries:** Niru, Tawi, Neeru, Liddrari
- » **Right Bank Tributaries:** Ans, Bhut Nalla, Bichleri, Kalnai, Marusudar, Miyar Nalla
- **Key Dams on the Chenab River:** India has constructed several major dams on the Chenab to harness its hydropower potential:
 - » **Salal Dam:** A rockfill dam
 - » **Aalal Dam:** A concrete dam
 - » Baglihar Dam
 - » Dul Dam

Conclusion:

The Chenab River, with its vital ecological and geopolitical role, continues to be central to India's water and energy strategy. The revival of stalled projects like the Sawalkote dam underscores India's commitment to sustainable development, clean energy, and judicious water management under international frameworks like the Indus Waters Treaty.

GST Appellate Tribunal

Context:

On 24th September 2025, Union Minister for Finance and Corporate Affairs, Smt. Nirmala Sitharaman, formally launched the Goods and Services Tax Appellate Tribunal (GSTAT) in New Delhi.

About GST Appellate Tribunal:

- GSTAT is a statutory tribunal established under Section 109 and Section 110 of the Central Goods and Services Tax Act, 2017 (CGST Act). It serves as a common forum for appeals under the Central GST Act and the respective State/UT GST Acts.
- Its structure reflects cooperative federalism with a Principal Bench in New Delhi and 31 State Benches across 45 locations.
- The GSTAT consists of a President (Head), a Judicial Member, and two Technical Members (one representing the Centre and one from the State). Each State Bench includes two Judicial Members and one Technical Member each from the Centre

and the State.

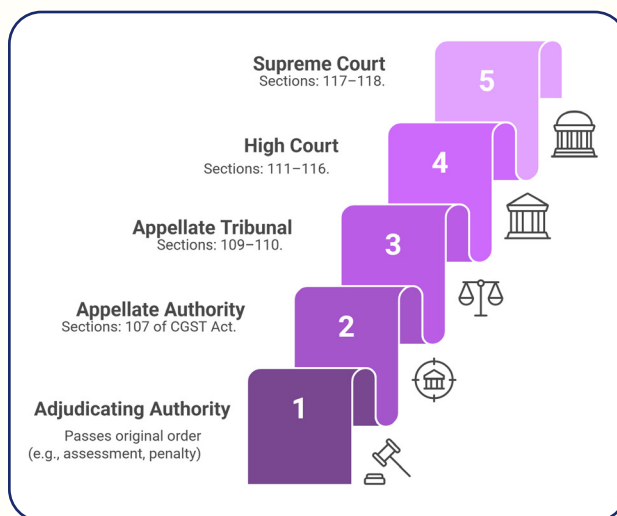
- The President must be a former Supreme Court judge or High Court Chief Justice. Judicial Members must have served as High Court or District Judges for at least 10 years. Technical Members from the Centre and States must be senior officers with at least 25 years of service and experience in GST or tax administration.

Powers & Functions:

- GSTAT acts as the second appellate body in the GST structure – hearing appeals against orders passed by Appellate or Revisional Authorities under both central and state GST laws.
- From April 2026, the Principal Bench will also act as the National Appellate Authority for Advanced Ruling (AAR), adding to its jurisdiction.
- It can:
 - » Pass orders, impose penalties, revoke or cancel registrations, rectify errors, summon documents, examine witnesses etc. (powers akin to civil courts in aspects linked to GST disputes)
 - » Ensure uniformity in the interpretation of GST across states and Centre, reducing conflicting rulings.

Significance of tribunal:

- Jargon-free decisions presented in plain language, along with simplified formats and checklists.
- Digital-by-default filings and virtual hearings, along with time standards for listing, hearing, and pronouncement.
- Staggered filing of legacy appeals until 30 June 2026 to manage case volume.
- Reduced legal frictions and simplified dispute resolution, thereby enabling faster cash flows and greater confidence for MSMEs and exporters.
- Building a transparent, predictable, and credible appellate process to strengthen taxpayer trust.



Challenges:

- The backlog of appeals (estimated at ~ 4.8 lakh) will strain the new tribunal from the beginning.
- Coordinated Centre–State cooperation will be crucial to staff benches, agree on procedures, and ensure smooth operations.
- Ensuring the independence, competence and consistency of judicial and technical members across various benches is essential to avoid regional disparities.
- To benefit smaller taxpayers, bridging the digital divide (making online filing and virtual hearings accessible) will be important.

Conclusion:

The launch of GSTAT signals a deeper maturity in India's GST structure. If implemented faithfully, with transparency, speed, fairness, it can be transformative for taxpayers, trade, and the institutional credibility of indirect taxation in India.

FCRA Licence

Context:

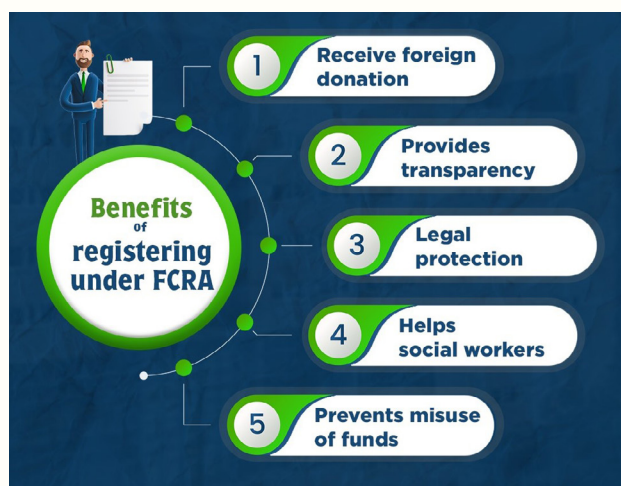
The Ministry of Home Affairs (MHA) has recently cancelled the Foreign Contribution (Regulation) Act, 2010 (FCRA) registration of the Students' Educational and Cultural Movement of Ladakh (SECMOL). SECMOL is an NGO associated with climate activist Sonam Wangchuk. The

cancellation was made under Sections 8(1)(a), 17, 18, 19, and 12(4) of the FCRA act, 2010.

- The cancellation of the FCRA licence means SECMOL will no longer be able to receive foreign funding, severely restricting its ability to carry out its activities.

About FCRA Licence:

- The FCRA licence (or registration) is a legal permission granted under FCRA act, 2010, by the Government of India (via the Ministry of Home Affairs, MHA) which allows NGOs (non governmental organisations), associations, individuals etc. to legally receive and use foreign contributions or foreign hospitality.



Key Features & Requirements:

- **Who needs the FCRA licence**
 - » Any NGO, trust, society, or association in India which intends to receive foreign funds must obtain FCRA registration or prior permission.
 - » The registration is mandatory for organisations receiving foreign contributions. Without this, accepting foreign contribution is illegal.
- **Permissible Purposes**
 - » Foreign contributions are allowed for activities with definite cultural, social, educational, religious, or economic programmes.
 - » The funds must be used for the purpose for which they were given.

Eligibility Criteria

- » The NGO must be properly registered under Indian laws (Societies Registration Act, Trusts Act, Companies Act Section 8 etc.)
- » It should have been operational for a specified minimum period, often 3 years.
- » It must have conducted actual activity in its chosen field for public benefit.
- » Its office bearers should have clean antecedents (e.g., not involved in communal tension, conversion, sedition etc.).

Validity & Renewal

- » Once granted, the registration is valid for 5 years.
- » NGOs must apply for renewal within six months before expiry. If renewal is not applied, registration may expire.

Bank Account

- » NGOs must open a designated FCRA bank account (in many cases in the State Bank of India, New Delhi) for receipt of foreign contributions.

Powers of the Government under FCRA:

- The government has certain regulatory powers under the FCRA, including:
 - » Cancellation of registration if the NGO is found violating provisions: misusing funds, false statements in the application, non use of funds, or if in public interest the registration should be cancelled.
 - » Suspension of FCRA licence (e.g. temporarily for up to 180 days) pending inquiry. During suspension, NGO cannot receive fresh foreign funds.
 - » Fines, penalties, or other legal action in cases of violations.



International Relations

Nepal's Political Crisis: Gen Z Protests and Implications for India

Context:

Nepal is witnessing one of its most intense waves of youth-led protests in recent days, popularly termed the Gen Z Protests. The immediate trigger was a government ban on 26 major social media platforms, including Facebook, Instagram, WhatsApp, X, and YouTube.

The move sparked outrage, particularly among young Nepalis who rely on these platforms for expression, connection, and livelihood. Within days, thousands of students, many in their school uniforms, were on the streets of Kathmandu demanding accountability and political reform. The demonstrations have led to the resignation of Prime Minister KP Sharma Oli and left more than 22 people dead. After this, Sushila Karki was elected as the interim Prime Minister.

The crisis carries regional implications, especially for India, which shares an open 1,751-kilometre border with Nepal. As India steps up security measures, questions arise over Nepal's political stability, governance, and the future direction of this movement led largely by Generation Z.

What Triggered the Protests?

❖ The immediate catalyst was the Nepali government's decision to ban 26 social media platforms, including WhatsApp, Instagram, and Facebook. Authorities claimed the platforms had failed to register with the Ministry of Communication and Information Technology by the stipulated

deadline.

- ❖ However, social media is integral to daily life in Nepal, which has one of the highest user rates per capita in South Asia. The ban instantly provoked anger. Critics accused the government of using the pretext of regulation to stifle dissent and weaken anti-corruption campaigns that had gained momentum online.
- ❖ The decision also disrupted education, as many students depended on these platforms for online classes and study resources. This reinforced the perception that the ban was not just about regulation but about silencing youth voices. Facing backlash, the government repealed the ban within days, but by then the protests had spiralled far beyond the initial grievance.
- ❖ **Reason behind Ban:** The government justified the ban on the grounds of non-compliance with its regulatory orders. For over a year, Nepal has been trying to push global social media giants to:
 - » Register with the government,
 - » Appoint a grievance officer, and
 - » Remove content flagged by authorities.
- ❖ When companies refused, the government, backed by a Supreme Court order, imposed a blanket ban.
- ❖ Platforms that complied, such as TikTok, Viber, WeTalk, Nimbuzz, and Poppo Live, were spared. TikTok, previously banned in 2023, managed to resume operations after agreeing to government terms.

NEPAL GenZ PROTEST

What led to KP Oli's resignation

Social Media apps blocked

Nepal's KP Sharma Oli government **blocked 26 popular social media platforms**, including Facebook, YouTube, WhatsApp, and X on Sept 4, 2025, citing companies' non-compliance with a new social media legislation.

GenZs take to streets

On morning of Sept 8, thousands of **Nepali youths** thronged Kathmandu streets protesting against social media bans.

Oli calls for 'all-party meet'

PM Oli called for an **all-party meet** at 6 pm on Sept 9, requesting "all brothers and sisters to remain calm in this difficult situation."

Govt lifts social media ban

However, Nepal government **lifted its social media ban** late night on Sept 8 after violent clashes.

PM Oli releases statement

Rights groups and activists slammed the legislation calling it a **tool to silence dissent**. PM Oli defended the move, saying he would not tolerate the "nation being undermined."

Protests turn violent

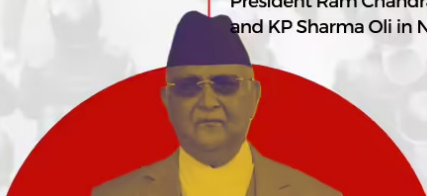
Security forces responded with water cannons and tear gas, turning protest violent, leaving **19 protesters dead** on Sept 8.

PM resigns

Owing to mounting pressure, Nepal Prime Minister KP Sharma Oli and his cabinet **resigned** on Sept 9.

Mob vandalises PM residence

Protesters on Sept 9 **vandalised the private residences** of Nepal's President Ram Chandra Poudel and KP Sharma Oli in Nepal.



Social Media Regulation:

- ❖ The Nepal episode is part of a broader international debate on regulating Big Tech.
 - » **Arguments for regulation:** Governments contend that social media platforms enable the spread of misinformation, hate speech, cybercrime, and foreign influence operations. Regulation is seen as essential for national security and social stability.
 - » **Arguments against regulation:** Civil society actors warn that governments often invoke these concerns to justify censorship, surveillance, and restrictions on fundamental rights such as freedom of speech and association.

- ❖ South Asia has witnessed similar measures:
 - » **Pakistan** has periodically banned X and TikTok, particularly during episodes of political unrest.
 - » **Sri Lanka** restricted Facebook during its 2018 constitutional crisis.
 - » **Myanmar** imposed a nationwide internet blackout following the 2021 coup.
 - » **India** has not pursued blanket bans (with the exception of Chinese apps in 2020) but regulates platforms under the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.
 - » **Nepal's** choice of a comprehensive ban placed it closer to the restrictive approaches of authoritarian regimes, rather than the regulated accommodation seen in India.

Implications for India–Nepal Relations:

- ❖ India has historically maintained close ties with Nepal through geography, culture, and open borders. Political instability in Kathmandu complicates these relations in several ways:
 - » **Policy Uncertainty:** Frequent leadership changes delay projects on trade, connectivity, and energy cooperation.
 - » **Security Concerns:** Unrest in Nepal can spill over across the open border, with potential implications for migration and security.
 - » **Geopolitical Competition:** China has consistently sought to expand its influence in Nepal through infrastructure investments. Instability risks pushing Nepal further into Beijing's orbit.
- ❖ The timing of the crisis is noteworthy. Oli had recently returned from the Shanghai Cooperation Organisation (SCO) Summit in China, and he was scheduled to visit India in September.

India's Development Partnership with Nepal:

- ❖ India is Nepal's single largest development partner since the 1950s. Assistance is targeted at infrastructure, health, education,

and grassroots capacity-building.

» **Earthquake Reconstruction (2015):** India pledged \$1 billion, including \$250 million as grant.

» **Community Development:** Over 300 school buildings, hospitals, and roads built under the High-Impact Community Development Projects (HICDPs). As of 2024, India has donated 1,009 ambulances and 300 school buses.

❖ **Connectivity Projects:**

» Cross-border road and rail links, including the first broad-gauge passenger train to Biratnagar and freight rail to Kathmandu.

» Cross-border fuel pipelines: Motihari–Amlekhgunj (Phase I operational in 2019, Phase II ongoing) and Siliguri–Jhapa pipeline.

❖ **Energy Cooperation:** Joint Vision on Power (2022) envisions 10,000 MW of Indian clean energy imports from Nepal by 2034. Projects include:

- » Arun-III Hydropower Plant (900 MW)
- » West Seti (750 MW)
- » Phukot Karnali Project

❖ **Digital and Institutional Engagement:**

- » Launch of UPI mobile payments in Nepal (2024).
- » Over 38,000 Nepali students have received Indian scholarships since 2001.
- » Legal cooperation MoU between the Supreme Courts (2025).
- » Discussions for IIT/IIM satellite campuses in Nepal.

❖ **Security and Defence Cooperation:** The open border, while a facilitator of ties, also requires joint security management against smuggling, crime, and insurgency. India trains and equips Nepal's armed forces, while over 32,000 Nepali Gurkhas serve in the Indian Army's Gorkha regiments.

» **Joint Exercises:** Surya Kiran strengthens disaster response and counter-terror interoperability.

» **Crisis Assistance:** India's relief operations during the 2015 Nepal earthquake.

» **Evacuations:** Nepalese citizens were

evacuated alongside Indians under Operation Ganga (Ukraine) and Operation Sindhu (Israel–Iran conflict).

❖ India and Nepal are founding members of SAARC and BIMSTEC, and cooperate on subregional initiatives like the BIMSTEC Transport Connectivity Master Plan. Nepal supports India's bid for a permanent seat in the UN Security Council.

Challenges in India-Nepal Relationship:

❖ **Boundary Disputes:** The Kalapani–Lipulekh–Limpiyadhura issue periodically strains ties.

❖ **Perception of Asymmetry:** Nepal often views India's dominance in trade and security as overbearing.

❖ **Chinese Influence:** Nepal's engagement with China under the BRI poses challenges for India's strategic interests.

Conclusion:

Nepal is at a crossroads. What began as a protest against a social media ban has transformed into a generational uprising against corruption, inequality, and unfulfilled promises of democracy. Following the resignation of KP Sharma Oli and with the election of a new Prime Minister, the country is facing uncertainty. For India, the crisis presents both challenges and opportunities. Instability in Nepal could strain border security, disrupt trade, and complicate regional geopolitics. At the same time, India's restrained approach allows it to maintain neutrality and focus on long-term cooperation. Ultimately, the protests reflect a simple truth: Nepal's youth are demanding accountability, fairness, and dignity. Unless the political establishment responds meaningfully, the Himalayan nation risks prolonged instability at a time when its people are calling for transformation.

Short Issues

Political Crisis in France and New Prime Minister

Context:

On September 9, 2025, French President Emmanuel Macron appointed Sébastien Lecornu as the new Prime Minister of France, after the previous PM François Bayrou was removed in a confidence vote in Parliament. Lecornu becomes the fifth PM in just two years, highlighting growing political instability in France.

About Sébastien Lecornu:

- Aged 39, Lecornu is a former conservative who joined Macron's centrist Renaissance party in 2017. He was the youngest Defence Minister in French history and has also served as Minister for Local Government and Overseas Territories. Since 2022, he has been the longest-serving minister in Macron's cabinet.

Reason behind his appointment:

- Macron seeks a loyal and experienced ally to manage the political crisis and ensure continuity in governance.
- Lecornu is viewed as pragmatic, pro-defence, and pro-reform, fitting to advance Macron's economic policies, including austerity measures.
- His appointment signals a desire for stability and discipline amidst parliamentary chaos.

Impact on Bilateral Relations with France:

- **Strategic Partnership at Risk:** France is a crucial defence partner for India, involved in deals like Rafale jets and joint military exercises. Political turmoil could delay or disrupt ongoing agreements, impacting India's defence preparedness.
- **Uncertainty in Policy Continuity:** Frequent leadership changes may lead to inconsistent foreign policies, affecting trade, investment, and technology cooperation with India.
- **Defence Cooperation and Indo-Pacific Strategy:** France's role in the Indo-Pacific, supporting a Free and Open Indo-Pacific

aligned with India's interests, could weaken due to instability, reducing the effectiveness of joint efforts to balance China's growing influence.



Effect on India's Multilateral Diplomacy:

- **European Union Dynamics:** As a key EU player, France's instability complicates EU consensus on issues vital to India, such as trade agreements (e.g., India-EU FTA), counter-terrorism, and sustainable development.
- **Influence in Global Forums:** France's role in the UN Security Council, G7, and NATO may be affected, weakening global cooperation on challenges like climate change, terrorism, and pandemics, where India seeks strong partnerships.
- **Climate and Energy Cooperation:** France's leadership in nuclear energy and climate initiatives is important for India's energy transition. Political uncertainty may delay joint projects in these sectors.

Conclusion:

Political instability in France presents both challenges and opportunities for India. While it threatens bilateral ties and complicates multilateral diplomacy, it also encourages India to diversify its international relations and strengthen strategic autonomy. Navigating

this uncertainty with strategic foresight and diplomatic resilience will be essential to safeguarding India's interests on the global stage.

SCO Summit 2025

Context:

The 2025 Shanghai Cooperation Organisation (SCO) summit was held in Tianjin, China, from August 31 to September 1, 2025. Hosted by Chinese President Xi Jinping, it was the 25th meeting of the Council of Heads of State of SCO.

Key Outcomes of the meeting:

- **Tianjin Declaration:** Adopted as the central political outcome, emphasizing the SCO's commitment to regional cooperation and stability.
- **Development Strategy for 2026-2035:** Approved to outline long-term priorities and direction for the SCO's growth, focusing on economic, security, and cultural cooperation.
- **Cooperation Programme (2026-2030):** Aimed at countering extremist ideology within the SCO space, promoting regional security and stability.
- **Roadmap for SCO Energy Cooperation until 2030:** Outlining strategies for energy collaboration, sustainable development, and green industry initiatives.
- **SCO Observer Status in CIS:** The SCO was granted observer status within the Commonwealth of Independent States (CIS), enhancing its international partnerships.
- **Cholpon Ata Declaration:** Cholpon Ata in Kyrgyzstan was declared the SCO's tourist and cultural capital for 2025-2026, promoting cultural exchange and cooperation.

Significance of the SCO for India:

- **Security:** India views regional security, peace, and stability as fundamental for development. Terrorism remains a major threat, and India stresses the need for unity in combating it. SCO's Regional Anti-

Terrorist Structure (RATS), can provide a platform for India's security and safety.

- **Connectivity:** Through SCO, India promotes strong connectivity projects such as the Chabahar Port and the International North-South Transport Corridor to enhance linkages with Central Asia and Afghanistan.
- **Opportunity:** Under India's presidency in 2023, new cooperation areas like innovation, youth empowerment, and cultural exchanges were introduced. India proposed creating a Civilizational Dialogue Forum to deepen people-to-people ties by showcasing shared heritage.



About Shanghai Cooperation Organisation:

- The Shanghai Cooperation Organisation (SCO) is a Eurasian political, economic, and security alliance established in 2001 by Kazakhstan, China, Kyrgyzstan, Russia, Uzbekistan, and Tajikistan.
- It originated from the "Shanghai Five" border talks in 1996. The organisation has expanded to include ten members, with India and Pakistan joining in 2017, Iran in 2023, and Belarus in 2024.
- The SCO's secretariat is based in Beijing, China, and its Regional Anti-Terrorist Structure (RATS) office operates from Tashkent, Uzbekistan.

- The SCO upholds the “Shanghai Spirit,” focusing on mutual trust, equality, and respect for cultural diversity.

Main objectives of SCO:

- The SCO aims to enhance regional stability by combating terrorism, extremism, and separatism through coordinated security measures. Economically, it promotes cooperation in trade, investment, energy, and transport.
- Politically, it seeks to strengthen mutual trust to foster a more democratic and just international order.
- Additionally, the SCO encourages cultural exchanges in education, tourism, and the arts.

Conclusion:

The SCO Summit 2025 reaffirmed the organisation’s role as a key player in regional security and economic cooperation. The Tianjin Declaration sent a strong message against terrorism, while the discussions on global governance highlighted the SCO’s vision of a multipolar world order. For India, the summit was a crucial platform to address its security concerns and pursue deeper economic and diplomatic engagement within the region.

Political Turmoil in Thailand

Context:

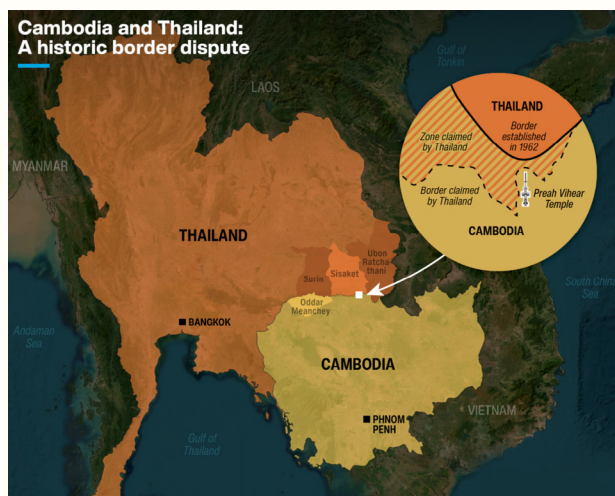
Recently, Thailand's Constitutional Court dismissed Prime Minister Paetongtarn Shinawatra from office due to an ethics violation. The court's decision, made in a 6-3 vote, cited Paetongtarn's failure to prioritize national interests over personal relationships, specifically a leaked phone call with Cambodia's former leader Hun Sen during a border conflict.

Reason for Dismissal:

- The controversy stems from a leaked phone conversation between Paetongtarn and Cambodian leader Hun Sen during a border dispute between the two countries. In the recording, she was heard showing deference to Hun Sen and expressing

criticism of a senior Thai military leader. The court subsequently ruled that these actions amounted to an ethics violation, determining that she had placed private interests above those of the nation.

- Following this, Thailand's parliament chose business tycoon Anutin Charnvirakul as the country's prime minister. He is the third Prime Minister elected in last two years.



Impacts on India:

- Thailand's recent political instability, may have several implications for India.
 - » **Trade and Connectivity:** Ongoing and future connectivity projects like the India-Myanmar-Thailand Trilateral Highway (IMT-TH) may face challenges due to regional instability.
 - » **Regional Stability:** India's Act East Policy aims to strengthen ties with Southeast Asia, but Thailand's instability and Myanmar's challenges complicate regional integration and economic development efforts.
 - » **Strategic Partnerships:** Thailand's balanced relations with major powers like China and Western nations are crucial for India's strategic partnerships in the region. Conservative forces are more aligned toward China.

India – Thailand relations:

- India and Thailand have a strong foundation

of warm and friendly political relations rooted in historical and cultural ties.

- The relationship has gained significant momentum since India's "Look East Policy" in the 1990s, which evolved into the "Act East Policy" under Prime Minister Modi in 2014. Thailand has reciprocated with its "Act West Policy," seeking deeper engagement with South Asia.

Key Aspects of India-Thailand Relations:

- **Strategic Partnership:** In April 2025, Prime Minister Modi and Thai PM Paetongtarn Shinawatra elevated bilateral ties to a "Strategic Partnership," focusing on security, trade, and regional cooperation in the Indo-Pacific.
- **Economic Cooperation:** Thailand was India's 21st largest trading partner in FY 2023-24, with bilateral trade valued at approximately \$14.94 billion. Both nations aim to enhance mutual investments, MSME collaboration, and connectivity through initiatives like the India-Myanmar-Thailand trilateral highway.
- **Regional Cooperation:** India and Thailand collaborate closely in regional forums such as ASEAN, BIMSTEC, ADMM-Plus, and the East Asia Summit, supporting multilateralism and regional stability.

India-Singapore Relations

Context:

Prime Minister Narendra Modi held delegation-level talks with Singaporean Prime Minister Lawrence Wong during the latter's three-day official visit to India. The visit coincided with the 60th anniversary of India-Singapore diplomatic relations, symbolizing a strong commitment to deepening bilateral cooperation. The talks culminated in the signing of five Memorandums of Understanding (MoUs) covering Civil Aviation, Space, Skill Development, Digital Asset Innovation, and Green and Digital Shipping Corridors.

Key Areas of Agreement:

- **Artificial Intelligence & Semiconductors**

- » Both countries pledged to strengthen cooperation in AI and semiconductor manufacturing.
- » Singapore, which produces 10% of global chips and 20% of semiconductor equipment, is a key partner in India's plan to launch its first indigenous chips by end-2025.

- **Multi-Sector MoUs & Skilling Initiatives**

- » Singapore announced state-level skill centres in India for aviation and semiconductors.
- » Support extended for the National Centre of Excellence for Skilling in Chennai to promote talent in advanced manufacturing.

- **Trade & Financial Integration**

- » Both sides agreed to a time-bound review of the Comprehensive Economic Cooperation Agreement (CECA) and the ASEAN Free Trade Agreement.
- » GIFT City (Gujarat) was highlighted as a growing hub for financial connectivity between the two nations.

- **Indo-Pacific Vision & Act East Policy**

- » Singapore reaffirmed as a key pillar of India's Act East Policy.
- » Emphasis on ASEAN centrality and regional cooperation for Indo-Pacific peace and stability.

About India-Singapore Relations:

- **Historical Connect:**

- » Singapore was established as a trading post in 1819 under British rule and governed from Kolkata.
- » India was among the first countries to recognize Singapore's independence in 1965.

- **Trade and Economic Cooperation:**

- » Singapore is India's largest trade partner in ASEAN and 6th largest globally (FY 2023-24).
- » Bilateral trade reached USD 34.26 billion in 2024-25.
- » India remains a net importer.
- » Direct Tax Avoidance Agreement (DTAA) signed in 1994 to curb tax evasion.

- **Defence Cooperation:**
 - » Strategic ties extend to maritime security in the Indian Ocean and South China Sea.
 - » Regular joint exercises:
 - Agni Warrior – Army
 - SIMBEX – Navy
 - JMT (Joint Military Training) – Air Force

STRENGTHENING INDIA-SINGAPORE RELATIONS







PRIME MINISTER
NARENDRA MODI

PRIME MINISTER
LAWRENCE WONG

MARKING 60 YEARS OF DIPLOMATIC TIES WITH:

- Virtual inauguration of India's largest container terminal
- Signing of strategic agreements in trade, connectivity & innovation

A NEW CHAPTER OF FRIENDSHIP, TRUST, AND PROSPERITY BETWEEN INDIA & SINGAPORE

- **Fintech and Digital Collaboration**
 - » Significant developments include:
 - RuPay card acceptance in Singapore
 - UPI-PayNow digital payment linkage
- **Multilateral Engagement**
 - » Both nations participate in:
 - East Asia Summit
 - Commonwealth
 - IORA
 - IONS
 - » Singapore is a member of:
 - International Solar Alliance

- Global Biofuel Alliance
- Both support the Indo-Pacific Economic Framework for Prosperity (IPEF).

- **Indian Diaspora in Singapore:**
 - » Ethnic Indians make up ~9.1% of Singapore's resident population.
 - » Around 20% of the 1.6 million foreigners in Singapore are Indian citizens.
 - » Tamil is one of Singapore's four official languages, reflecting strong cultural ties.

Conclusion:

India-Singapore relations have evolved into a robust, multi-dimensional partnership anchored in historical ties, shared values, and strategic interests. From trade and technology to defence and diaspora, the bilateral relationship is characterized by depth, trust, and forward-looking cooperation. The recent MoUs and strategic dialogues during PM Lawrence Wong's visit provide a clear roadmap for the next phase of engagement, reinforcing both countries' roles as key partners in shaping a peaceful, prosperous, and resilient Indo-Pacific region.

India EU Trade Pact

Context:

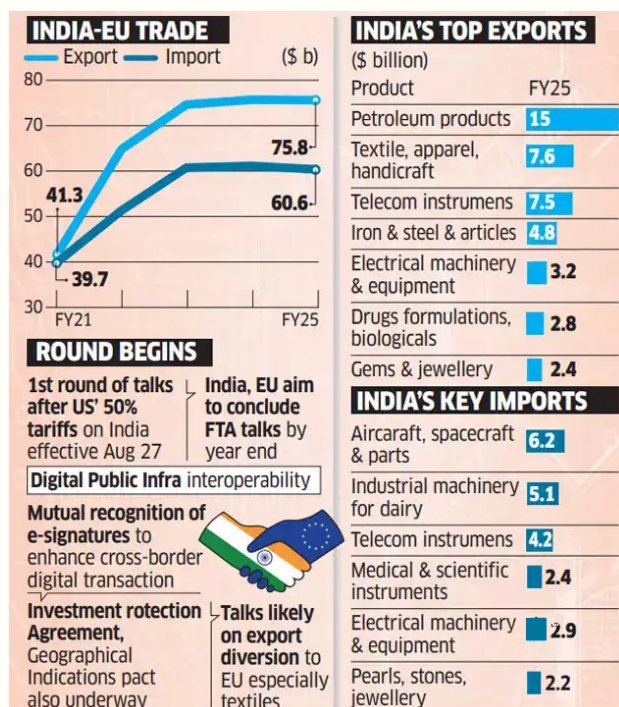
India and the European Union are working together to finalize a Free Trade Agreement (FTA) as soon as possible. Senior EU negotiators, especially those focused on trade and agriculture, are expected to visit India soon to resolve key issues.

Trade Talks with EU:

- Of the 27 chapters in the proposed agreement, negotiations have reportedly concluded on 11. The remaining contentious issues include:
 - » Agriculture and dairy market access
 - » Intellectual property rights (IPR)
 - » Labour and sustainability standards
 - » The Carbon Border Adjustment Mechanism (CBAM)-Delhi is reportedly seeking concessions similar to those

granted to the United States under CBAM.

- The bilateral trade between India and the EU reached \$137.41 billion in goods and \$51.45 billion in services in 2023-24, while FDI from the EU totalled over \$107 billion between April 2000 and December 2023.



Benefits of the India-EU Pact:

- A successful FTA with the EU could deliver the following strategic benefits:
 - » **Greater Market Access:** Preferential tariffs and smoother regulatory alignment with one of the world's wealthiest markets.
 - » **Boost to Exports:** Especially in sectors like textiles, IT services, pharmaceuticals, and machinery.
 - » **Sustainability and Innovation Push:** The agreement could encourage Indian industries to align with global sustainability norms.
 - » **Geopolitical Signaling:** It would underscore India's commitment to rules-based international trade.
- However, India must tread carefully and protect its red lines, particularly in sensitive sectors such as dairy and agriculture. The

recently concluded India-UK trade deal could serve as a useful blueprint.

About CBAM:

- The EU's Carbon Border Adjustment Mechanism, set to be fully implemented from January 1, 2026, is a crucial concern for Indian exporters. It aims to penalize carbon-intensive imports to encourage global climate action, but could act as a non-tariff barrier for countries like India.
- **Affected sectors include:**
 - » Steel and aluminum
 - » Cement
 - » Fertilizers
 - » Automotive components
- **Other measures be considered:**
 - » While India builds trade ties with Western countries, it should also focus on the big changes happening in East and Southeast Asia.
 - » Many companies are now following a "China+1" strategy — meaning they want to set up factories in countries other than China. This gives India a great chance to become a part of global production networks.
- **Here's what India can do:**
 - » Improve roads, ports, and other infrastructure to make trade cheaper and faster
 - » Make customs and paperwork simpler for exporters
 - » Strengthen manufacturing through government schemes like PLI (Production-Linked Incentives)
 - » Sign strong trade deals that help Indian businesses join global supply chains

Conclusion:

At a time when global trade is facing challenges like rising protectionism and disrupted supply chains, India has a valuable opportunity. Moving forward with the EU trade deal is a strong step, but to fully benefit, India should also look at joining global trade networks like the CPTPP and strengthen its role in international supply chains. India and the European Union are making visible progress toward finalizing their

long-pending trade agreement.

India Joins HealthAI Global Regulatory Network

Context:

India officially joined the HealthAI Global Regulatory Network (GRN), marking a crucial step in the global movement towards the responsible, safe, and effective use of Artificial Intelligence (AI) in healthcare.

About HealthAI Global Regulatory Network (GRN):

- The HealthAI GRN is a Geneva-based independent non-profit organization that brings together health regulators worldwide to ensure that AI technologies in healthcare are used safely, ethically, and effectively.
- **Key goals of the GRN include:**
 - » Building trust and transparency in AI-powered health innovations,
 - » Improving safety through shared protocols and joint oversight,
 - » Accelerating responsible innovation via global collaboration and regulatory harmonization,
 - » Providing a global directory of registered AI health tools,
 - » Issuing early warnings on emerging technological risks.
- The GRN promotes equitable access to AI technologies and aims to create a trusted global ecosystem for digital health tools.

India's Role in the GRN:

- India will participate in sharing best practices, monitoring protocols, and regulatory knowledge to improve AI governance in health.
- The Indian Council of Medical Research – National Institute for Research in Digital Health and Data Science (ICMR–NIRDHDS) and IndiaAI will lead the national collaboration.

Signing Ceremony Between ICMR-NIRDHDS, IndiaAI, and HealthAI

(Pioneer Country of the HealthAI Global Regulatory Network)

Key highlights

India joins HealthAI's Global Regulatory Network as a pioneer country



Collaboration between ICMR-NIRDHDS, IndiaAI & HealthAI to advance safe AI in healthcare.



Sharing best practices to accelerate safe and effective AI in healthcare.



Focus on sharing safety protocols and AI performance with GRN members like the UK & Singapore.



Promoting international cooperation for fair, secure AI in health, positioning India as a pioneer in the responsible application of AI in healthcare.



Global and National Significance:

- India's participation comes at a time when AI is rapidly transforming healthcare—from diagnostics to treatment planning. Yet, the absence of harmonized regulations has raised concerns about data privacy, algorithmic bias, and patient safety. GRN provides a critical platform to address these issues collectively.
- As AI in healthcare scales up, India's leadership in this domain not only enhances global regulatory capacity but also ensures that AI-driven solutions align with the country's unique healthcare challenges.

About ICMR-NIRDHDS:

- The ICMR-National Institute for Research in Digital Health and Data Science (NIRDHDS) is one of the 26 permanent institutes of the Indian Council of Medical Research (ICMR), New Delhi.
- Renamed on April 10, 2024, it evolved from the National Institute for Research in Medical Statistics (NIMS).
- NIRDHDS plays a key role in digital health and data science, supporting research in epidemiology, disease surveillance, nutrition, RCH, cancer, and public health.

About INDIAai:

- INDIAai began as a project in 2021 and was established as an independent business division under the Digital India Corporation (DIC) in 2023.
- It serves as India's centralized knowledge hub for Artificial Intelligence (AI) and its allied fields, marking a major step in integrating AI into everyday life.

Conclusion:

India's inclusion in the HealthAI GRN is a strategic move toward global AI leadership in healthcare. It showcases India's commitment to responsible AI governance, while promoting safer, inclusive, and more efficient digital health systems—both domestically and globally.

Strategic Mutual Defence Agreement between Pakistan and Saudi Arabia

Context:

Pakistan and Saudi Arabia recently signed a Strategic Mutual Defence Agreement in Riyadh. A standout clause in the agreement stipulates that “any aggression against either country shall be considered an aggression against both.” The pact aims to boost defence cooperation, strengthen joint deterrence, and deepen the historic partnership between the two nations.

Key Provisions & Their Interpretations:

- **Joint Defence Obligation:** The core clause means an attack on one signatory triggers mutual defence obligations.
- **“All Military Means”:** The pact allows for the use of “all defensive military means necessary” depending on the threat. This opens up wide latitude.
- **No Explicit Naming of Adversaries:** The agreement does not specify which country, or countries, might trigger an invocation of the clause. This deliberate ambiguity is likely intended to maintain diplomatic flexibility.

What Is Pakistan-Saudi Arabia Defence Deal?

1. Signed September 17, 2025:

Pakistan and Saudi Arabia formalized a Strategic Mutual Defence Agreement in Riyadh.

2. Mutual Defense Pact: Any aggression against one nation is treated as an attack on both, enabling joint military responses.

3. Key Figures: Signed by Saudi Crown Prince Mohammed bin Salman and Pakistani PM Shehbaz Sharif, with Pakistan's Army Chief present.

4. Enhanced Cooperation: Includes joint military exercises, training, and deterrence, building on decades of ties.

5. Regional Context: Prompted by Gulf tensions, including Israeli strikes, and Saudi Arabia's shift from US reliance.



Strategic Rationales behind the Pact:

- **Deterrence in a Shifting Regional Order**
 - » Rising uncertainty about U.S. security guarantees in the Middle East. Gulf states increasingly looking for alternative security partnerships.
 - » Reaction to recent regional escalations, including Israel's strike on Hamas in Qatar, which stirred concerns among Muslim nations about collective security.
- **Formalizing Existing Implicit Ties**
 - » Pakistan has supplied training, advisory support, and earlier defense cooperation with Saudi Arabia without such formal treaty-level obligations. This pact codifies previously informal arrangements.
- **Potential Signal to Other Powers**
 - » With Iran, Israel, and global powers watching closely, the pact conveys that Saudi Arabia is diversifying its defence relationships.
- **Religious, Cultural, and Political Bonds**
 - » The agreement is also presented in terms

of “Islamic solidarity,” shared strategic history, and mutual interests.

Implications for Regional Security & Neighbouring Powers:

- **For India:**
 - » India has publicly noted that it is studying the implications for its national security.
 - » While no direct adversary is named, this pact could indirectly impact India given India Pakistan tensions. India might need to recalibrate its strategic posture, especially in diplomacy and defence.
- **For Gulf & Middle East:**
 - » Sets precedent for formal mutual defence pacts in a region historically reliant on U.S. security umbrella.
 - » Could lead to a more bloc based security architecture, with Saudi Pakistan axis at its core.
 - » Raises questions for Israel, Iran, and the U.S. about how this pact interacts with their interests.
- **Nuclear Dimension**
 - » Pakistan is a nuclear armed state. Some statements suggest that its nuclear deterrent could factor into defence cooperation.
 - » However, there is no explicit clause in the public text of the agreement that nuclear weapons will be used in defence of Saudi Arabia. This remains a sensitive ambiguity.

Challenges and Ambiguities:

- **Ambiguity in Scope:** Without naming potential aggressors, or specific threat thresholds, the clause could be invoked broadly or contestably as to what qualifies as “aggression.”
- **Operationalization:** Joint defence details like troops, bases, logistics, nuclear coordination, etc., are not yet spelled out.
- **International & Legal Risks:** Possible repercussions under global non proliferation norms if nuclear deterring capacity is explicitly shared.

- **Diplomatic Balance for Saudi Arabia:** Saudi Arabia also maintains strong relations with other regional powers, including India, and will need to balance commitments so as not to alienate others.

Conclusion:

The Pakistan-Saudi Arabia mutual defence pact underscores the evolving nature of regional alliances and security dynamics. As both countries navigate complex geopolitical landscapes, this agreement is likely to have far-reaching implications for regional stability and global security. India, while maintaining a measured stance, will closely monitor the developments and ensure its national security interests are safeguarded.

Global Innovation Index 2025

Context:

Recently, 18th edition of the Global Innovation Index (GII) 2025 was released by the World Intellectual Property Organisation (WIPO) in partnership with the Portulans Institute.

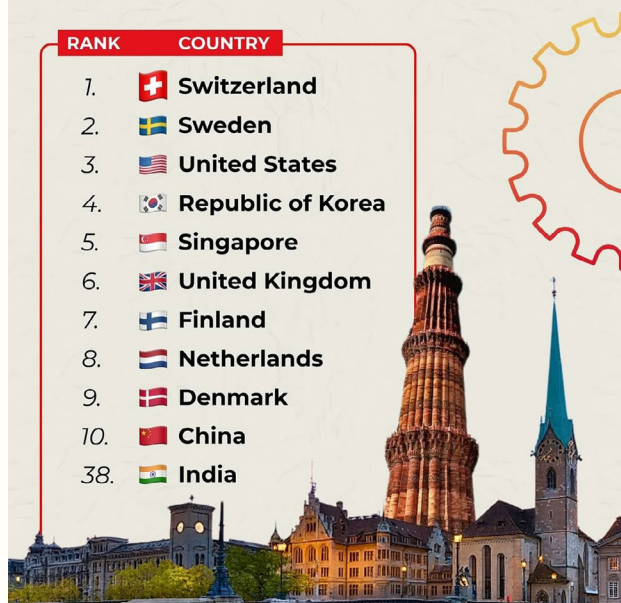
Key Global Findings in GII 2025:

- **Top Innovators and Shifts in Rankings**
 - » Switzerland remains at 1, followed by Sweden, USA, South Korea, Singapore.
 - » Notably, China has entered the top 10 for the first time, currently at 10th place. Germany slipped out of top 10.
- **Innovation Over-performers**
 - » Some middle and lower income countries are doing better than what their income levels predict (“over-performers”). India is one such country, along with Vietnam, among others.
- **Slowing Innovation Investment**
 - » **Global R&D growth has slowed:** from ~4.4% (previous year) down to 2.9% in 2024, with projections for 2025 at 2.3%.
 - » Corporate R&D growth is weak, especially outside sectors like ICT, AI and pharma. Manufacturing and consumer goods have cut back.

■ Venture Capital (VC) Trends

- » VC deal values rose by about 7.7% in 2024, largely driven by large deals in the US and investments in generative AI.
- » But the number of VC deals fell ~4.4%, for the third consecutive year.

Global Innovation Index 2025



India's Performance in GII 2025:

■ Rank & Trend

- » India is ranked 38th out of 139 economies in GII 2025. India leads Central & Southern Asia and is the best among lower-middle income countries in this categorization.

■ Over-performer Status

- » India has been an innovation over performer for 15 consecutive years (since 2011), meaning its innovation performance is better than what is predicted by its income level.

■ Strengths

- » Strong ICT (Information & Communication Technology) services exports.
- » **Vibrant startup ecosystem:** unicorn valuations, late-stage VC deals, intangible assets.
- » **Better knowledge creation:** growth in

scientific publications, patent filings.

- » **Innovation clusters:** India has four innovation clusters in global top 100 (Bengaluru, Delhi, Mumbai, Chennai).

About Global Innovation Index (GII):

- The Global Innovation Index is published annually by the World Intellectual Property Organization (WIPO) in partnership with the Portulans Institute.
- It was established in 2007, evaluates innovation performance of ~139 economies using around 80 indicators.

Conclusion:

India has significantly progressed in innovation, reaching the 38th rank in the Global Innovation Index (GII) 2025 from its previous 48th position in 2020 and 39th in 2024. This ascent is attributed to increased investment in research and development (R&D) and high-technology exports, alongside a substantial rise in intellectual property filings. To bridge the innovation gap with high-income countries, nations need to implement structural reforms, boost investment in Research and Development (R&D), ensure inclusive access to innovation for all, and prioritize sustainable innovation that combines environmental and economic goals.

US H-1B Visa

Context:

Under President Donald Trump, the United States recently raised the fee for new H-1B work visas to USD 100,000 per year for employers hiring foreign skilled workers. This is a steep jump from the earlier fees (ranging from USD 2,000 to 5,000, depending on employer size etc.).

Importance of H-1B Visa Fee Hike:

- Indians constitute 71% of all approved H-1B applications, with China as the next largest group.
- Tech companies rely heavily on H-1B visas to hire skilled workers, and international students use it to transition from study to

work in the U.S.

Impacts on the IT/tech services sector:

- Increased costs for Indian firms that deploy skilled workers to the US (on site projects).
- Potential disruption of business continuity, delays in projects, or firms rethinking deployment strategy.
- Reduced growth in IT export projections: some reports (e.g. Emkay) suggest India's IT export growth for FY26 may drop below 4% if the fee hike persists.

Why H-1B Matters

- H-1B is the most common visa for Indian tech professionals and international students transitioning from study to work.
- Indians make up 71% of approved H-1B visas; China follows.
- H-1B visas allow U.S. companies to hire highly skilled international talent.
- Supports STEM workforce, tech innovation, and global talent mobility.

Economic Impact on U.S. Employers

- **Hiring costs surge:** Sponsoring multiple H-1B employees becomes extremely expensive.
- May disrupt recruitment and workforce planning for tech companies.
- Could shift global talent to alternative countries.

About H-1B Visa:

- **Purpose:** It allows US companies to hire skilled foreign workers for jobs that require specialised knowledge (like in IT, engineering, finance, etc.).
- **Eligibility:** Workers must have at least a bachelor's degree and work in a field requiring a high level of skill.
- **When and Why Was It Started?**
 - » The H-1B program was launched in 1990.
 - » **Goal:** To help employers fill jobs when qualified Americans are not available, by hiring temporary foreign professionals.
- **Duration of the Visa:**
 - » Initially valid for up to 3 years.
 - » Can be extended once, making a maximum of 6 years in most cases.
- **Annual Limit (Cap):**
 - » 65,000 visas issued each year under the

regular quota.

- » Extra 20,000 visas for applicants with a master's degree or higher from a US university.

Why It Reflects a Larger Problem for India?

The recent hike in H-1B visa fees by the US reveals deeper structural vulnerabilities in India's growth model.

- **Overdependence on External Factors:** India heavily relies on foreign markets, especially the US, for skilled job opportunities, education, and technology. Any policy shift abroad causes domestic disruptions.
- **Weak Domestic Job Ecosystem:** Limited high-end jobs and R&D opportunities at home push professionals to seek careers overseas. India lacks sufficient alternatives if such avenues shrink.
- **Export Model Risks:** India's IT sector depends on onsite deployments under H-1B visas. Higher costs now threaten profitability and competitiveness.
- **Lack of Policy Readiness:** The abrupt US decision exposed India's lack of early-warning systems, flexibility, and diplomatic safeguards.
- **Social and Strategic Implications:** Beyond economics, this impacts families, remittances, and aspirations. It also challenges India's vision of strategic autonomy under Aatmanirbhar Bharat.

Way Forward:

- India must:
 - » Strengthen domestic innovation and job creation.
 - » Improve diplomatic engagement.
 - » Build resilience in exports, talent, and supply chains.

Conclusion:

The H-1B issue is not an isolated challenge, but a reflection of India's deeper strategic dependencies. It underscores the urgent need to diversify opportunity structures, strengthen domestic capabilities, and build a future-ready, resilient growth model.

India Morocco Sign Defence Pact

Context:

On 22 September 2025, India and Morocco signed a Memorandum of Understanding (MoU) on defence cooperation. Concurrently, India's Defence Minister Rajnath Singh announced the establishment of a Defence Wing at the Indian Embassy in Rabat.

Key Features of the Agreement:

Feature	Details
Institutional framework	The MoU formalises cooperation via joint mechanisms for coordinating defence activities.
Areas of cooperation	Defence industry & co production, joint military exercises, training, counter terrorism, maritime security, cyber defence, military medicine, peacekeeping operations, etc.
Defence Wing in Rabat	A dedicated cell/unit at the Indian Embassy in Morocco to coordinate defence cooperation, serve as a forward office for strategic partnerships.
Manufacturing facility	The Tata Advanced Systems Maroc facility for producing wheeled armoured platforms (WhAP 8×8) is the first Indian defence manufacturing plant in Africa. This is significant in terms of industrial diplomacy and export capability.



Significance of the new defence deal:

- **India's Growing Role in Africa**
 - » India has set up a Defence Wing in Morocco.
 - » This helps India stay connected with African countries not just for trade, but also for security and defence.
- **Stronger India-Morocco Friendship**
 - » The defence deal builds trust between the two nations.
 - » They can now plan joint military training, share technology, and build defence equipment together.
- **Access to Important Sea Routes**
 - » Morocco is close to both the Atlantic Ocean and the Mediterranean Sea.
 - » With Morocco's help, India can increase its naval presence in new areas and keep sea routes safe.
- **Support for 'Make in India' in Defence**
 - » Indian company is building defence vehicles in Morocco.
 - » This shows that India is now becoming a defence manufacturer and exporter, not just an importer.
- **Working Together on Global Security**
 - » India and Morocco will work together on fighting terrorism, cyber threats, and peacekeeping.

- » This supports India's goal to be part of global efforts for peace and security.

▪ **Impact on Global Politics**

- » India is showing the world it wants a bigger role in Africa, including in defence.
- » Morocco gains a new strategic partner apart from the EU and Arab countries.
- » India is also balancing the influence of China and other powers in Africa.

About India–Morocco Relations:

▪ **Diplomatic Ties**

- » India has an embassy in Rabat (Morocco).
- » Morocco has an embassy in New Delhi and consulates in Mumbai, Kolkata, and a proposed one in Bangalore.
- » Both are members of the Non-Aligned Movement (NAM).

▪ **Historical Background**

- » Moroccan explorer Ibn Battuta visited Delhi in the 1300s, appointed judge under Muhammad bin Tughlaq.
- » India supported Morocco's decolonisation at the UN.
- » India recognised Morocco on 20 June 1956; relations began in 1957.

▪ **Trade & Economic Ties**

- » India was Morocco's 4th largest trading partner (2021 H1).
- » Major imports: phosphates and derivatives.
- » Morocco seeks Indian investment in energy, IT, healthcare, etc.

Conclusion:

The India-Morocco defence pact and the establishment of a Defence Wing in Rabat represent a significant step forward in the bilateral relations between the two countries. This agreement has the potential to enhance regional security, promote defence cooperation, and foster economic ties between India and Morocco.

The Forum for India–Pacific

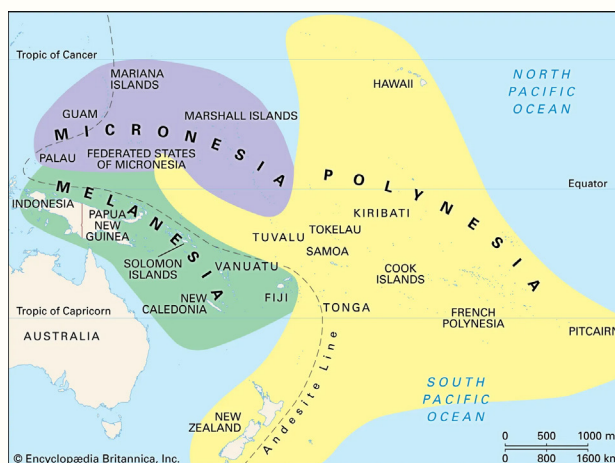
Islands Cooperation (FIPIC)

Context:

External Affairs Minister (EAM) Dr. S. Jaishankar recently hosted the Foreign Ministers' Meeting of the Forum for India–Pacific Islands Cooperation (FIPIC) in New York. This significant engagement occurred on the sidelines of the 80th United Nations General Assembly (UNGA), underscoring India's commitment to enhancing relations with Pacific Island nations.

Key Outcomes of the Meeting:

- **Progress on 12-Point Action Plan:** The meeting acknowledged the advancements made under the 12-point development agenda announced by Prime Minister Narendra Modi.
- **Strengthening Bilateral Ties:** Discussions centered on deepening India's partnerships with Pacific Island countries, recognizing them as vital development partners.
- **Commitment to Capacity Building:** The meeting highlighted ongoing efforts to provide training and skill development opportunities, empowering local populations and enhancing their capabilities to address regional challenges.



Significance of the Meeting:

- **Reinforcement of India's 'Act East' Policy:** The FIPIC Foreign Ministers' Meeting aligns

with India's 'Act East' policy, aiming to strengthen ties with the Indo-Pacific region. By engaging with Pacific Island nations, India seeks to enhance its strategic and economic footprint in this vital area.

- **Promotion of Sustainable Development:** The discussions highlighted shared challenges such as climate change, natural disasters, and healthcare, emphasizing the need for collaborative solutions. India's support in these areas reflects its commitment to sustainable development and regional stability.
- **Advancement of Multilateral Diplomacy:** Hosting the FIPIC meeting on the UNGA sidelines exemplifies India's proactive approach in multilateral diplomacy. It showcases India's role as a facilitator of dialogue and cooperation among diverse nations, reinforcing its position on the global stage.

About FIPIC:

- The Forum for India-Pacific Islands Cooperation (FIPIC) is a diplomatic initiative launched by Prime Minister Narendra Modi during his visit to Fiji in November 2014.
- It aims to strengthen India's engagement with 14 Pacific Island nations: Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.
- These countries, while geographically distant from India, possess large Exclusive Economic Zones and offer significant opportunities for cooperation in areas such as maritime security, climate change, and sustainable development.
- At the 3rd FIPIC Summit held in Port Moresby, Papua New Guinea, in May 2023, Prime Minister Modi unveiled a comprehensive 12-point development plan to bolster India's partnership with Pacific Island nations.
- The agenda focus on healthcare, renewable energy, capacity building, and community welfare.

Conclusion:

The 2025 FIPIC Foreign Ministers' Meeting, marked a significant step in strengthening India's ties with the Pacific Island nations. Through collaborative initiatives and a shared commitment to sustainable development, both parties aim to build a robust and enduring partnership that addresses the pressing challenges of the 21st century.

UN Reimposes 'Snapback' Sanctions on Iran

Context:

The United Nations Security Council has reimposed a suite of sanctions on Iran, including a conventional arms embargo, by activating the "snapback" mechanism embedded in the 2015 nuclear agreement (JCPOA). The snapback was initiated by Britain, France, and Germany (the "E3"), who accused Tehran of breaching its JCPOA commitments.

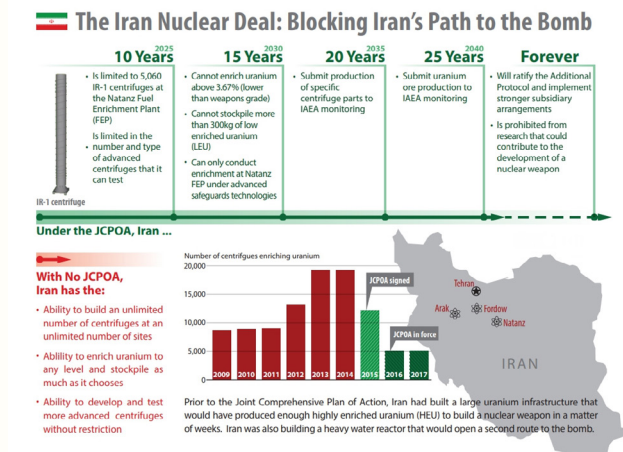
About "Snapback" Mechanism:

- The snapback mechanism is a provision in the Joint Comprehensive Plan of Action (JCPOA) and UNSC Resolution 2231 (2015) that permits any JCPOA participant to reimpose previously lifted UN sanctions on Iran if it is judged to commit a "significant non performance" of its obligations under the deal.
- The idea is to ensure that if Iran violates its commitments, there is a path to restore multilateral sanctions swiftly without being blocked by a permanent member's veto.

What sanctions were restored?

- The snapback restores many of the UN constraints that had been lifted under the JCPOA, most notably:
 - » A conventional arms embargo on transfers to Iran;
 - » Restrictions on ballistic missile related transfers and technology;
 - » Designations, asset freezes and travel bans for individuals and entities tied to

- Iran's nuclear or missile programmes;
- » Enhanced inspection and interdiction measures for suspect shipments.



Strategic and regional implications:

- Iran's economy— already under pressure— faces further strain, with possible effects on currency stability, investment and trade.
- Regional security in the Middle East may tense up:** Gulf states and Israel — wary of Iran's capabilities — are likely to welcome renewed pressure, while Tehran's allies may mobilise diplomatic and material countermeasures.
- Nuclear dynamics:** Sanctions could harden Tehran's position and incentivise further nuclear related advances as leverage; alternatively, they might bring Iran back to the negotiating table if credible incentives are offered.
- Global governance:** The episode tests multilateral dispute resolution mechanisms and highlights how geopolitical rivalries among Security Council members complicate enforcement of non proliferation rules.

About Joint Comprehensive Plan of Action:

- The Joint Comprehensive Plan of Action (JCPOA) is a 2015 nuclear agreement between Iran and the P5+1 countries (China, France, Germany, Russia, the UK, and the US) along with the European Union.
- Its primary objective is to prevent Iran from

developing nuclear weapons by imposing strict limits on its nuclear program.

- Key commitments by Iran under the deal include reducing its enriched uranium stockpile by 98%, capping uranium enrichment levels at 3.67%, and allowing the International Atomic Energy Agency (IAEA) to conduct rigorous inspections.
- In exchange, economic sanctions on Iran were lifted. However, the US withdrew from the agreement in 2018, leading to renewed tensions and Iran resuming higher levels of nuclear enrichment.

Conclusion:

The UN's reimposition of snapback sanctions, including a renewed arms embargo, marks a consequential development in the Iran nuclear saga. Legally complex and politically charged, it re introduces coercive pressure on Tehran but also raises questions about enforcement coherence, humanitarian impacts and prospects for renewed negotiations. The coming months will determine whether sanctions push Iran toward compromise or trigger reciprocal escalation — with important implications for regional stability and the credibility of multilateral non proliferation mechanisms.



Environment & Ecology



India's Geothermal Energy Policy 2025: Towards a Sustainable Future from Underground Heat

Context:

India has set some of the world's most ambitious renewable energy targets as part of its fight against climate change, with a clear goal of becoming a Net Zero economy by 2070. In this journey, sources like solar power, wind energy, hydropower, and bioenergy have taken the lead and now form the backbone of India's renewable energy mix. But there is another natural source of clean energy that India has in abundance and has hardly used so far called the geothermal energy, the heat stored deep inside the Earth.

Despite India's unique geology with hot springs, geothermal provinces, and rift basins, this energy source has remained mostly untapped. Recognizing this gap, the Ministry of New and Renewable Energy (MNRE) has, for the first time, come up with a National Policy on Geothermal Energy in September 2025. The new policy is designed to push India forward in exploring and using this hidden resource. It focuses on incentives, regulatory reforms, and collaborations with global leaders to develop geothermal projects that can supply both electricity and heating. This step marks the beginning of a new chapter in India's renewable energy journey. It goes beyond the sun, wind, and water, and looks towards the heat beneath the Earth's surface as a reliable and clean energy source for the future.

What is Geothermal Energy?

- ❖ Geothermal energy is the heat stored beneath the Earth's crust. It can be harnessed in two major ways:
 - » High-enthalpy resources (commonly found near volcanic regions, geysers, and hot springs) are mainly used for generating electricity.
 - » Low- and medium-enthalpy resources (hot rocks, shallow ground layers) are better suited for direct-use applications such as district heating, cooling through geothermal heat pumps (GSHPs), greenhouse heating, aquaculture, food drying, and space conditioning.
- ❖ A typical geothermal system involves:
 - » Production and reinjection (wells and pumps),
 - » Transport (pipelines),
 - » Distribution (heat exchangers), and
- ❖ End-use applications (electricity, heating, cooling, or industrial processes).
- ❖ Unlike solar or wind, geothermal can generate electricity 24/7, making it a reliable baseload source that strengthens grid stability and enhances energy security, especially in remote regions.

India's Geothermal Potential:

- ❖ India's geological diversity provides a range of geothermal opportunities. Since 1973,

the Geological Survey of India (GSI) has identified 381 hot springs with surface temperatures between 35°C and 89°C. While Himalayan regions can reach reservoir temperatures of around 200°C, most Indian sites fall within a medium-to-low heat enthalpy zone (100°C–180°C), making them suitable for direct-use applications.

▪ **The 10 major geothermal provinces identified by GSI are:**

- » Himalayan Geothermal Province
- » Naga-Lusai Province
- » Andaman & Nicobar Islands
- » Son-Narmada-Tapi (SONATA)
- » West Coast
- » Cambay Graben (Gujarat)
- » Aravalli Province
- » Mahanadi Province
- » Godavari Province
- » South Indian Cratonic

▪ **Key geothermal sites include:**

- » **Ladakh:** Puga, Chumathang, Nubra (Panamik), Demchok
- » **Himachal Pradesh:** Manikaran, Kasol, Tattapani
- » **Uttarakhand:** Tapoban, Joshimath, Yamunotri, Ganganani
- » **Arunachal Pradesh:** Tsachu (Tawang), Takshing
- » **Gujarat:** Cambay Basin, Dholera, Tulsishyam
- » **Jharkhand & Chhattisgarh:** Tantloi, Surajkund, Tattapani
- » **Maharashtra:** Unhavare, Tural
- » Andaman & Nicobar Islands

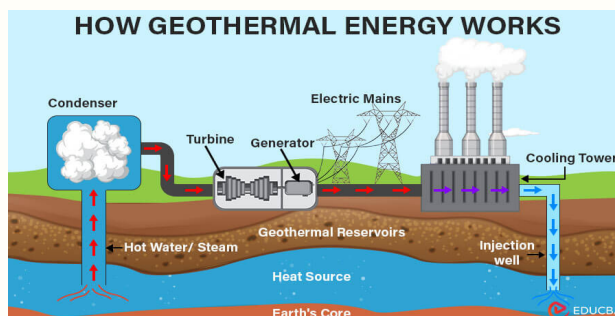
- ❖ The International Energy Agency (IEA) estimates India's geothermal potential at 10.6 GW, with scope to rise further with new technologies like Enhanced Geothermal Systems (EGS).

Significance of Geothermal Energy in India:

- ❖ **Reliable baseload power:** Unlike solar and wind, geothermal plants can operate continuously with capacity utilisation above 80%.
- ❖ **Cost-effective for remote areas:** For instance, in Andaman & Nicobar Islands, where

power costs Rs.30–32 per unit, geothermal can reduce it to Rs.10–11.

- ❖ **Heating for cold regions:** In Ladakh, geothermal can supply both electricity and space heating, reducing dependence on costly diesel imports.
- ❖ **Repurposing abandoned oil wells:** Thousands of idle wells in Gujarat and Rajasthan can be adapted for geothermal use, reducing costs and extending asset life.
- ❖ **Environmental gains:** Geothermal plants emit 99% less CO₂ compared to fossil-fuel-based power plants.
- ❖ **Diversification of renewables:** It adds another pillar to India's renewable energy portfolio beyond solar, wind, biomass, and hydropower.



The National Policy on Geothermal Energy (2025)

- ❖ The policy, issued by Ministry of New and Renewable Energy (MNRE), lays down a framework to attract investment, reduce risks, and ensure sustainable development.

▪ **Key Features of the Policy:**

- » **Scope and stakeholders:** Applies to Central/State governments, public/private developers, academic institutions, startups, and agencies involved in geothermal exploration.
- » **Project duration:** Supports geothermal projects for up to 30 years, extendable based on resource availability.
- » **Private and foreign investment:** Allows 100% FDI in geothermal projects.
- » **Fiscal incentives:** Proposes tax holidays, import duty exemptions, and Viability Gap Funding (VGF).

- » **Financing:** Soft loans to be provided by IREDA and other institutions.
- » **International collaboration:** Partnerships with Iceland, Norway, US, and Indonesia for technology transfer and R&D.
- » **R&D focus:** Pilot projects under MNRE's RE-R&D Scheme, with CoEs (Centres of Excellence) to be established for technical support and training.
- » **Data repository:** A national geothermal database to be created with GSI, CSIR-NGRI, DGH, and CGWB.
- » **Policy review:** Guidelines will be updated periodically based on stakeholder feedback.

Challenges in Geothermal Development:

- ❖ **High upfront cost:** Around Rs.36 crore per MW of capacity — significantly higher than solar or wind.
- ❖ **Exploration risks:** Locating viable geothermal reservoirs requires extensive surveys and drilling, with uncertain results.
- ❖ **Regulatory overlaps:** Multiple laws apply, including the Mines and Minerals Act (1957), Electricity Act (2003), Environment Protection Act (1986), and forest and wildlife regulations.
- ❖ **Limited experience in India:** Compared to solar and wind, geothermal technologies and expertise are nascent in India.

Global Experience and Lessons for India:

- ❖ Globally, geothermal power capacity stood at 15.4 GW (2024), with the United States, Indonesia, and the Philippines as leaders. Countries like Iceland and Norway have pioneered advanced geothermal systems and direct-use applications such as district heating and aquaculture.
- » **United States:** Using geothermal in both electricity and heating, with growing interest from technology companies to power data centers.
- » **Indonesia:** Rapidly scaling up geothermal capacity due to volcanic geology.
- » **Germany:** Integrating geothermal into district heating networks.
- » **Iceland:** Nearly all homes heated by

geothermal, showcasing direct-use potential.

Recent Developments in India:

- ❖ **Vedanta & IIT Madras project in Rajasthan:** Retrofitting abandoned oil wells in Barmer to generate 450 kWh of electricity.
- ❖ **Reliance Industries:** Announced plans to expand into geothermal through its oil and gas business.
- ❖ **Pilot studies:** Norwegian and Icelandic companies are exploring projects in Gulf of Cambay (Gujarat), Arunachal Pradesh, and Uttarakhand.
- ❖ **US Trade Administration (2024):** Identified Puga and Chumathang in Ladakh as promising sites.

Wider Implications:

- ❖ **Energy security:** Reduces dependence on fossil fuel imports.
- ❖ **Decentralised power:** Supports local energy needs in remote, hilly, and island regions.
- ❖ **Industrial applications:** Enables cold storage, desalination, greenhouse farming, and food processing industries.
- ❖ **Geo-tourism:** Potential for spas, resorts, and wellness-based tourism around hot springs.
- ❖ **Climate action:** Adds a low-carbon option to India's renewable energy basket.

Conclusion:

Geothermal energy represents a largely untapped pillar of India's renewable energy strategy. The National Policy on Geothermal Energy (2025) is a timely step that brings together government support, international partnerships, and private sector interest. While high costs and exploration risks remain barriers, innovations like repurposing oil wells and Enhanced Geothermal Systems can make geothermal commercially viable. For India, the challenge now is to move beyond pilot projects to scalable models that integrate geothermal into the national energy transition. If implemented effectively, geothermal energy can play a critical role in achieving India's Net Zero ambitions and provide sustainable solutions for both power and heat in some of the country's most challenging terrains.

Short Issues

Air Quality Life Index (AQLI) 2025 Report

Context:

The Air Quality Life Index (AQLI) 2025 was recently released by the Energy Policy Institute at the University of Chicago (EPIC). The index has brought alarming attention to the severe health impact of air pollution in India.

What is AQLI?

- The Air Quality Life Index (AQLI), developed by the Energy Policy Institute at the University of Chicago (EPIC), measures the impact of PM2.5 air pollution on life expectancy.
- It translates air pollution exposure into potential years of life lost, offering a powerful tool to understand the public health costs of dirty air.
- The 2025 edition is based on global pollution data from 2023.

Key findings:

- The report identifies air pollution as India's most severe health threat, reducing average life expectancy by 3.5 years.
- As per the report, 100% of India's 1.4 billion population lives in areas where PM2.5 levels exceed the WHO guideline of 5 $\mu\text{g}/\text{m}^3$. Even by India's more lenient standard of 40 $\mu\text{g}/\text{m}^3$, 46% of Indians are still exposed to unhealthy air.
- The Indo-Gangetic Plain remains the worst-affected region, with 544.4 million people living under hazardous air conditions.
- Delhi-NCR tops the list, where residents stand to lose 8.2 years of life if pollution persists. Other states like Bihar (5.6 years), Haryana (5.3 years), and Uttar Pradesh (5 years) also show significant life expectancy losses.

Health and Policy Implications:

- Air pollution causes more damage than malnutrition, unsafe water, or poor sanitation. The AQLI 2025 report emphasizes the need for urgent policy interventions.

- Even meeting India's own PM2.5 standard could add 1.5 years to the average lifespan.
- Reducing pollution to WHO limits could improve life expectancy by up to 9.4 months in relatively cleaner areas.

Regional & Global Trends

- South Asia remains the most polluted region globally, with a 2.8% rise in PM2.5 levels in 2023.
- While countries like China have made progress through aggressive pollution control policies, India and Bangladesh continue to struggle.
- Globally, PM2.5 pollution is now the biggest external risk to human life expectancy, exceeding smoking, malnutrition, and infectious diseases.

Conclusion:

The AQLI 2025 findings are a wake-up call. With nearly half the population breathing air unsafe even by Indian standards, air quality reform is no longer optional—it is urgent. Strengthening the National Clean Air Programme (NCAP), investing in clean energy, and enhancing monitoring and enforcement must be national priorities to safeguard public health and economic productivity.

Human Wildlife Conflict in Kerala

Context:

Kerala has launched a 45-day mitigation programme on September 16 to address the escalating human-wildlife conflict across rural and forest-adjacent areas. The initiative, led by the Forest Department, aims to address the root causes of these conflicts and provide solutions for the affected communities in three phases.

About 45-day mitigation programme:

- The 45-day mitigation programme will be implemented in three phases—the first phase will be quick resolution of complaints through help desks at range offices, the second phase will be resolving complex

cases by the district-level committee, and the third phase will see the state government formulating long-term policies to ensure permanent solutions.

About Human-Wildlife Conflict:

- Human-wildlife conflict (HWC) occurs when human activities intersect with wildlife habitats, leading to loss of property, livelihoods, and even lives.
- This conflict is recognized as a global challenge that hinders sustainable development, food security, and conservation efforts, impacting both humans and wildlife.
- The UN Convention on Biological Diversity's post-2020 global biodiversity framework acknowledges HWC as a significant concern.

Causes of Human-Wildlife Conflict:

- **Population Pressure & Encroachments:** Growing human populations push settlements into protected areas, increasing encounters.
- **Habitat Loss & Fragmentation:** In places like Kaziranga, infrastructure developments fragment wildlife corridors, leading to conflict.
- **Decline in Habitat Quality:** Commercial plantations like acacia and eucalyptus in forests degrade natural habitats.
- **Changing Agricultural Practices:** Modern farming methods draw wildlife out of forests in search of food, leading to more frequent human-wildlife interactions.

Consequences of Human-Wildlife Conflict:

- **Human Impact:** Between 2021 and 2025, 344 lives were lost in Kerala due to wildlife incidents.
- **Economic Toll:** Farmers lose 10–15% of annual crops to animals like elephants and wild boars.
- **Wildlife at Risk:** Animals often face retaliation or accidents, affecting conservation efforts.
- **Fiscal Burden:** Kerala spent Rs.79.3 crore over 6 years on compensation and protection measures.

Government Initiatives to Prevent Human-

Wildlife Conflict:

- **National HWC Mitigation Strategy:** Focuses on early warning, preventive measures, and capacity building.
- **CAMPA Funds:** Support afforestation, habitat improvement, and waterhole creation.
- **Centrally Sponsored Schemes:** Such as Project Tiger, offering financial aid for wildlife conservation.
- **Eco-Sensitive Zones (ESZs):** Buffer zones regulate human activities around protected areas.

Way Forward:

- **Strengthening Habitat Connectivity:** Redevelop wildlife corridors and sensitize communities about coexisting with animals.
- **Promoting Coexistence:** Focus on peaceful coexistence, integrating HWC mitigation into urban planning.
- **Building Barriers:** Solar-powered fencing and bio-fencing can deter wildlife from entering settlements.
- **Early Warning Systems:** Use technology like GPS tracking and motion sensors to alert communities about wildlife presence.

Conclusion:

The three-phase mitigation programme in Kerala is a crucial step towards reducing human-wildlife conflict. With the involvement of local communities, government officials, and conservationists, Kerala hopes to establish a comprehensive approach to managing this issue, which can serve as a model for other states facing similar challenges.

The Return of Cicadas

Context:

Cicadas recently made a surprising return to Kerala's Silent Valley National Park, a region that had previously been characterized by their absence. Experts from the Botanical Survey of India suggest this resurgence could be linked to ecological upheaval, potentially triggered by environmental changes.

About Cicadas:

- Cicadas are hemipteran insects best known for their loud, complex, and species-specific songs, which they produce by vibrating membranes on their abdomens. These insects undergo a remarkable life cycle, spending most of their lives underground as nymphs.
- Cicadas are typically canopy dwellers, found in natural forests with tall, mature trees that offer suitable environments for their growth.
- Most cicadas prefer warm, humid conditions and are primarily found in tropical and temperate forests around the world.
- The insects are highly adapted to this habitat, where they have developed unique behaviors to survive.



Types of Cicadas:

- Cicadas are divided into two broad categories based on their emergence patterns: annual and periodical cicadas.
 - » **Annual Cicadas:** These cicadas emerge from the ground at varying times during the summer. They are typically dark in color with greenish markings. To avoid predation, annual cicadas camouflage in the trees and use their ability to fly to escape predators like birds and moles.
 - » **Periodical Cicadas:** A rarer group, periodical cicadas are unique for their synchronized mass emergence, occurring every 13 or 17 years. Only seven species fall under this category.

Ecological Importance:

- Cicadas play an essential role in maintaining the health of forest ecosystems. As they

emerge, they help prune mature trees, allowing sunlight to reach younger plants. Their burrowing activity aerates the soil, improving its structure and promoting better water and nutrient absorption for plant roots.

- When cicadas die, their bodies decompose and add nitrogen to the soil, enriching the ecosystem and benefiting the growth of surrounding trees and plants. This nutrient cycling ensures the continual health of the forest.

About Silent Valley National Park:

- **Location:** Silent Valley National Park, located in the Nilgiri Hills, Kerala, spans 89.52 km² (core area) and is part of the Nilgiri Biosphere Reserve.
- **History:** Declared a Reserved Forest in 1914, became a national park in 1984 and in 1986 designated core area of Nilgiri Biosphere Reserve.
- **Flora & Fauna:** Home to 41 mammals, including the Lion-tailed macaque, 211 bird species, 49 reptiles, and 47 amphibians.
- **Rivers:** Origin of Bhavani, Kunthipuzha, and Kadalundi rivers.
- **Indigenous Tribes:** Inhabited by Irulas, Kurumbas, Mudugas, and Kattunaikkars.
- **Surrounding Protected Areas:** Includes Karimpuzha Sanctuary and Mukurthi NP.

Discovery of Two New Species of *Aspergillus* Section *Nigri*

Context:

Recently, Indian scientists from MACS-Agharkar Research Institute (ARI), Pune, have discovered two novel fungal species from the *Aspergillus* section *Nigri*, commonly known as black aspergilli. These species, *Aspergillus dhakephalkarii* and *Aspergillus patriciawiltshireae*, were identified from soil samples collected in the ecologically rich Western Ghats.

About *Aspergillus* genus:

- *Aspergillus* is a large, widespread genus of

filamentous fungi known for their asexual spore-producing structures resembling a holy water sprinkler (aspergillum).

- Found in diverse environments, including soil and decaying vegetation, *Aspergillus* species are crucial decomposers but can also act as opportunistic pathogens, causing diseases like aspergillosis in immunocompromised individuals.
- The *Aspergillus* genus is globally recognized for its industrial, medical, and ecological importance. Species in the section *Nigri* are heavily used in:
 - » Citric acid production
 - » Fermentation
 - » Food mycology
 - » Agriculture, including phosphate solubilization

About the New Species:

- ***Aspergillus dhakephalkarii*:**
 - » Rapid growth, smooth-walled, ellipsoidal conidia
 - » Yellowish-white to orange sclerotia
 - » Uniseriate conidiophores branching into 2–3 columns
 - » Closely related to *A. saccharolyticus*
- ***Aspergillus patriciawiltshireae*:**
 - » Fast-growing colonies with abundant sclerotia
 - » Echinulate conidia
 - » Branching conidiophores into 5+ columns
 - » Related to *A. indologenus*, *A. japonicus*, *A. uvarum*

Significance of the Discovery:

- **Biodiversity Conservation**
 - » Reinforces the status of the Western Ghats as a global biodiversity hotspot.
 - » Underscores the need for continued mycological surveys and ecological research in such sensitive ecosystems.
- **Scientific Contribution**
 - » Enhances India's role in fungal taxonomy, ecology and genomics.
 - » Demonstrates the successful use of modern polyphasic taxonomy (combining genetic and morphological

tools).

Conclusion:

The identification of two new species and the first Indian record of two more in the *Aspergillus* section *Nigri* is a landmark in Indian fungal biodiversity research. It highlights the rich, yet underexplored fungal diversity of the Western Ghats and opens doors for further biotechnological and ecological studies.

Offshore Aquifers

Context:

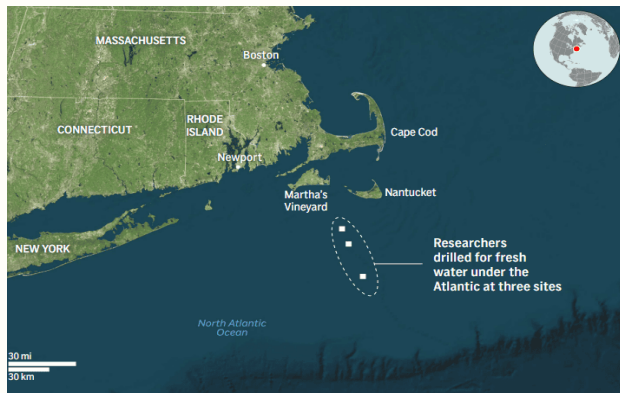
International scientists recently confirmed the presence of a large offshore aquifer under the Atlantic Ocean, stretching from New Jersey to Maine in the US. This follows earlier discoveries of similar undersea freshwater bodies near Australia, China, South Africa, and North America, but this is the first global expedition to drill systematically for freshwater under the sea.

About Offshore Aquifers:

- Like land-based aquifers, offshore aquifers are porous rocks or sediment saturated with freshwater.
- **The key difference:** they are located beneath the sea floor, sometimes up to 90 km offshore.
- A 2021 study estimated 1 million cubic km of freshwater is stored globally in these aquifers — around 10% of all land-based groundwater.

Significance the offshore aquifers:

- **Global Water Crisis:** The UN (2023) predicts 40% gap between water demand and supply by 2030. Offshore aquifers could become a major backup source.
- **Climate Change Impact:** Global warming is altering rainfall patterns, drying rivers and lakes. Offshore reserves could buffer coastal cities against water scarcity.
- **Urban Support:** The newly discovered US aquifer alone could supply New York City's needs for 800 years.



Challenges in Extraction:

- **High Costs:**
 - » Drilling and extraction are technically complex and expensive.
 - » Example: Recent US expedition cost \$25 million.
- **Environmental Concerns:**
 - » Potential harm to marine ecosystems and coastal geology.
 - » Risk of saltwater intrusion during pumping.
- **Ownership and Governance:**
 - » Need for clear legal frameworks and equitable distribution for Ownership and accountability.
- **Sustainability:**
 - » If the water is non-renewable (from the Ice Age), reckless extraction could deplete it permanently.

Conclusion:

Offshore aquifers represent a largely untapped freshwater resource that could play a vital role in combating future water scarcity, especially in coastal megacities. However, tapping them requires global cooperation, sustainable planning, and environmental safeguards. For India and other water-stressed nations, these discoveries could reshape how we think about water security in the 21st century.

Blue Dragon

Context:

Recently, several beaches in Spain were

temporarily closed following an unexpected invasion of Blue Sea Dragons (*Glaucus atlanticus*) — a rare and striking species of sea slug. Authorities issued warnings after multiple sightings raised public safety concerns, particularly due to the creature's stinging capabilities.

About Blue Dragons:

- The blue sea dragon (*Glaucus atlanticus*) is a small, venomous sea slug that floats upside down on the ocean surface, using a gas-filled sac to stay afloat.
- They inhabit tropical and temperate waters of the Atlantic, Pacific, and Indian Oceans. Unlike many other sea creatures, they do not swim actively but drift with the waves. Interestingly, they are hermaphrodites, possessing both male and female reproductive organs.
- These creatures feed on venomous siphonophores, especially the Portuguese man-o-war and bluebottle jellyfish.
- Rather than being harmed by the venom, the blue dragon harvests the stinging cells (nematocysts) from its prey and stores them in specialized structures called cerata on its body.
- This makes them highly toxic to predators, even though they are not venomous themselves.



Reason for appearance:

- Though usually found in tropical waters,

sightings of blue dragons in Spain are increasing, likely due to rising sea temperatures in the Mediterranean.

- Warmer waters may be attracting their jellyfish prey closer to shore, bringing the blue dragons along.
- The Mediterranean Sea is among the world's fastest-warming water bodies, with recent temperatures exceeding 28°C — nearly 5°C above normal in some regions.

About Sea Slugs (Nudibranchs):

- Sea slugs, commonly known as nudibranchs, are soft-bodied marine molluscs that inhabit all the world's oceans—from shallow waters to the deep sea. Belonging to the Phylum Mollusca and Class Gastropoda, they resemble naked snails, as they lack an external shell.

Habitat and Role in Ecosystems:

- Sea slugs are usually found in coral reef environments, where they play a key role as indicators of reef health. Their presence often reflects the strength of a coral ecosystem. These slow-moving grazers feed on algae, sponges, and small invertebrates, exhibiting diverse feeding habits.

Defence and Toxicity:

- Renowned for their vibrant colours and patterns, sea slugs use visual warning signals to deter predators. Their toxicity often comes from the prey they consume—some can even retain stinging cells from jellyfish for self-defence.

Unique Biological Traits:

- Sea slugs showcase fascinating adaptations. Some species can:
 - » Photosynthesise by using sunlight to produce food.
 - » Regenerate lost limbs.
 - » Steal genes from prey and integrate them into their DNA (a rare trait in animals).
- While most are diurnal, some species are also nocturnal.

Conclusion:

The presence of blue dragons (Glaucus

atlanticus) on Spanish coastlines, where they are not typically found, is considered a worrying sign of marine ecosystem changes. These creatures, which normally inhabit warm tropical waters, are appearing in the Mediterranean due to rising sea temperatures linked to climate change. Their expansion poses risks to native species and highlights the broader impacts of global warming on marine environments.

Crocothemis Erythraea

Context:

Crocothemis erythraea, a rare dragonfly species previously thought absent, has been rediscovered in the Western Ghats' high-altitude areas, possibly colonizing during the Pleistocene Ice Age.

Significance of rediscovery:

- This rediscovery is significant for biodiversity, as it confirms the Western Ghats as a hotspot for species surviving in isolated, cooler habitats like the Sholas and montane grasslands, which are now threatened by climate change.
- The species is distinguished from its common lowland relative, *Crocothemis servilia*, by its presence in high-elevation habitats above 550 meters.



About *Crocothemis erythraea*:

- *Crocothemis erythraea*, also known as the broad scarlet or scarlet darter, is a dragonfly

species (Dragonflies are bioindicator species) in the family Libellulidae.

- The genus *Crocothemis* in India includes two known species—*C. servilia* and *C. erythraea*. While *C. servilia* is common across lowland areas, *C. erythraea* is known from high-elevation habitats in parts of Europe and Asia, including the Himalayas.
 - » **Habitat:** *C. erythraea* is typically found in high-elevation habitats above 550 meters, particularly in cool, montane locations with Sholas and grasslands. In contrast, its counterpart, *C. servilia*, is common in lowland areas below 600 meters.
 - » **Distribution:** This species is known to inhabit parts of Europe and Asia, including the Himalayas and Western Ghats.
 - » **Colonization:** Researchers believe that *C. erythraea* colonized southern India during the Pleistocene Ice Age, when cooler climates allowed temperate fauna to extend their range southward. As the climate warmed, these populations became isolated in montane locations.

Other characteristics:

- **Parasitism:** *C. erythraea* is parasitized by midges, specifically *Forcipomyia paludis*.
- **Conservation Status:** According to the IUCN, *C. erythraea* is classified as Least Concern in Europe.
- **Sexual Dimorphism:** Males display bright red coloration on their bodies and wings, while females have yellowish coloration that darkens with age. Some females exhibit androchrome characteristics, displaying male-like coloration.
- **Oviposition in Unusual Locations:** Females have been observed laying eggs in unusual locations, such as the sea.

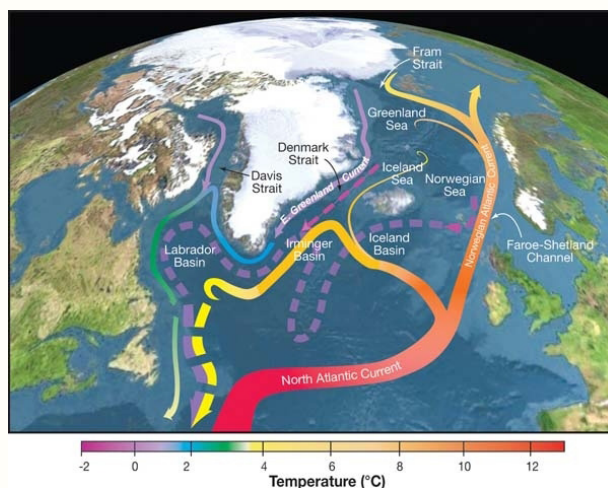
Study on Atlantic Meridional Overturning Circulation

Context:

A new study published in Environmental Research Letters says that the collapse of a major ocean current system called the Atlantic Meridional Overturning Circulation (AMOC) could happen in the future. This system, which includes the Gulf Stream, helps move warm water around the world and plays a big role in keeping the climate stable, especially in Europe and North America.

About Atlantic Meridional Overturning Circulation (AMOC):

- The Atlantic Meridional Overturning Circulation (AMOC) is a large system of ocean currents in the Atlantic Ocean.
- It is like a giant conveyor belt that moves warm water from the tropics up to the north, and then sends cold water back down south deep under the ocean.
- It's powered by differences in water temperature and saltiness, and it helps move heat, nutrients, and carbon around the planet. This makes it very important for the climate, especially in Europe, and for ocean life.



Implication:

- Research suggests that an AMOC shutdown would lead to:
 - » Major cooling over Northern Europe and Eastern North America
 - » Sea ice expansion in the North Atlantic
 - » Droughts in Africa and South America

- » Disruption to monsoons in Asia
- » A potential amplification of El Niño events
- A 2016 paper in Science Advances emphasized the dramatic climate consequences of an AMOC collapse, noting "markedly different climate responses" across regions, including significant southward shifts of tropical rain belts.

Why Is AMOC Slowing Down?

- Several factors are contributing to the weakening of AMOC:
 - » Melting Greenland and Arctic ice is releasing large volumes of freshwater into the North Atlantic. Unlike saltwater, freshwater is less dense and disrupts the sinking mechanism critical to AMOC flow.
 - » Changing precipitation patterns due to Indian Ocean warming may also play a role. A 2019 study suggested increased rainfall over the Indian Ocean and decreased rainfall over the Atlantic leads to higher salinity in the Atlantic, which could temporarily strengthen the AMOC — but only while the imbalance persists.

Conclusion:

The study highlights the urgent need for global climate action. While the actual collapse of AMOC may still be several decades away, the processes that lead to it could be locked in much sooner. Given the potentially catastrophic consequences for global weather, sea levels, agriculture, and biodiversity, scientists argue that mitigating climate change must remain a top global priority.

Swachh Vayu Sarvekshan Awards & Wetland Cities Recognition

Context:

Union Minister Shri Bhupender Yadav recently Conferred Awards to Cities Under Swachh Vayu Sarvekshan Awards & Wetland Cities

Recognition Ceremony 2025

National Clean Air Programme Awards:

- The NCAP awards were given to cities that demonstrated outstanding commitment and innovation in advancing the mission of clean air. The awards were presented in three categories based on population:
 - » **Category 1 (population over 10 lakh):** Indore secured the first rank with a score of 200 out of 200, followed by Jabalpur (2nd rank) and Agra and Surat (3rd rank).
 - » **Category 2 (population between 3 and 10 lakh):** Amravati secured the first rank with a score of 200 out of 200, followed by Jhansi and Moradabad (2nd rank) and Alwar (3rd rank).
 - » **Category 3 (population under 3 lakh):** Dewas secured the first rank with a score of 193 out of 200, followed by Parwanoo (2nd rank) and Angul (3rd rank).

Wetland City Accreditation under Ramsar Convention

- **Recognized Cities:** Indore and Udaipur Accredited as Wetland Cities by Ramsar Convention Secretariat
- India now has 91 Ramsar sites (up from 25 in 2014), Largest number in Asia, 3rd highest globally

Swachh Vayu Sarvekshan 2025 Category 1 Cities with population above 10 lakh			
Indore Planted 16 lakh+ trees (Guinness World Record)	Jabalpur 11 MW Waste-to-Energy plant	Agra Remediated legacy waste dumpsite	Surat EV policy with tax incentives

About National Clean Air Programme:

- The National Clean Air Programme (NCAP), launched in January 2019 by the Ministry of Environment, Forest and Climate Change (MoEFCC), aims to reduce Particulate Matter (PM) levels by up to 40% by 2025-26 in 131 identified cities.

- It adopts a multi-sectoral, collaborative approach, requiring cities to implement action plans targeting pollution from transport, industry, agriculture, and waste.
- NCAP emphasizes expanding the National Ambient Air Quality (NAAQ) monitoring network, raising public awareness, and leveraging resources through convergence with other government schemes and state-level efforts.
- The programme promotes data-driven, sustainable solutions for cleaner, healthier urban air across India.

Key Achievements under NCAP:

- **Air Quality Improvement:**
 - » 103 out of 130 NCAP cities improved PM10 levels
 - » 64 cities achieved 20% reduction (2017–18 to 2024–25)
 - » 25 cities achieved 40% reduction in PM10

Schemes for Wetland Protection:

- **Mission Amrit Sarovar:**
 - » Rejuvenation of water bodies across districts
- **Mission LiFE (Lifestyle for Environment):**
 - » Public movement for adopting eco-friendly lifestyles
 - » One of its key themes is to Save Water.

Role of Lakes:

- Cover 4.7% of India's area; 2/3 outside forest regions
- Critical for flood control, cultural value, and biodiversity
- Act as "kidneys" of the environment

Conclusion:

The Swachh Vayu Sarvekshan Awards & Wetland Cities Recognition awards recognize the efforts of cities that have made significant progress in improving air quality and protecting wetlands. The government's initiatives and achievements under the NCAP demonstrate a strong commitment to sustainable development and clean air for every citizen.

Australia approves vaccine for Koalas

Context:

Australia recently approved the world's first vaccine aimed at protecting koalas from Chlamydia, a bacterial disease that has severely impacted their populations. This vaccine aims to reduce the disease's impact by improving immunity in wild populations of koalas, potentially reversing population declines caused by infection.

About the Koala:

- The koala (*Phascolarctos cinereus*), often colloquially called the "koala bear," is an arboreal herbivorous marsupial endemic to Australia.
- It is the sole surviving member of the family Phascolarctidae and shares a close evolutionary relationship with wombats. Koalas are primarily solitary animals, coming together only during the breeding season.
- Adapted to a tree-dwelling lifestyle, koalas spend the majority of their time resting and feeding on eucalyptus trees.
- Their paws are uniquely equipped with two opposing thumbs, an evolutionary trait that enhances their ability to grasp and climb tree trunks efficiently.
- **Distribution and Habitat:**
 - » Koalas inhabit the eastern and southeastern parts of Australia, including Queensland, New South Wales, Victoria, and southeastern South Australia.
 - » Their preferred habitats range from open forests to woodlands, spanning diverse climatic zones from tropical to cool temperate areas.
- **Diet and Ecology:**
 - » Koalas are folivores, relying almost exclusively on eucalyptus leaves for nutrition. This specialized diet is low in calories and requires the koala to conserve energy by sleeping up to 18–22 hours a day.



Conservation Status and Threats:

- According to the International Union for Conservation of Nature (IUCN), the koala is currently classified as Vulnerable. Their populations have suffered steep declines due to a combination of threats:
 - » **Habitat Loss:** Urbanization, deforestation, and land clearing have drastically reduced suitable habitats.
 - » **Climate Change:** Increased frequency of droughts and bushfires affect food availability and survival.
 - » **Road Accidents:** Collisions with vehicles are a significant cause of mortality.
 - » **Disease:** The most alarming threat comes from chlamydial infections caused by *Chlamydia pneumoniae* and *Chlamydia pecorum* bacteria.

About Chlamydia:

- Chlamydia is a pervasive disease among koalas, transmitted through mating, infected discharges, and from mother to joey at birth.
- Symptoms range from eye infections that cause blindness to urinary tract problems and infertility.
- Infected koalas often become weak and dehydrated, making them more susceptible to predators and environmental stresses such as bushfires.

Conclusion:

The koala is an emblematic species of Australia's unique biodiversity but remains vulnerable due to multiple anthropogenic and natural threats.

The introduction of a chlamydia vaccine offers hope but must be supplemented by broader conservation efforts focusing on habitat protection, reducing human-wildlife conflict, and climate resilience.

India's First Dugong Conservation Reserve in Palk Bay

Context:

The International Union for Conservation of Nature (IUCN) formally adopted Motion 025 at the IUCN World Conservation Congress 2025, recognizing India's first Dugong Conservation Reserve in Palk Bay, Tamil Nadu, as a model for marine biodiversity conservation.

Key Features of the Dugong Conservation Reserve:

Aspect	Details
Legal Basis / Notification	The Dugong Conservation Reserve was notified in September 2022 under the Wildlife Protection Act, 1972.
Location & Size	The reserve covers 448.34 sq km in the northern Palk Bay, spanning coastal waters of Thanjavur and Pudukkottai districts, Tamil Nadu.
Habitat	It contains over 12,250 hectares of seagrass meadows, which are critical feeding grounds for Dugong dugon.
Species of Concern	Dugong dugon (commonly called dugong or "sea cow"), listed as Vulnerable by IUCN Red List.

Significance of IUCN Recognition:

- **Global endorsement:** Elevates the reserve as a globally recognized model, which can attract international attention, funding, technical support.
- **Conservation leverage:** Helps highlight

threats to dugongs (habitat loss, fishing nets, pollution, climate change) and underscores urgent action.

- **Replicable model:** Encourages adoption of similar marine conservation efforts elsewhere in India and in the Indian Ocean region. The IUCN motion explicitly calls for replicating this model.



About Dugongs in India

- Dugongs (Dugong dugon), often called “sea cows,” are marine mammals that eat seagrasses and live in shallow coastal waters. India is home to small populations of them, but these numbers are falling, and several conservation steps have been taken to try and reverse the decline.

Conservation Status & Legal Protection

Legal / Conservation Listing	What It Means
IUCN Red List: Vulnerable**	Dugong is considered globally at risk; population declining.
CITES: Appendix I	Highest protection under trade law; international trade in dugongs or their parts is mostly prohibited.
Wildlife (Protection) Act, 1972 (India): Schedule I	The strictest legal protection in India; hunting or harming dugongs is banned.

Threats & Challenges:

- Dugongs are highly vulnerable due to habitat degradation, especially loss or damage of seagrass meadows.

- Unsustainable fishing practices—bycatch in nets, entanglements—pose a serious risk.
- Pollution (marine pollution, sedimentation etc.) and climate change (sea temperature rise, sea level rise) threaten both dugong populations and health of seagrass beds.
- Low reproductive rate of dugongs means population recovery is slow.

Conclusion:

The IUCN recognition of the Palk Bay Dugong Conservation Reserve is a landmark moment for marine conservation in India. It reinforces that well designed, locally inclusive conservation efforts can gain global recognition, potentially serving as models for other marine species and habitats under pressure. As pressures from human activity, climate change, and environmental degradation intensify, such reserves become critical not just for species protection but for broader ecosystem health, livelihoods, and climatic resilience.

India Designates Two New Ramsar Sites

Context:

Recently, the Government of India announced that Gokul Jalashay in Buxar district and Udaipur Jheel in West Champaran district, both in Bihar, have been officially designated as Ramsar Sites. With these additions, India's total number of Ramsar Sites rises to 93.

About the Sites:

Feature	Details
Gokul Jalashay	Located in Buxar district, Bihar; area ~ 448 hectares. It is an oxbow lake or “dead arm” of the Ganges. The wetland supports over 50 species of birds, especially around pre monsoon marshes and shrubby vegetation. Local communities depend on the wetland for agriculture, fishing, and irrigation.

Udaipur Jheel (Lake)	Located in West Champaran district, Bihar; area ~ 319 hectares. It lies on an oxbow lake in the floodplain of the Gandaki (or a tributary) and forms part of the Udaipur Wildlife Sanctuary. The wetland is a habitat for resident and migratory water birds. It also features swamp forests and stands of Khair Sissoo along riparian zones.
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About Ramsar Sites and Wetland Conservation:

- Ramsar sites are wetlands of international importance, recognized under the Ramsar Convention on Wetlands, an intergovernmental treaty signed in 1971 for the conservation and wise use of these ecosystems.
- These designated sites receive protection and international recognition for their significant role in global biodiversity and for sustaining human life through essential services like water purification, flood control, and climate regulation.
- India became a signatory to the convention in 1982, initially designating Chilika Lake (Odisha) and Keoladeo National Park (Rajasthan) as Ramsar sites. As of now, India has 93 Ramsar sites covering over 13 lakh hectares.

India's Wetland Conservation Policies:

- **Wetlands (Conservation and Management) Rules, 2017:** Mandate state-level wetland authorities and community involvement in wetland conservation.
- **National Plan for Conservation of Aquatic Ecosystems (NPCA), 2015:** An integrated scheme combining the National Wetland Conservation Programme (NWCP) and the National Lake Conservation Plan (NLCP) to protect aquatic ecosystems.
- **Mission Sahbhagita** is a citizen engagement program aimed at wetlands conservation. Along with the Save Wetlands Campaign, it has mobilized over 2 million people, led to

the ground-truthing of 1.7 lakh wetlands, and boundary demarcation of 1 lakh wetlands across India.

- **Amrit Dharohar Capacity Building Scheme, 2023:** Trains government officials, conservationists, and local communities to enhance wetland management using sustainable practices and traditional knowledge.
- **Mission Amrit Sarovar:** Focuses on creating and rejuvenating 75 water bodies in each district to promote water security and local employment.

Conclusion:

The inclusion of Gokul Jalashay and Udaipur Jheel as Ramsar Sites not only strengthens India's commitment to wetland conservation but also enhances the ecological resilience of Bihar. These designations spotlight the rich biodiversity, hydrological importance, and community dependence of these water bodies

UNESCO World Network of Biosphere Reserves

Context:

The Cold Desert Biosphere Reserve in Himachal Pradesh (Spiti Valley, Lahaul Spiti district) has been officially added to UNESCO's World Network of Biosphere Reserves (WNBR) under the Man and the Biosphere (MAB) Programme. The formal announcement was made during the 37th MAB ICC meeting held in Hangzhou, China (September 26-28, 2025) during the World Congress of Biosphere Reserves. This makes the Himachal cold desert region India's 13th biosphere reserve under the UNESCO global network.

Significance of the Designation:

- **Global Conservation Recognition:** Inclusion in UNESCO's WNBR puts the cold desert of Himachal on the world map as a fragile ecosystem requiring protection and sustainable management.
- **Conservation & Sustainable Development:** The Biosphere model (core buffer transition)

allows for preserving ecological integrity while enabling human activity in a sustainable manner, especially in buffer/transition zones.

- **Climate Resilience:** High altitude cold deserts are extremely sensitive to climate change: glacier retreat, changing precipitation, temperature extremes. Being a UNESCO biosphere reserve can mobilize research, monitoring, adaptation.
- **Biodiversity Protection:** Habitat protection for rare species (like snow leopard etc.), preserving medicinal plants, and preventing ecological degradation such as soil erosion, overgrazing etc.

Valley National Park, Kibber Wildlife Sanctuary, Chandratat Wetland, and the Sarchu plains.

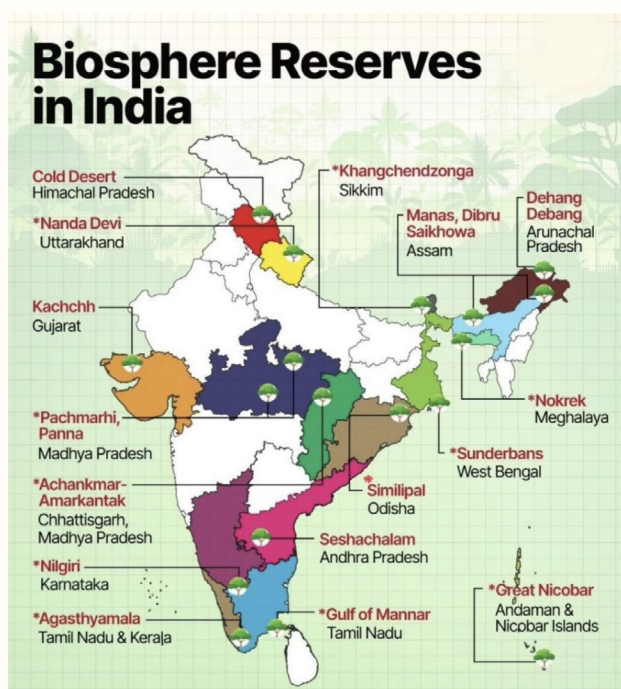
- » **Flora:** The reserve supports hundreds of plant species: over 650 herbs, 40 odd shrubs, ~ 17 tree species. Some are medicinal and endemic. The region is also important for traditional healing systems such as Sowa Rigpa / Amchi.
- » **Fauna:** Includes flagship species like the Snow Leopard, Blue Sheep (bharal) (as prey base), Himalayan Ibex, Tibetan Wolf, Red Fox, and many bird species (e.g., Golden Eagle, Himalayan Snowcock etc.).

About UNESCO's Man and Biosphere (MAB) Programme:

- UNESCO's Man and Biosphere (MAB) Programme established the World Network of Biosphere Reserves (WNBR) in 1971 to protect biodiversity and promote sustainable development by creating a global network of sites that demonstrate harmonious coexistence between people and nature.
- National governments nominate sites under the MAB program, and the International Co-ordinating Council (ICC) of MAB accepts proposals, integrating them into the WNBR for international recognition, knowledge sharing, and capacity building.

Conclusion:

The induction of Himachal's cold desert (Spiti region / high altitude Trans Himalayan cold desert ecosystem) into UNESCO's World Network of Biosphere Reserves represents a landmark move in India's environment & conservation domain. It reflects the state and national commitment to conserving fragile ecosystems, climate resilience, and supporting sustainable livelihoods in extreme landscapes.



About Cold Desert Biosphere Reserve:

- Cold Desert Biosphere Reserve is a biosphere reserve located in the Western Himalayas, within Himachal Pradesh in North India. It was established as a biosphere reserve in August 2009.
- **Key Features & Geographic Extent:**
 - » **Area:** ~ 7,770 square kilometres.
 - » **Altitude:** Ranges from ~ 3,300 metres to ~ 6,600 metres in the Trans Himalayan region.
 - » Key ecological areas include Pin



Science & Technology



From Atmanirbhar Bharat to Global Leadership: Towards the Semiconductor Revolution

Context:

Semiconductors form the foundation of the modern digital economy. They power everything from mobile phones and laptops to electric vehicles, defence systems, satellites, and medical equipment. Without semiconductors, digitalization, automation, and artificial intelligence would remain only on paper. Recognising this, India has moved decisively over the past few years to establish itself as a reliable and innovative player in the global semiconductor value chain.

- ❖ The launch of the India Semiconductor Mission (ISM) in 2021 and the announcement of a Rs.76,000 crore incentive package marked the beginning of India's formal entry into the global semiconductor ecosystem. In just four years, India has moved from being largely a consumer of chips to developing its own indigenous designs, packaging facilities, and manufacturing capabilities.
- ❖ The recent SEMICON India 2025 conference showcased these achievements and highlighted India's ambition to become a global semiconductor powerhouse.

India Semiconductor Mission (ISM):

- ❖ The India Semiconductor Mission (ISM) is the nodal agency responsible for implementing semiconductor and display-related schemes in the country. It aims to position India as a global hub for semiconductor design, manufacturing, and innovation by:

- » Establishing fabrication plants (fabs), packaging, and testing units.
 - » Supporting start-ups in chip design.
 - » Developing a trusted supply chain of raw materials, chemicals, gases, and equipment.
 - » Promoting indigenous intellectual property generation.
 - » Building a skilled workforce and Centres of Excellence.
 - » Facilitating partnerships with global companies, research institutions, and universities.
- ❖ So far, India has approved 10 semiconductor projects across six states with investments worth Rs.1.6 lakh crore. These projects cover commercial silicon carbide fabs, advanced packaging facilities, and outsourced assembly and testing plants (OSAT).

Financial Incentives and Policy Push:

- ❖ To support semiconductor manufacturing and design, the government has created two major incentive schemes:
- ❖ **Production Linked Incentive (PLI) Scheme**
 - » Allocated Rs.76,000 crore.
 - » Nearly Rs.65,000 crore has already been committed.
 - » Designed to attract global investors and ensure economies of scale.
- ❖ **Design Linked Incentive (DLI) Scheme**
 - » Provides financial support to semiconductor start-ups and innovators.

- » So far, 23 chip design projects have been sanctioned.
- » Companies like VerveSemi Microelectronics are designing advanced chips for aerospace, defence, and EVs.
- ❖ This twin approach ensures India is not just assembling chips but is also creating indigenous designs for global markets.



Major Milestones in India's Semiconductor Journey

- ❖ **Launch of Indigenous Microprocessor – Vikram**
 - » At the SEMICON India 2025 conference, Union IT Minister Ashwini Vaishnaw unveiled Vikram, India's first fully indigenous 32-bit microprocessor.
 - » This achievement demonstrates India's ability to design chips critical for sectors like defence, healthcare, and communication.
- ❖ **Outsourced Semiconductor Assembly and Test (OSAT) Facilities**
 - » On 28 August 2025, India inaugurated its first end-to-end OSAT pilot line facility at Sanand, Gujarat, developed

by CG Semi.

- » This facility will play a crucial role in chip assembly, testing, and packaging. The plant is expected to roll out the first 'Made in India' chip in 2026.
- ❖ **Advanced Semiconductor Design Centres**
 - » In May 2025, India launched its first 3-nanometer chip design facilities in Noida and Bengaluru.
 - » These centres mark a leap from earlier 5nm and 7nm designs, placing India at the cutting edge of chip design globally.
- ❖ **Global Collaborations and Investments**
 - » Micron Technology is investing Rs.22,500 crore in an ATMP facility in Gujarat.
 - » Tata Electronics and Taiwan's PSMC are investing around Rs.91,000 crore in a fab at Dholera.
- ❖ Foxconn, AMD, Renesas, and Applied Materials have also announced investments in India.

Strategic Significance of Semiconductors

- ❖ Semiconductors are not just an economic resource; they are a strategic asset. Global supply chain disruptions during the Covid-19 pandemic and the Ukraine war highlighted the risks of dependence on a few geographies like Taiwan, which produces 60% of the world's chips and 90% of advanced chips.

What Are Semiconductors?

- ❖ A semiconductor is a substance that has electrical conductivity between that of a conductor (like copper) and an insulator (like glass). Its conductivity can be controlled by adding impurities (a process called doping), by temperature, or by electric fields.
 - » They allow precise control of current, making them perfect for transistors and integrated circuits.
 - » Common materials: Silicon (most widely used), Gallium Nitride (GaN), and Silicon Carbide (SiC).
 - » Think of a chip as a miniature city, with billions of tiny switches called transistors working together. The

smaller and denser these transistors get (measured in nanometers — 7nm, 5nm, 3nm), the more powerful and efficient the chip becomes.

❖ Types of Semiconductor Chips

- » **Logic Chips:** CPUs, GPUs, microcontrollers that perform calculations and run applications.
- » **Memory Chips:** DRAM, SRAM, NAND flash that store data.
- » **Analog Chips:** Convert real-world signals (sound, temperature, pressure) into digital signals.
- » **Discrete Devices:** Simple power and radio-frequency components.

❖ For India, semiconductors mean:

- » **Economic Security:** Supporting industries like electronics, automobiles, telecom, and energy.
- » **Strategic Autonomy:** Reducing dependence on imports for defence and space technologies.
- » **Technological Leadership:** Becoming part of global value chains in AI, big data, and IoT.
- » **Job Creation:** Generating thousands of high-skilled employment opportunities.

India's Strengths in the Semiconductor Ecosystem

- ❖ India's progress is supported by three strong pillars:
 - » **Materials:** India is rich in minerals, gases, and chemicals essential for chipmaking.
 - » **Equipment and MSMEs:** A strong MSME base can produce components for semiconductor equipment.
 - » **Services and Talent:** India has a global edge in IT, AI, and cloud computing, and a vast pool of engineering talent.
- ❖ This combination allows India to integrate across the design, manufacturing, and services segments of the global semiconductor chain.

Transition to Next-Generation Technologies:

- ❖ India is not limiting itself to traditional silicon chips. It is:

- » Moving towards silicon carbide (SiC) semiconductors, which withstand higher heat and voltage, crucial for defence, EVs, and space.
- » Exploring 3D glass packaging technology, which improves efficiency and performance.
- » Establishing facilities for advanced packaging and compound semiconductors, placing India on par with global leaders.

Skill Development and Academia-Industry Linkages

- ❖ Over 60,000 students have already benefited from semiconductor-focused training programs. The ISM has tied up with academic institutions for:
 - » Certification and hands-on training.
 - » Mentorship for start-ups.
 - » Centres of Excellence for cutting-edge research.
- ❖ These measures aim to build a diverse, future-ready workforce to meet the industry's demand for one million additional skilled workers by 2030.

Conclusion:

India's semiconductor journey has moved from vision to execution in record time. With policy support, massive investments, indigenous design capabilities, and global collaborations, the country is laying the foundation of a self-reliant and globally competitive semiconductor ecosystem. SEMICON India 2025 captures this spirit of ambition and progress. India is no longer just a market for chips, it is emerging as a producer, innovator, and strategic partner in shaping the future of global technology. By focusing on design, packaging, fabrication, skill development, and sustainability, India is preparing to stand shoulder-to-shoulder with global leaders. The next decade will be decisive. If current momentum continues, India could transform from being dependent on global supply chains to becoming a critical pillar of them—powering industries, ensuring economic security, and shaping the world's digital future.

Short Issues

Chandrayaan-5 Mission

Context:

Recently, Indian Space Research Organisation (ISRO) and Japan Aerospace Exploration Agency (JAXA) have signed an implementing arrangement for the Chandrayaan-5 mission, a joint lunar exploration mission focusing on the polar region of the Moon.

About Chandrayaan-5 mission:

- The Chandrayaan-5 mission, also known as the Lunar Polar Exploration Mission (LUPEX), is a joint lunar mission between the Indian Space Research Organisation (ISRO) and the Japan Aerospace Exploration Agency (JAXA).

Mission Objectives:

- **Study Lunar Volatiles:** Investigate lunar volatile materials, including lunar water, in the vicinity of a Permanently Shadowed Region (PSR) at the lunar South Pole.
- **Precision Landing:** Demonstrate new surface exploration technologies related to vehicular transport and lunar night survival for sustainable lunar exploration in polar regions.
- **Water Prospecting:** Analyze water content, quality, and composition in the lunar regolith.

Spacecraft Components:

- **Lander:** ISRO will develop the lunar lander, which will have a payload capacity of at least 350 kg.
- **Rover:** JAXA will develop a 350 kg lunar rover, equipped with instruments from both JAXA and ISRO, including a drill to collect subsurface samples.
- **Launch Vehicle:** JAXA's H3-24L launch vehicle will carry the spacecraft.

Payloads:

- **REIWA:** Instrument package for analyzing water content and chemical species in drilled samples.
- **LTGA:** Thermogravimetric analysis of drilled samples for water content.

- **TRITON:** Identification of chemical species of volatile components in drilled samples.
- **ISAP:** Mineralogical and elemental measurement of drilled samples.

Significance of the Partnership:

- The partnership between ISRO and JAXA will strengthen cooperation in space research, foster innovation among industries and startups, and expand India's capabilities in lunar exploration.
- The mission will contribute to deepening our understanding of the permanently shadowed regions at the lunar south pole and push the boundaries of space science.
- The Chandrayaan-5 mission is a major milestone in India's long-term lunar roadmap, which envisions Indian astronauts landing on the Moon by 2040.



About Chandrayaan Missions:

- The Indian Space Research Organisation (ISRO) has been actively pursuing lunar exploration through its Chandrayaan program.
- **Chandrayaan-1 (2008):** Discovered water molecules and hydroxyl on the lunar surface
- **Chandrayaan-2 (2019):** Soft-land a lander on the lunar South Pole and operate a rover. The orbiter was successful, but the lander and rover crashed during the landing attempt
- **Chandrayaan-3 (2023):** Demonstrate safe and soft landing on the lunar South Pole and rove on the surface. Achieved a historic

soft landing, making India the first nation to land in the lunar south polar region

» **Configuration:** A lander (Vikram) and a rover (Pragyan)

▪ **Chandrayaan-4 (Planned)**

» **Objective:**

- Safe landing on the lunar surface
- Lunar sample collection
- Ascent from the Moon
- Docking in lunar orbit
- Returning samples to Earth
- Expected Launch: 2027

Conclusion:

Chandrayaan-5 mission is a testament to the growing partnership between India and Japan in space research and technology, and is expected to have far-reaching implications for the field of space exploration.

CEREBO

Context:

The Indian Council of Medical Research (ICMR) recently launched CEREBO, a handheld, portable, non-invasive diagnostic device designed for the rapid detection of Traumatic Brain Injuries (TBIs).

Background:

- India witnesses one of the world's highest rates of head injuries, with over 100,000 deaths and more than a million serious injuries reported annually.
- Traumatic Brain Injuries (TBIs) account for a significant share of these cases, with nearly 50% of fatalities occurring within the first two hours.
- Despite the urgency, diagnostic tools like CT scans and MRIs remain inaccessible in many rural and emergency settings.

About the CEREBO

- CEREBO is developed in collaboration between the Indian Council of Medical Research (ICMR), the Medical Device & Diagnostics Mission Secretariat (MDMS), AIIMS Bhopal, NIMHANS Bengaluru, and Bioscan Research.

- This innovative tool addresses the urgent need for quick, accessible, and affordable Traumatic Brain Injuries diagnosis, especially in rural and emergency settings.
- It operates using near-infrared spectroscopy powered by machine learning algorithms. It detects intracranial bleeding and cerebral edema in less than one minute.
- The device has undergone clinical validation, multi-centre trials, and regulatory approvals, paving the way for widespread adoption in India's healthcare system and potential global deployment in disaster and military medicine.
- **Its key features include:**
 - » Radiation-free, making it safe for infants and pregnant women
 - » Requires minimal training (30 minutes) for paramedics or unskilled users
 - » Offers colour-coded results for fast triage and decision-making
 - » Does not rely on electricity or large infrastructure
 - » Can be deployed in ambulances, trauma centres, rural clinics, and disaster zones
 - » The device effectively bridges the gap in diagnostics where CT and MRI scans are inaccessible, delayed, or unaffordable.



Benefits of CEREBO

- **Rapid and Early Diagnosis**
 - » Helps detect life-threatening conditions like brain bleeds early, potentially saving lives.
 - » Critical during the "golden hour" where

early intervention is essential.

- **Accessibility in Remote Areas**
 - » Ideal for rural India, where imaging infrastructure is limited or non-existent.
 - » Can be deployed by ambulance staff during transport to tertiary care.
- **Cost-Efficiency**
 - » Significantly cheaper than CT/MRI scans.
 - » Reduces dependency on large hospitals and costly infrastructure.
- **Triage Support in Emergency Rooms**
 - » Aids doctors in prioritizing cases quickly, reducing diagnostic burden in overcrowded trauma centres.

Conclusion:

CEREBO represents a significant breakthrough in the diagnosis and treatment of traumatic brain injuries. By providing rapid, non-invasive, and radiation-free detection of intracranial bleeding and edema, this portable device has the potential to revolutionize emergency care and rural healthcare access.

India's First Indigenous Multi-Stage Malaria Vaccine

Context:

India has licensed its first indigenous multi-stage malaria vaccine, AdFalcivax, to five domestic pharmaceutical companies. Developed by the Indian Council of Medical Research (ICMR) and its scientific partners, this vaccine aims to interrupt malaria transmission by targeting the Plasmodium falciparum parasite before it enters the human bloodstream.

Industry Collaboration:

- To facilitate commercialisation and wide distribution, the vaccine's production rights have been transferred to the following companies:
 - » Indian Immunologicals Limited
 - » Techinvention Lifecare Private Limited
 - » Panacea Biotec Limited
 - » Biological E Limited
 - » Zydus Lifesciences

- This public-private partnership model is crucial for rapid manufacturing and scale-up.

Key Features of AdFalcivax:

- **Multi-Stage Targeting:** Unlike conventional vaccines that target a single stage of the parasite's life cycle, AdFalcivax intercepts Plasmodium falciparum at multiple stages. This could lead to greater efficacy in controlling infection and blocking its spread within communities.
- **Affordable and Scalable:** Designed for mass deployment, the vaccine is cost-effective and scalable, ensuring accessibility for populations in low-resource settings.
- **Thermostability:** AdFalcivax remains effective for over nine months at room temperature, an essential feature for deployment in India's rural and remote areas where cold-chain infrastructure may be inadequate.

INDIA'S FIRST MULTI-STAGE MALARIA VACCINE

ICMR's AdFalcivax Targets Multiple Stages of Malaria Parasite, Offering Dual Protection Against Infection and Transmission



Public Health Significance:

- **Malaria Burden in India:**
 - » India accounts for 1.4% of global malaria cases and 0.9% of global malaria deaths.
 - » 95% of the Indian population lives in malaria-endemic areas, with tribal and inaccessible regions contributing to 80% of reported cases.
- **Disease Control Potential:**
 - » AdFalcivax offers the potential to:
 - Interrupt transmission cycles
 - Reduce morbidity and mortality
 - Support the National Malaria Elimination Program (NMEP)

About Malaria:

- Malaria is a life-threatening disease caused by Plasmodium parasites, spread to humans via bites of infected female Anopheles mosquitoes. It is preventable, curable, and mostly found in tropical regions.
- **Causative Agents:**
 - » Five Plasmodium species infect humans:
 - P. falciparum (deadliest, common in Africa)
 - P. vivax (dominant in India & Asia)
 - P. malariae, P. ovale, P. knowlesi (less common)
- **Disease Burden (2023):**
 - » 263 million cases, 597,000 deaths globally
 - » WHO African Region: 94% of cases, 95% of deaths
 - » India: ~1.4% of global cases; most cases from tribal and hard-to-reach areas
- **Vaccines:**
 - » RTS,S/AS01 (since 2021) and R21/Matrix-M (since 2023) recommended by WHO

WHO Global Strategy (2016–2030):

- **Goals by 2030:**
 - » Reduce malaria cases and deaths by 90%
 - » Malaria elimination in ≥35 countries
 - » Prevent resurgence in malaria-free nations

Conclusion:

The development and licensing of AdFalcivax represent a landmark achievement in India's public health innovation. It highlights the country's growing self-reliance in vaccine development and biotechnological research. With proper implementation, AdFalcivax has the potential to accelerate India's malaria elimination goals, reduce disease burden in vulnerable regions, and position India as a global leader in tropical disease control.

Wound-Healing Pad Developed from Red Ivy Plant

Context:

Researchers at the Jawaharlal Nehru Tropical Botanic Garden & Research Institute (JNTBGRI), Palode, Kerala have developed an innovative multifunctional wound-healing pad using extracts from the red ivy plant (*Strobilanthes alternata*), locally called murikooti pacha. This development combines traditional plant knowledge with modern nanotechnology and is being hailed as a significant breakthrough in affordable healthcare solutions.

About the Plant and Molecule:

- *Strobilanthes alternata* (Red Ivy) belongs to the Acanthaceae family. *Strobilanthes* species are also known for their unique mass flowering phenomenon, such as the Neelakurinji that blooms once in 12 years in the Western Ghats.
- It grows abundantly in tropical regions, including India, and has long been used in folk medicine for treating cuts and wounds.
- The research team identified and isolated acteoside, a natural bioactive compound, from this plant. Acteoside is already known for its pharmacological properties such as antioxidant, anti-inflammatory, and antimicrobial effects.
- This is the first time acteoside has been directly linked to red ivy, opening new possibilities for plant-based wound management.

Key Features of the Wound-Healing Pad:

The pad is designed as a multi-layered structure combining plant-derived molecules with engineered biomaterials:

- **Electro-spun Nanofibre Layer**
 - » Made from biodegradable and non-toxic polymers.
 - » Contains acteoside (effective at low concentration of 0.2%) and neomycin sulfate (an antibiotic).
 - » Facilitates optimal gas exchange, preventing microbial growth and expediting healing.
- **Super Absorbent Sponge Layer**
 - » Composed of sodium alginate, a naturally occurring polysaccharide.

- » Absorbs wound secretions (exudate) efficiently.
- **Activated Carbon Layer**
 - » Controls and neutralises odour, particularly from chronic wounds.
- Together, these layers provide a comprehensive healing environment – preventing infection, promoting tissue repair, and ensuring comfort. Animal trials have shown that the pad accelerates healing of excision wounds.
- Safety tests confirm no risks of genotoxicity, hypersensitivity, skin irritation, or inflammation.



Significance of the Innovation:

- Currently, no multifunctional wound dressing of this kind is available in India.
- The components used (polymers, sodium alginate, activated carbon) are affordable and easily available, making large-scale production cost-effective.
- The product represents a fusion of indigenous knowledge and advanced biotechnology, supporting both public health and domestic innovation ecosystems.

Conclusion:

The development of a red ivy-based wound-healing pad marks a significant stride in affordable and accessible healthcare technology. It bridges traditional medicinal knowledge with cutting-edge nanoscience, while meeting global safety standards. Such innovations not only enhance India's scientific capabilities but also contribute to the self-reliance agenda in biomedical research and indigenous technology development.

Mpox is Not a Global Emergency: WHO

Context

The World Health Organization (WHO) has officially declared that Mpox (formerly known as monkeypox) is no longer a Public Health Emergency of International Concern (PHEIC). This decision follows a sustained global decline in Mpox cases and deaths, signaling successful containment and public health response to the outbreak.

About Mpox:

- Mpox is a viral zoonotic disease caused by the Monkeypox virus (MPXV), belonging to the Orthopoxvirus genus.
- First identified in monkeys in 1958 and in humans in 1970 in the DRC.
- The natural reservoir remains unclear, but small mammals such as rodents and monkeys are considered potential carriers.

Subtypes (Clades) of Mpox:

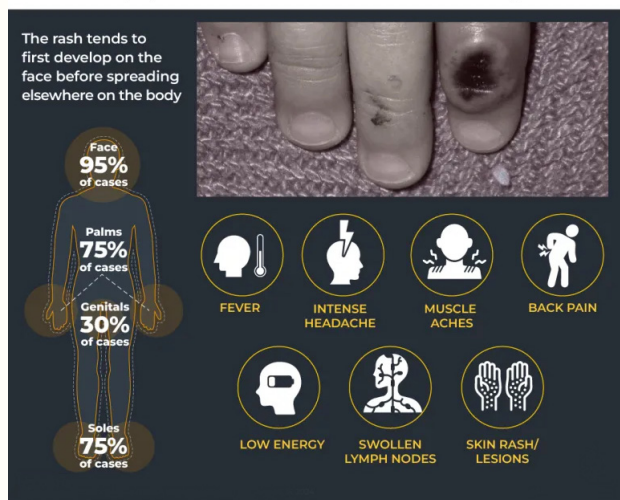
- **Clade I**
 - » Endemic to Central Africa.
 - » Known to cause more severe illness and higher fatality rates.
 - » Recent outbreaks, however, have been less deadly.
- **Clade II**
 - » Endemic to East Africa.
 - » Associated with the global Mpox outbreak since 2022.
 - » Typically less fatal than Clade I.

Symptoms and Spread:

- » **Initial symptoms:** Fever, headache, muscle aches, back pain, swollen lymph nodes.
- » **Progression:** Rash begins on the face/genitals and spreads to the body; lesions develop into scabs.
- **Transmission:**
 - » **Human-to-human:** Close contact (skin-to-skin, respiratory droplets, contaminated items).
 - » **Animal-to-human:** Bites, scratches, or contact with infected animals.
- Most patients recover within weeks, but young children, people with HIV, and immunocompromised individuals are at higher risk of severe illness.

What are the symptoms of monkeypox?

Monkeypox is a usually mild virus that causes fever as well as a bumpy rash. It is mostly transmitted to people from wild animals but **human transmission is also possible**.



Treatment and Prevention:

- No specific antiviral treatment approved globally.
- Supportive care is primary: hydration, nutrition, pain relief, and infection control.
- Experimental antiviral (e.g., tecovirimat) used in severe cases.

Why WHO Ended the Global Emergency?

- Sharp decline in global cases and fatalities.
- Better understanding of:
 - » Transmission pathways
 - » Risk factors

- » Regional disease dynamics
- Most affected countries have developed sustained response capacity.

Conclusion:

The WHO's decision to lift the global emergency tag for Mpox marks a milestone in international public health response. However, the situation in Africa is a stark reminder of global health inequities. Strengthening disease surveillance, health infrastructure, and international collaboration is essential to ensure that localized outbreaks do not escalate into global threats.

Protein Language Models

Context:

A team of researchers at the Massachusetts Institute of Technology (MIT) has made a key breakthrough in understanding how protein Language Models (pLMs) work. These AI-based models help predict how proteins fold and function—vital information in designing drugs and vaccines. Until now, these models operated as “black boxes”, offering accurate results but without transparency. The MIT team used a technique called sparse autoencoders to peek inside and interpret these models.

About Protein Language Models:

- Proteins are made from 20 types of amino acids, arranged in specific sequences. These sequences fold into complex 3D structures that determine protein function. pLMs are trained on millions of protein sequences and work similarly to language models like ChatGPT, but instead of words, they predict the next amino acid in a sequence.
- By learning patterns in sequences, pLMs can:
 - » Predict protein structures
 - » Suggest functions
 - » Help in drug and vaccine design
- However, their inner workings were previously unknown due to the complex nature of neural networks. Each neuron in the network processes large amounts of data, making it difficult to pinpoint which

neuron is responsible for recognizing specific patterns or making predictions

The Innovative Solution:

- To address this challenge, the MIT researchers employed sparse autoencoders, smaller neural networks trained on the inner activity of pLMs.
- These autoencoders can separate distinct patterns in activity, allowing scientists to identify specific features and understand what information the pLM has learned. By analyzing these features, researchers can gain insights into the model's predictions and have more confidence in its applications, such as drug or vaccine design.

Benefits of the research:

- **Drug Discovery:** Speeds up design by showing which parts of a protein matter
- **Vaccine Design:** Helps target proteins more accurately
- **AI Transparency:** Makes AI models more interpretable and trustworthy in scientific research

Conclusion:

This innovative technique has the potential to revolutionize protein research, enabling scientists to better understand complex biological data and develop more effective treatments. By shedding light on the inner workings of pLMs, researchers can unlock new biological insights and drive innovations in medicine and biotechnology.

Growing Challenges from Over-the-Counter (OTC) Medicines

Context:

A recent study by the University of South Australia has shed light on the potential risks of using Over-The-Counter (OTC) medications like ibuprofen and paracetamol, commonly used to treat pain, fever, and inflammation. Researchers found that these medications can drive antibiotic resistance when used individually and amplify it when used together.

Key Findings:

- **Increased Bacterial Mutations:** Ibuprofen and paracetamol significantly increased bacterial mutations, making *E. coli* highly resistant to the antibiotic ciprofloxacin.
- **Resistance to Multiple Antibiotics:** The bacteria developed resistance not only to ciprofloxacin but also to multiple other antibiotics from different classes.
- **Stress on Bacteria:** The medications can put bacteria under stress, triggering survival mechanisms that can lead to antibiotic resistance.

Over-the-Counter Drugs: Boon or Challenge?

OTC: A Boon When...

- Accessible for rural & remote populations
- Frees up doctors for complex cases
- Drives export growth
- Great for minor ailments
- Builds brand loyalty

OTC: A Challenge When

- No pharmacist guidance leads to misuse
- Wrong use of antibiotics as "OTC" in some countries
- Rising concerns around drug interactions
- Misbranding or overpromising through marketing
- Regulatory inconsistencies across countries



Implications:

- **Aged Care Concerns:** The study highlights the need to carefully consider the risks of using multiple medications, particularly in aged care where residents are often prescribed a mix of long-term treatments.
- **Global Health Threat:** The World Health Organization (WHO) has declared antimicrobial resistance a global threat to

public health, responsible for 1.27 million global deaths in 2019.

What Are OTC Medicines?

- Over-the-counter (OTC) medicines are non-prescription drugs that can be purchased without a doctor's prescription. They are designed to treat minor, everyday health issues such as pain, allergies, cold and flu symptoms, digestive discomfort, and skin conditions.
- Common examples include acetaminophen (Tylenol) and ibuprofen (Motrin) for pain, diphenhydramine (Benadryl) for allergies, and antacids for indigestion. These drugs are easily accessible at pharmacies and are considered safe when used as directed.

About Antibiotic Resistance:

- Antibiotic resistance refers to the ability of bacteria and other microbes to survive and grow despite the presence of antibiotics meant to kill them.
- This resistance develops naturally over time through genetic changes, allowing harmful bacteria to multiply and cause infections that become increasingly difficult—or even impossible—to treat.
- As a result, common illnesses could once again become deadly, threatening the foundation of modern medicine.

How it happens?

- Bacteria become resistant through genetic mutations or by acquiring resistance genes from other microbes. They can neutralize antibiotics by:
 - » Altering the drug's structure
 - » Blocking its target site
 - » Producing alternative pathways or enzymes
- Such bacteria can survive even strong treatments, spread rapidly, and create untreatable infections.

Conclusion:

The study's findings emphasize the importance of responsible medication use and the need for further research into the potential risks of OTC medications on antibiotic resistance.

GLP-1 Drugs Added to WHO's Essential Medicines List

Context:

World Health Organization (WHO) recently updated its Model Lists of Essential Medicines (EML) to include the GLP-1 receptor agonist class of drugs. This decision is expected to enhance global access, affordability, and availability of these medications.

What are GLP-1 Drugs?

- GLP-1 drugs, such as semaglutide (Ozempic/Wegovy) and tirzepatide (Mounjaro/Zepbound), mimic the action of the natural GLP-1 hormone, regulating blood sugar, insulin response, and hunger. They have proven benefits for obesity management and metabolic health.

Benefits of GLP-1 Drugs:

- **Improved Insulin Secretion:** GLP-1 drugs stimulate pancreatic glucose release and reduce hepatic glucose production.
- **Cardiovascular and Renal Benefits:** These medications have shown to reduce cardiovascular risk and support weight management.
- **Weight Loss Support:** GLP-1 drugs help suppress appetite and slow digestion, leading to significant weight loss.

Impact of the WHO Decision:

- **Increased Accessibility:** The WHO's decision could lead to better access to these medications, particularly in low-resource settings.
- **Generic Development:** The inclusion on the EML may encourage pharmaceutical companies to develop affordable generic versions.
- **Global Recognition:** Obesity and diabetes are recognized as serious medical conditions requiring medical solutions, reducing stigma.

About WHO Model Lists of Essential Medicines:

- The WHO Model List of Essential Medicines

(EML) acts as a global register of minimum medicine needs for every health-care system. It is:

- » Updated every two years by the Expert Committee on Selection and Use of Essential Medicines
- » A guiding document for countries to prioritize safe, effective, and cost-efficient medicines for public health



History of the EML:

- The first national EML was developed by Tanzania in 1970
- In 1975, the World Health Assembly asked WHO to help member states identify and procure essential medicines affordably
- The first WHO EML was published in 1977, listing 186 essential medicines
- Today, over 150 countries have national essential medicine lists inspired by the WHO model

About Essential Medicines:

- Satisfy priority health care needs of the population
- Are chosen based on disease prevalence, efficacy, safety, and comparative cost-effectiveness
- Should be available in sufficient quantity,

affordable, and quality-assured

About World Health Organization (WHO):

- The World Health Organization (WHO) is a specialized agency of the United Nations responsible for international public health.
- Established on April 7, 1948, and headquartered in Geneva, Switzerland, WHO's primary objective is to ensure the highest possible level of health for all people worldwide.
- It defines health as "a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity."

Conclusion:

The WHO's inclusion of GLP-1 drugs on the Essential Medicines List marks a significant step towards recognizing obesity and diabetes as serious health conditions requiring medical attention. While challenges persist, this decision paves the way for increased accessibility, affordability, and global recognition of these life-changing medications.

Earth Gains new Tiny "Quasi Moon" 2025 PN7

Context:

Recently, a new quasi-satellite, designated as 2025 PN7, has been discovered orbiting Earth. This asteroid, approximately 19 meters in diameter, is part of the Arjuna group of asteroids that follow Earth-like orbits. The discovery was made on August 2, 2025, by the Pan-STARRS 1 telescope in Hawaii, with archival data indicating it may have been in a quasi-satellite status for around 60 years.

About Quasi Moon:

- Quasi-satellites are objects that occupy a specific type of co-orbital configuration with a planet, where they stay close to the planet over many orbital periods. Unlike true satellites, quasi-satellites are not gravitationally bound to the planet and can have more eccentric orbits.
- They are often found in a 1:1 orbital

resonance with the planet, meaning they take the same amount of time to orbit the Sun as the planet does.

About the Arjuna Class:

- 2025 PN7 qualifies as an Arjuna asteroid — a subset of Near Earth Objects (NEOs) characterized by:
 - » Orbits very similar to Earth (i.e. low eccentricity, low inclination),
 - » Slow relative velocities with Earth,
 - » Potential to undergo resonant orbits or transient satellite capture.



Scientific Importance:

- **Orbital Dynamics & Resonance Studies:** 2025 PN7 is a natural laboratory to understand how small bodies can maintain quasi stable orbits under the competing influences of Solar and terrestrial gravity. Its eventual transition (possibly into a horseshoe orbit) can help refine models of orbital evolution.
- **Planetary Defense & Near Earth Object (NEO) Monitoring:** Even though 2025 PN7 poses no immediate threat, tracking such near Earth companions improves prediction

algorithms, impact risk assessment, and helps in cataloguing all Earth near space debris.

- **Space Mission Target:** Its proximity and relatively low Δv (energy cost) could make it an interesting target for future spacecraft missions—for flyby studies, sample return, or testing asteroid-redirecting technologies.

Conclusion:

The discovery of 2025 PN7 underscores that even in our near Earth environment, there are still small companions waiting to be found. Though not a true moon, it is a quasi satellite locked in a delicate dance with Earth and the Sun. Studying it offers insights into orbital mechanics, strengthens our ability to survey near Earth space, and opens possibilities for future space missions.

Closed Fuel Cycle Nuclear Project

Context:

Russian President Vladimir Putin recently announced that Russia will launch the world's first closed fuel cycle nuclear power system by 2030. This system will be in the Tomsk region and would allow up to 95% of spent nuclear fuel to be reused multiple times, drastically reducing the accumulation of radioactive waste and easing the demand for fresh uranium.

About Closed Fuel Cycle:

- In a closed nuclear fuel cycle, spent fuel from reactors is reprocessed to recover usable fissile materials (e.g. uranium, plutonium), which are then re-fabricated into new fuel.
- Thus, the cycle is “closed”. In this system, instead of discarding fuel as waste after a single use, it is reused in multiple cycles. This contrasts with the conventional “open cycle,” in which fuel is used and then stored or disposed of, with limited or no reuse.
- By reusing material, the closed cycle aims to:
 - » Reduce the volume of high level radioactive waste requiring long term

storage.

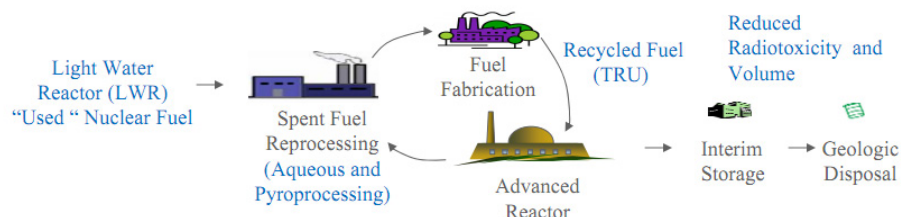
- » Lower fresh uranium demand, alleviating pressure on uranium mining and supply constraints.
- » Enhance the sustainability and resource efficiency of nuclear power.

reprocessing, fuel fabrication, reactor modifications, and safety systems is substantial. The economics must compete with simpler open-cycle reactors, especially when uranium prices are moderately low.

Implications:

- By reprocessing spent fuel and reusing it, Russia aims to dramatically reduce the build up of radioactive waste, mitigating the long-term burden of waste disposal. This makes nuclear power a more sustainable and resource efficient choice over time.
- If 95% reuse is achieved, the demand for fresh uranium mining and enrichment would decline significantly. For a nation or region that wants to reduce its reliance on uranium imports or volatile commodity markets, this offers strategic energy security benefits.
- If Russia succeeds, it would be the first country to implement a full closed fuel cycle at commercial scale. That could position Russia as a global leader in next-generation nuclear technologies, enhancing its influence in nuclear diplomacy and markets.

Closed Nuclear Fuel Cycle (or Reprocessing/Recycling)



Conclusion:

Russia's closed fuel cycle nuclear project has the potential to revolutionize the nuclear energy sector, promoting sustainability, energy security, and global cooperation. As the world watches this ambitious project unfold, its success could have far-reaching implications for the future of nuclear energy.

Challenges & Risks:

- **Technical Complexity & Material Science:** Recycling spent fuel safely requires advanced separation methods, handling of minor actinides, management of decay heat, fuel fabrication, and severe material constraints.
- **Proliferation & Safeguards:** Reprocessing and plutonium separation inherently carry nonproliferation risks. Russia would need to assure robust IAEA oversight and transparency to gain global trust.
- **Economic Viability:** The cost of advanced

GST 2.0: Implications Of India's Indirect Tax Reforms

Context:

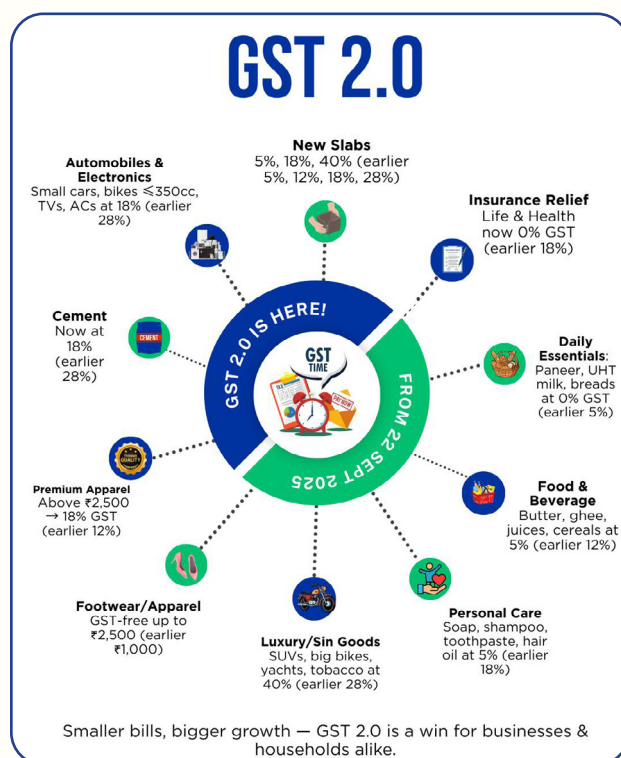
India has undertaken one of the most significant reforms in its indirect taxation system since the launch of the Goods and Services Tax (GST) in 2017. Popularly described as GST 2.0, the reform package that came into effect on 22 September 2025 involves a broad restructuring of GST slabs, rationalisation of rates, and streamlining of compliance procedures.

Termed by the government as the “GST Bachat Utsav”, the new measures are aimed at simplifying the tax structure, boosting consumption, reduce the problem of inverted duty structures, and leave more disposable income in the hands of citizens. By cutting rates on more than 375 items, the government expects household consumption to expand, which in turn can attract more private investment and help compensate for the revenue loss due to the tax cuts.

Evolution of GST:

- ❖ The GST was introduced in July 2017, subsuming 17 different indirect taxes and 13 cesses under a unified consumption-based tax. While the reform was hailed as a major step towards creating “One Nation, One Tax, One Market”, in practice, it became complex due to multiple rate slabs, frequent exemptions, and disputes over classification of goods and services.
- ❖ Over the last eight years, more than a dozen rounds of rate revisions have taken place. However, GST 2.0 is the most ambitious restructuring, as it moves away from a

complicated four-slab system to a simplified two-slab design, with special rates for precious stones and demerit goods.



Key Features of GST 2.0:

- ❖ **Simplified Rate Structure:** Earlier, GST operated under four major slabs: 5%, 12%, 18%, and 28%, along with several special rates. GST 2.0 reduces this to a two-tier structure:
 - » **Merit rate of 5%** – covering 516 goods and services, largely essential commodities like food items, agricultural machinery,

and some medical devices.

- » **Standard rate of 18%** – covering 640 categories, mainly industrial products such as chemicals, paints, automobile parts, boilers, small cars, and two-wheelers.

❖ **Special Rates:**

- » **0.25%** – rough diamonds, semi-precious stones.
- » **1.5%** – cut and polished diamonds.
- » **3%** – precious metals like gold, silver, and pearls.
- » **40% (demerit rate)** – luxury and sin goods such as pan masala, aerated drinks, large cars, yachts, and personal aircraft.
- » **Tobacco products** – remain under the earlier system of 28% GST + compensation cess, with an additional levy expected soon.

❖ **Removal of 12% Slab:**

- » The 12% slab has been abolished for most items. Only bricks remain under this category, governed by a special composition scheme (6% without input tax credit and 12% with input tax credit).

❖ **Service Sector Reforms:**

- » Health and life insurance for individuals – exempted from GST (earlier taxed at 18%).
- » Hotels with tariff up to Rs.7,500/day – taxed at 5% without input tax credit (earlier 12% with ITC).
- » Salons, spas, and wellness services – GST reduced to 5% from 18%.

Economic Rationale Behind GST 2.0:

- ❖ **Boosting Household Consumption:** The government expects that lower GST rates will increase disposable income, which in turn will spur demand for goods and services. This rise in consumption is projected to generate higher investment, job creation, and ultimately, greater tax revenues, offsetting the immediate revenue loss from rate cuts on more than 375 items.
- ❖ **Correcting the Inverted Duty Structure (IDS):** One of the persistent problems under the earlier GST system was the inverted duty

structure, where inputs attracted a higher tax rate than the final product. This caused working capital blockages as businesses struggled to claim refunds.

- » **Example:** Steel attracts 18% GST while bicycles are taxed at only 5%.
- » GST 2.0 has attempted to reduce such mismatches by aligning inputs and outputs within the same slab.

- ❖ **Simplification and Transparency:** By merging four major slabs into two, GST 2.0 reduces the scope for classification disputes. Earlier controversies like whether roti and parotta should attract different rates are now less likely, as similar goods have been placed under uniform categories.

Passing Benefits to Consumers:

- ❖ To ensure that companies pass on tax savings to consumers, the Ministry of Finance has directed field officers to compile monthly reports for six months tracking pre- and post-GST prices of 54 common items. These include food products (milk, butter, dry fruits, biscuits, chocolates), personal care items (toothpaste, shampoo, shaving cream), and educational supplies (notebooks, pencils, crayons).
- ❖ While there is no strict anti-profiteering law currently in place, the government hopes that regular monitoring will help keep prices in check and ensure household budgets benefit directly from GST cuts.

Implementation and Compliance Reforms:

- ❖ **Registration:** The registration process is being redesigned to be more technology-driven and time-bound, reducing delays and paperwork especially for small businesses and start-ups.
- ❖ **Return Filing:** GST 2.0 will introduce pre-filled returns, cutting down on manual errors, mismatches, and the compliance burden on businesses.
- ❖ **Refund Mechanism:** Refunds, especially for exporters and businesses facing inverted duty structure, will be automated for faster clearance. The GST Council has also approved amendments to Section 54(6) of

the CGST Act, 2017, which will allow 90% provisional refunds in IDS cases, similar to the mechanism already available for zero-rated exports.

» Pending formal amendments, the Central Board of Indirect Taxes and Customs (CBIC) has been directed to issue instructions for granting provisional refunds from November 1, 2025 (possibly advanced to October).

Challenges Ahead:

- ❖ **Revenue Concerns:** Rate cuts across more than 375 items will create short-term revenue losses for both the Centre and States. The government is relying heavily on a consumption-driven recovery to bridge this gap.
- ❖ **Persistent Inverted Duty Issues:** Despite efforts, IDS has not been eliminated entirely. Sectors such as bicycles, tractors, fertilisers, textiles, and corrugated boxes continue to face mismatches between input and output tax rates, leading to capital blockage.
- ❖ **Enforcement Gaps:** India lacks a strong legal mechanism to ensure that companies pass on tax benefits to consumers. The reliance on monitoring alone may not be sufficient to prevent profiteering.
- ❖ **State Finances:** States, already dependent on GST compensation, may face stress if revenues dip further. Ensuring cooperative federalism in GST implementation remains a critical challenge.

Way Forward:

- ❖ **Tighten Anti-Profiteering Measures** – Introduce a stronger legal framework to

ensure tax cuts are fully reflected in retail prices.

- ❖ **Address Residual IDS Issues** – Focus on sectors still suffering from input-output mismatches.
- ❖ **Digital Monitoring of Compliance** – Use real-time data analytics for tracking registration, filing, and refunds.
- ❖ **Periodic Slab Reviews** – Continue assessing the slab structure to balance ease of doing business with revenue requirements.
- ❖ **Strengthen State Finances** – Create mechanisms to stabilise state revenues while ensuring GST remains attractive for businesses.
- ❖ **Build Trust-Based Compliance** – Promote voluntary compliance through simpler processes, reduced paperwork, and predictable policies.

Conclusion:

GST 2.0 is a landmark reform in India's taxation journey. By simplifying slabs, rationalising rates, and improving compliance processes, it addresses many of the pain points that plagued the first phase of GST. For consumers, it promises price relief and better household budgeting. For businesses, it brings clarity and ease of operations. However, challenges like revenue shortfalls, residual inverted duty structures, and weak enforcement mechanisms must be tackled proactively. The long-term success of GST 2.0 will depend on how effectively these issues are addressed, and how well the reform translates into real economic growth and inclusive benefits for citizens.

Short Issues

Stablecoins

Context:

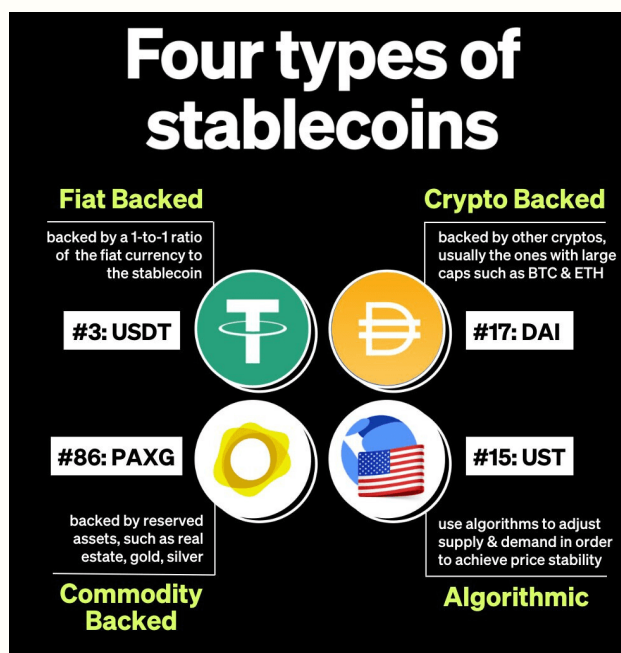
Stablecoins, a form of digital currency pegged to the value of fiat currencies like the U.S. dollar, have garnered significant global attention due

to their rapid growth and potential impact on the global financial system. With a market capitalization nearing \$280 billion—more than double from 18 months ago—stablecoins are projected to reach \$2 trillion within three years. Their growth raises strategic questions about

U.S. dollar dominance and the stability of the international monetary system.

About Stablecoins:

- Stablecoins are cryptocurrencies linked to stable assets, typically the U.S. dollar, to maintain a consistent value. They offer the efficiency and global accessibility of cryptocurrencies while minimizing the volatility associated with them.
 - » Leading examples include Tether (USDT) and USD Coin (USDC), both of which are backed by U.S. Treasury bills and cash.
 - » Despite being mostly used outside the U.S., over 99% of stablecoins are dollar-backed.
 - » This global demand indirectly enhances the U.S. dollar's status as the default global currency, reinforcing its "exorbitant privilege."



About the 'Exorbitant Privilege' of the U.S. Dollar:

- Coined by economist Valéry Giscard d'Estaing, the term "exorbitant privilege" refers to the U.S. ability to run persistent deficits and borrow at lower costs due to the dollar's global reserve status.
 - » Stablecoins are now digitally amplifying

this privilege. By holding stablecoins, investors across the world indirectly invest in U.S. Treasuries, enhancing demand for U.S. debt.

- » For example, the Treasury holdings of Tether and Circle exceed the public debt of some mid-sized nations like Saudi Arabia, aiding U.S. liquidity and reducing borrowing costs.

Potential Threats of Stablecoins:

- Despite benefits such as faster cross-border payments and lower transaction costs, stablecoins pose several risks:
 - » Private control and lack of regulation may undermine traditional banking systems.
 - » They could displace national currencies in fragile economies, causing dollarization and fiscal instability.
 - » The fragmentation caused by competing private payment networks could weaken the global financial infrastructure.
 - » Governments may lose seigniorage revenue and policy control if stablecoins dominate domestic transactions.
- Nations like China are now exploring yuan-backed stablecoins, and the EU is advancing digital euro legislation to counter U.S. stablecoin dominance.

Conclusion:

Stablecoins, though transformative, are unlikely to replace sovereign currencies or Central Bank Digital Currencies (CBDCs). Governments are moving to regulate or counterbalance them through state-backed digital currencies. Their future depends on integration with regulatory systems, and how effectively governments can preserve financial sovereignty while embracing innovation.

Incentive Scheme to Boost Critical Mineral Recycling

Context:

On September 3, 2025, the Union Cabinet approved a Rs.1,500 crore (US\$ 170.4 million)

incentive scheme under the National Critical Mineral Mission (NCMM). The goal is to promote recycling of e-waste and battery waste to extract critical minerals such as lithium, cobalt, and nickel. The scheme will run from FY2025-26 to FY2030-31.

Key Objectives of the Scheme:

- Develop 270 kilotonnes/year of recycling capacity
- Extract 40 kilotonnes/year of critical minerals
- Attract Rs.8,000 crore in private investment
- Create around 70,000 jobs, directly and indirectly

Focus of the Scheme:

- The scheme promotes recycling of:
 - » E-waste
 - » Lithium-ion battery (LIB) scrap
 - » Catalytic converters from old vehicles
- It aims to extract critical minerals like lithium, cobalt, and nickel to reduce import dependence and support clean energy supply chains. Both large and small recyclers, including start-ups, are eligible. One-third of the funds are reserved for small/new players.

CABINET APPROVES

₹1,500 CRORE

INCENTIVE SCHEME TO PROMOTE CRITICAL MINERAL RECYCLING

Recycling an important pillar of National Critical Mineral Mission (NCMM)

Focus:
Battery waste & e-waste recycling

Aiming to develop recycling capacity for the separation & production of critical minerals from secondary sources through recycling

Financial Support

- Two types of subsidies are offered:
 - » **Capex:** 20% subsidy on machinery for

timely production; reduced benefits for delays

- » **Opex:** Linked to incremental sales over FY2025-26, paid in two stages—40% in FY2026-27 and 60% in FY2030-31

▪ **Incentive limits:**

- » **Large units:** Up to Rs.50 crore (Rs.10 crore Opex cap)
- » **Small units:** Up to Rs.25 crore (Rs.5 crore Opex cap)

About Critical minerals:

- Critical minerals are non-fuel minerals essential for modern technologies, economic development, and national security, whose supply chains are vulnerable to disruption. Their criticality is determined by their economic importance and the potential risks to their supply
- **Key Critical Minerals and Their Uses**
 - » **Lithium:** Vital for rechargeable batteries in EVs, laptops, and phones. Sourced from brines and pegmatites.
 - » **Cobalt:** Used in EV batteries, alloys, and aerospace parts. Mainly sourced from the Democratic Republic of the Congo.
 - » **Graphite:** Key battery anode material; also used in lubricants and high-temperature applications.
 - » **Rare Earth Elements (REEs):** Crucial for EV motors, wind turbines, and electronics. China leads global processing.
 - » **Copper:** Essential for electrical wiring, solar panels, and EVs—core to energy infrastructure.
 - » **Niobium & Tantalum:** Used in aerospace alloys, electronics, and medical devices.

About National Critical Mineral Mission:

- Launched in 2025, the National Critical Mineral Mission (NCMM) is a strategic initiative by the Government of India to secure long-term access to critical minerals vital for clean energy, technology, and defense sectors.
- With a total planned outlay of Rs.34,300 crore—including Rs.16,300 crore from the government and Rs.18,000 crore from PSUs

and private players—the mission spans seven years (2025-31) and aims to reduce India's heavy reliance on imports, especially from countries like China.

Conclusion:

This initiative is a major step toward strengthening India's green economy by supporting sustainable supply chains for electric vehicles, batteries, and renewable energy systems. It encourages domestic innovation, reduces waste, and enhances supply security for critical technologies.

BHARATI Initiative

Context:

The Agricultural and Processed Food Products Export Development Authority (APEDA) recently launched the BHARATI initiative, a new program designed to empower 100 agri-food and agri-tech startups and drive innovation in the agricultural sector. The initiative aims to boost India's agricultural exports to \$50 billion by 2030.

About BHARATI initiative:

- The BHARATI initiative, which stands for Bharat's Hub for Agritech, Resilience, Advancement, and Incubation for Export Enablement, is a program designed to empower agri-food and agri-tech startups.
- Its goal is to accelerate their journey, promote innovation, and create new export opportunities for young entrepreneurs, ultimately strengthening India's agricultural and processed food exports

About APEDA:

- The Agricultural and Processed Food Products Export Development Authority (APEDA) is a statutory body established by the Indian government in 1986 under the APEDA Act of 1985.
- It functions under the Ministry of Commerce and Industry, Government of India, with its headquarters located in New Delhi.
- APEDA has a strong regional presence with offices set up in various cities across India

to support exporters nationwide.



Key Objectives and Functions:

- **Promote Exports:** APEDA's primary objective is to promote the development of exports of agricultural and processed food products from India.
- **Registration:** Registers exporters of scheduled products, ensuring compliance with quality and safety standards.
- **Standards & Quality:** Sets quality standards, conducts inspections, and works to improve packaging and marketing of agricultural products.
- **Financial & Technical Support:** Provides financial assistance and guidelines to improve the quality and competitiveness of Indian agricultural products.

India's agricultural exports:

- India's agricultural exports reached \$48.8 billion in FY24, down from \$53.2 billion in FY23. Key exports include marine products (\$7.37 billion), rice, spices (\$4.25 billion), and buffalo meat.
- India remains a significant player in global agricultural trade, ranking 8th in the world with a 2.5% share.
- Factors like domestic food security policies and logistical challenges can impact export

volumes.

Conclusion:

The BHARATI initiative is a significant step towards strengthening India's agricultural and processed food exports. By empowering startups and driving innovation, APEDA aims to accelerate export growth and enhance India's global competitiveness in the agricultural sector. With its focus on advanced technologies and high-value categories, BHARATI has the potential to transform India's agri-food export landscape and contribute to the country's economic growth

NITI Aayog's Strategy to Boost Pulses Production

Context:

On September 4, 2025, the NITI Aayog unveiled a landmark report titled "Strategies and Pathways for Accelerating Growth in Pulses towards the Goal of Atmanirbharta". The report presents a detailed roadmap to transform India's pulses sector into a self-reliant, sustainable, and high-performing agricultural domain.

Why Pulses Matter?

- India is the largest producer and consumer of pulses in the world. Pulses are vital for:
 - » **Nutritional security:** A major source of protein for India's predominantly vegetarian population.
 - » **Sustainable agriculture:** Pulses fix nitrogen, improve soil health, and require less water.
 - » **Livelihoods:** Over 5 crore farmers and their families depend on pulses cultivation, mostly in rainfed regions.

Current Challenges and Progress:

- The sector has made remarkable strides:
 - » In 2015–16, pulse production had declined to 16.35 million tonnes (MT), necessitating 6 MT of imports.
 - » By 2022–23, production increased by 59.4% to 26.06 MT, with a 38% rise in productivity, reducing import

dependency from 29% to 10.4%.

- Still, gaps persist:
 - » In 2023–24, production reached 242.46 LMT, but shortfall of 50.04 LMT led to 47.39 LMT of imports.
 - » The sector is heavily concentrated, with Madhya Pradesh, Maharashtra, and Rajasthan contributing 55%, and the top 10 states accounting for 91% of production.

Strategic Vision for the report:

- As announced in the Union Budget 2025–26, the 'Mission for Atmanirbharta in Pulses' is a six-year focused initiative targeting:
 - » Pigeonpea (Tur)
 - » Black gram (Urad)
 - » Lentil (Masoor)
- The mission is supported by the Price Stabilisation Fund (PSF), with buffer stocks of 15.75 lakh metric tonnes as of April 2025. It aims to stabilize prices, ensure availability, and reduce imports.

Strategic Framework:

The report outlines two core pillars:

- **Horizontal Expansion**
- Increase area under pulses by:
 - » Utilizing rice fallows
 - » Promoting intercropping
 - » Focus on under-utilized lands in pulse-suitable regions
- **Vertical Expansion**
- Improve productivity through:
 - » High-yielding varieties and hybrids
 - » Scientific sowing and pest management
 - » Seed treatment and quality assurance
 - » Integrated nutrient, weed, and water management

Key Recommendations:

- **Crop-Wise Clustering**
 - » Promote targeted clusters for specific pulses
 - » Ensure area retention and diversification
- **Agro-Ecological Customization**
 - » Deploy location-specific technologies to boost resilience and productivity
- **Seed Supply Reforms**

- » Distribute high-quality seeds in 111 high-potential districts contributing 75% of output
- » Establish 'One Block-One Seed Village' models supported by FPOs
- **Climate Resilience**
 - » Encourage climate-adaptive farming practices
 - » Invest in data-led monitoring systems to mitigate climate risk
- **District-Wise Quadrant Approach**
 - » Identify and manage district clusters based on production potential, climatic risks, and infrastructure gaps

Projected Outcomes:

- Raise domestic production by ~20.10 MT
- Achieve supply targets of 48.44 MT by 2030 and 63.64 MT by 2047
- Significantly reduce import dependency and promote export potential

Conclusion:

NITI Aayog's strategic blueprint offers a comprehensive, evidence-backed plan to revitalize India's pulse sector. By focusing on regional strengths, technology integration, climate resilience, and farmer-centric models, India can move decisively toward Atmanirbharta in pulses.

India's Strategic Shift in Foreign Exchange Reserves

Context:

The Reserve Bank of India (RBI) has been gradually reducing its exposure to US Treasury Bills (T-bills) over the past year, signalling a cautious shift in its foreign exchange reserve strategy. This move comes ahead of US President Donald Trump's decision to impose a 50% tariff on Indian imports, raising concerns about potential further steps targeting India's vast investments in US securities.

Gradual Reduction in US Treasury Holdings:

- India's holdings in US Treasury securities peaked at \$247.2 billion in September 2024

but steadily declined to \$219.1 billion by December 2024.

- As of June 2025, India held \$227 billion, reflecting a \$20 billion reduction since the peak. This marks a deliberate move by the RBI to reduce exposure to US assets. India currently ranks as the 10th-largest investor in US Treasury Bills (T-bills).
- Despite the shift, India's overall forex reserves rose to \$694.23 billion by the end of August 2025, Holdings in global foreign currency assets stood at \$485.35 billion in March 2025, down from \$515.24 billion in September 2024. The RBI's management remains focused on safety, liquidity, and returns.

Reasons behind this shift:

- The shift comes amid fears that geopolitical tensions could threaten the safety of overseas reserves. A notable precedent was set when the US and its allies froze Russia's foreign reserves following the Ukraine invasion.
- Though rare, such actions highlight the theoretical risk of the US restricting access to foreign-held T-bills in extreme situations. This possibility may have influenced the RBI's measured reduction of US investments.

What RBI done:

- Alongside reducing US assets, the RBI has increased domestic gold holdings. Gold held abroad declined from 387.26 tonnes in March 2024 to 348.62 tonnes in March 2025, while domestic reserves rose from 408.10 tonnes to 511.99 tonnes in the same period. This rebalancing indicates the RBI's dual strategy of diversification and liquidity.
- Additionally, the RBI holds government bonds from countries like Japan, Germany, France, and the UK, as well as securities from institutions like the IMF, ADB, and World Bank.

About Foreign Exchange Reserves:

- Foreign exchange (forex) reserves are official assets held by a country's central bank in foreign currencies, gold, and other

international financial instruments. These reserves are used to support the country's currency, economy, and international trade obligations.

Components of Forex Reserves

- **Foreign Currency Assets (FCA):**
 - » These are mainly held in major currencies like the US Dollar, Euro, Japanese Yen, and British Pound.
 - » They include government securities, deposits, and other market instruments.
- **Gold Reserves:**
 - » Physical gold held by the central bank as a store of value and hedge against inflation.
- **Special Drawing Rights (SDRs):**
 - » An international reserve asset created by the IMF.
 - » Its value is based on a basket of five major currencies: USD, Euro, RMB, Yen, and Pound Sterling.
- **IMF Reserve Position:**
 - » It reflects a country's quota contribution to the IMF and drawing rights available under normal conditions.

Conclusion:

India's evolving reserve strategy reflects growing awareness of global financial risks. By reducing reliance on US T-bills, increasing gold reserves, and diversifying across asset classes and jurisdictions, the RBI is ensuring that India's financial stability remains secure in an increasingly uncertain world.

UPI-UPU Integration

Context:

Union Minister Shri Jyotiraditya M. Scindia launched the UPI-UPU Integration project at the 28th Universal Postal Congress held in Dubai on September 9, 2025. The initiative aims to make global remittances faster, safer, and more affordable, leveraging India's digital public infrastructure and the global postal network.

About UPI-UPU Integration:

- A joint initiative by:
 - » Department of Posts (DoP), India
 - » NPCI International Payments Limited (NIPL)
 - » Universal Postal Union (UPU)
- **Objective:** To link India's Unified Payments Interface (UPI) with the UPU Interconnection Platform (IP) — enabling cross-border digital payments through postal services.
- **Significance:** It combines the global reach of postal networks with the speed and affordability of UPI, offering a scalable solution for low-cost international remittances.

Implications of the integration:

- **For Global Financial Inclusion**
 - » Millions of families across borders, particularly in developing nations, can benefit from cheaper and faster money transfers.
 - » A game-changer for migrant workers, SMEs, and those in remote areas with limited access to banks.
- **For India's Digital Diplomacy**
 - » This move aligns with India's global digital leadership under the Digital India mission and supports the vision of Viksit Bharat (Developed India).
 - » Demonstrates how citizen-centric public digital infrastructure can be leveraged for global benefit.

India's Commitment at the UPU Congress:

- \$10 Million Pledge for Global Postal Innovation
- India committed USD 10 million to support:
 - » E-commerce integration
 - » Digital payments
 - » Postal infrastructure modernization in developing countries
- **India's Bid for Leadership:** India announced its candidature for two key bodies of the UPU:
 - » Council of Administration
 - » Postal Operations Council
- Aims to play a leadership role in reforming and digitising the global postal system.

About Universal Postal Union (UPU):

- The Universal Postal Union (UPU), founded in 1874, is a specialized agency of the United Nations that coordinates international postal services and policies among member countries.
- Headquartered in Bern, Switzerland, the UPU plays a vital role in setting global standards for mail exchange, enhancing postal logistics, and promoting the development of postal financial services.
- It also provides technical assistance to support modernization and capacity building in developing nations.
- Serving as the main forum for international postal cooperation, the UPU ensures a harmonized global postal system, facilitates cross-border communication, and works to improve efficiency, security, and customer service across the postal sector.

Conclusion:

The UPI-UPU integration project marks a historic turning point in the evolution of international remittances, with India positioning itself as a global digital leader. It reflects India's growing capacity to deliver interoperable, inclusive, and low-cost digital solutions to the world.

Unified RERA Portal

Context:

The central government recently launched a Unified Real Estate Regulatory Authority (RERA) Portal, a significant reform aimed at transforming the real estate industry across India.

Background:

- The Real Estate (Regulation and Development) Act, 2016 was enacted to bring transparency, accountability, and efficiency to the real estate sector, a sector historically plagued by delays, lack of information, and consumer grievances.
- However, since real estate is regulated at the state level, there were variations in implementation and access to information across states and union territories.

About Unified RERA Portal:

- The new portal integrates data from all states and UTs, allowing them to share best practices, monitor project progress in real-time, and provide a centralized platform for buyers and regulators.
- It helps in tracking real estate projects, registering complaints, and enforcing timely delivery, thus safeguarding the interests of homebuyers.

Benefits of the portal:

- **Promotes Digital Governance:** The unified portal aligns with the Digital India initiative by leveraging technology to improve transparency and citizen services.
- **Enhances Consumer Protection:** By addressing grievances efficiently, it strengthens the rights of homebuyers.
- **Improves Regulatory Framework:** Facilitates uniform implementation of RERA, overcoming previous challenges due to state-wise variations.
- **Boosts Economic Development:** A transparent real estate sector attracts investment, fuels job creation, and contributes to urban development.

About Real Estate (Regulation and Development) Act, 2016:

- The Real Estate (Regulation and Development) Act, 2016 (RERA) regulates India's real estate sector to ensure transparency, efficiency, and consumer protection.
- It mandates registration of all real estate projects with state RERA authorities before sales begin and requires at least 70% of collected funds to be used exclusively for project expenses.
- The Act establishes fast dispute resolution mechanisms and an appellate tribunal.
- Applicable to residential and commercial properties, RERA reduces fraud and project delays, promotes accountability, and protects homebuyers' interests.
- Each state has its own RERA authority to enforce the law, while some renovation or

redevelopment projects are exempt.

About Real Estate Sector:

- The real estate sector is a cornerstone of the Indian economy, contributing around 13% to the GDP by 2025 and expected to reach \$1 trillion by 2030.
- It is the one of the-largest employment generator, supporting millions directly and indirectly through over 200 allied industries like cement and steel.
- The sector plays a crucial role in urbanization, catering to India's growing urban population, projected to hit 600 million by 2030. Real estate investments have a multiplier effect, driving demand across industries and jobs.
- Additionally, it is a major source of government revenue and attracts significant Foreign Direct Investment (FDI) through supportive policies.

Conclusion:

The launch of the Unified RERA Portal marks a significant step towards enhancing transparency and accountability in India's real estate sector. By providing a single nationwide platform for stakeholders, the portal aims to empower homebuyers, promote best practices, and support policy formulation.

Nilgiri Tea

Context:

The Nilgiris tea industry is recently facing a persistent cost price crisis, affecting small tea growers in the region. Despite a healthy harvest, farmers are struggling due to plummeting prices of green tea leaves.

Challenges Facing Nilgiri Tea:

- **Low GTL Prices:** Often fall below production cost.
- **Overcapacity:** Too many factories competing for limited, seasonal output.
- **Auction Issues:** Poor price discovery, manipulation, and advance contracts.
- **Export Reliance:** Dependence on Russia/USSR; limited diversification.

- **Quality Concerns:** Adulteration and inconsistency hurt brand value.
- **Rising Costs:** Labour and input costs strain small-scale growers.

Solutions:

- Innovation in cultivation and processing techniques
- Diversification of markets and product offerings
- Strengthening institutional support, including policy reforms and subsidies
- **These actions are essential for:**
 - » Overcoming the persistent cost-price crisis
 - » Ensuring the long-term sustainability and growth of the Nilgiris tea industry
 - » Reviving Nilgiris tea's reputation as a premium global product

About Nilgiri Tea:

- Nilgiris tea, grown mainly in the Nilgiris district of Tamil Nadu, is renowned for its brisk, fragrant, and full-bodied liquor. It includes both orthodox and CTC (crush-tear-curl) varieties and is prized worldwide for its unique flavor, especially suited for iced tea blends.
- The region benefits from ideal geographic conditions: high altitudes (1,000-2,500 meters), two monsoon seasons, and well-drained lateritic soil.
- The tea industry here supports over 46,000 small growers over 34,000 hectares. Nilgiri tea earned Geographical Indication (GI) status in 2008.

About India's Tea Industry:

- India is the world's second-largest tea producer, known for high-quality tea backed by strong geographical indications, advanced processing, innovation, and strategic marketing.
- In 2022, tea cultivation covered 6.19 lakh hectares across the country. India is also a top tea consumer, with around 80% of production consumed domestically. Production stood at 1,382 million kg in FY24.

Major Tea Regions:

- **Assam:** Assam Valley and Cachar regions
- **West Bengal:** Darjeeling, Dooars, Terai
- **South India:** Tamil Nadu, Kerala, Karnataka (accounts for about 17% of national production)

Export Trends:

- India ranks among the top 5 global tea exporters, contributing about 10% of total global exports. Black tea dominates exports (96%), followed by regular and green teas.
- India exports tea to over 25 countries, with top buyers including UAE, USA, Iraq, UK, and Russia, collectively accounting for over 50% of exports.

Government Support:

- The Tea Board of India (est. 1953) regulates and promotes the industry. It runs schemes like:
 - » **Promotion for Packaged Tea of Indian Origin:** Supports marketing and trade fairs.
 - » **Tea Development and Promotion Scheme (2021-26):** Focuses on productivity, quality, small farmers, worker welfare, R&D, and market promotion.

Conclusion:

Nilgiri tea, once a prized global export, now faces structural and economic threats. Revamping auction systems, improving quality control, and enhancing market access are essential to sustain its legacy and the livelihoods it supports.

OECD Economic Outlook

Context:

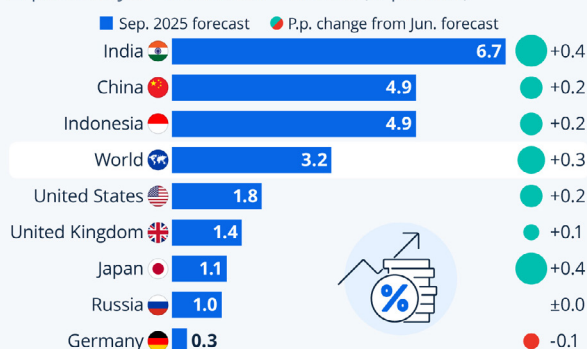
The OECD, in its interim economic outlook, has upgraded India's GDP growth forecast for 2025 (FY26) to 6.7%, up from its earlier June estimate of 6.3%. Simultaneously, it has lowered the inflation projection to 2.9% from its earlier estimate of ~4.1%. For 2026, the OECD expects growth to slow slightly to 6.2%, with inflation staying near 3%.

Reasons for Upward revision:

- **Robust Domestic Demand:** Consumption continues to be strong, cushioned by income growth, favorable monsoon effects, tax incentives, and policy support.
- **GST Reforms & Tax Measures:** The OECD notes that reforms to the Goods & Services Tax (GST), including a two slab structure (5% and 18%) for many items, along with other fiscal incentives, are expected to stimulate consumption and ease inflationary pressures.
- **Easing Food Price Inflation:** A sharper than expected decline in food inflation (due to good supply and, in some cases, export restrictions) is helping to bring down headline inflation.
- **Monetary & Fiscal Support:** The OECD expects further monetary easing (as inflation falls) and sustained public investment to support growth momentum.
- **Resilience despite External Risks:** Though India faces headwinds (such as higher U.S. tariffs on Indian exports), its large domestic market and growth drivers provide a cushion.

OECD Raises India's GDP Growth Forecast to 6.7 Percent

Real GDP growth projections compared to the previous year in selected countries (in percent)



Source: OECD Economic Outlook

Global Growth & Economic Momentum:

- The global economy proved more resilient than expected in the first half of 2025, driven by front loading of goods production and trade ahead of tariff hikes, especially by the United States.

- Global GDP growth is projected to decline from 3.3% in 2024 to 3.2% in 2025 and further slow to 2.9% in 2026.
- In advanced economies (G20), growth is expected to moderate as heightened tariff burdens, policy uncertainty, and fading demand weigh on investment and trade.

Regional Highlights:

- **United States:** Growth is projected to drop from ~2.8% in 2024 to 1.8% in 2025, and further to 1.5% in 2026. The report cites the negative impact of higher effective tariff rates, a decline in net immigration, and policy uncertainty as drag factors.
- **Euro Area:** Growth is forecast at 1.2% in 2025 and weakening to 1.0% in 2026, with trade friction and geopolitical risks being key headwinds.
- **China:** Expected to grow ~4.9% in 2025 and ~4.4% in 2026, as front loading benefits fade, fiscal stimulus wanes, and export pressures intensify.

About OECD:

- The Organisation for Economic Co operation and Development (OECD) is an intergovernmental organisation composed of 38 member countries.
- It was officially founded in 1961, succeeding the OECD's precursor, the Organization for European Economic Co operation (OEEC). Its mission is to promote policies that improve economic and social well being around the world.

Conclusion:

The OECD's revised forecast reflects India's strong economic fundamentals and growth potential. While challenges persist, particularly in the form of global trade uncertainties and US tariffs, India's resilient domestic demand and policy reforms are expected to drive continued economic growth

PM MITRA Park

Context:

PM Narendra Modi recently laid the foundation stone of India's first PM MITRA (Mega Integrated Textile Region and Apparel) Park in Dhar district, Madhya Pradesh. This event marks a significant milestone in India's journey to become a global leader in textile manufacturing.

Features of the PM MITRA Scheme:

- The Dhar PM MITRA Park is spread across 2,158 acres and includes:
 - » **A 20 MLD effluent treatment plant:** To ensure sustainable and environmentally friendly operations.
 - » **A 10 MVA solar power plant:** To promote renewable energy and reduce carbon footprint.
 - » **81 plug-and-play units:** To facilitate easy setup and operation for businesses.
 - » **Modern roads, continuous water and electricity supply:** To ensure a conducive business environment.
 - » **Housing and social facilities for workers, especially women:** To promote inclusive growth and support women's employment.

About PM MITRA Park:

- The PM Mega Integrated Textile Region and Apparel (PM MITRA) Yojana was launched in 2021 by the Ministry of Textiles to develop world-class textile parks across India.
- It aims to integrate the textile value chain from fibre to fashion, reduce logistics costs, attract investment, and generate employment.
- The Government of India has indeed finalized the setup of seven PM Mega Integrated Textile Region and Apparel (PM MITRA) Parks across various states.
 - » Tamil Nadu: Virudhnagar
 - » Telangana: Warangal
 - » Gujarat: Navsari
 - » Karnataka: Kalaburagi
 - » Madhya Pradesh: Dhar
 - » Uttar Pradesh: Lucknow
 - » Maharashtra: Amravati
- Each PM MITRA Park will be implemented through a Special Purpose Vehicle (SPV) jointly owned by the Central and State

Governments, operating in Public Private Partnership (PPP) mode.

Key financial support includes:

- Development Capital Support of up to Rs.500 crore per park from the Ministry of Textiles to the SPV
- Competitive Incentive Support (CIS) of up to Rs.300 crore per park for manufacturing units
- Convergence with other central schemes to offer additional benefits to developers and investors
- Each park will also include incubation centres, processing facilities, CETPs, design and testing centres, enabling end-to-end textile production infrastructure.

Economic and Social Impact:

- The PM MITRA scheme is expected to bring Rs.70,000 crore in investment and generate 20 lakh employment opportunities across the seven parks.
- The Dhar park alone has received investment proposals worth Rs.23,146 crore. These parks aim to create integrated textile value chains, reducing logistics costs and increasing global competitiveness.
- Additionally, the parks will help uplift rural economies, provide employment for women, and encourage sustainable practices in the textile industry.

Conclusion:

The new PM MITRA Park in MP has a significant step towards making India a global hub for textile manufacturing and exports. With its world-class infrastructure, integrated textile value chain, and sustainable practices, the park is expected to attract investment, generate employment, and promote economic growth. As India aims to become a leader in the textile industry, the PM MITRA Park will play a crucial role in achieving this vision.

Unified Pension Scheme (UPS)

Context:

The Unified Pension Scheme (UPS), introduced

for Central Government employees under the National Pension System (NPS), came into effect on April 1, 2025. Recently, the deadline to opt for it was extended to September 30, 2025.

Background:

- **Old Pension Scheme (OPS):** In place before January 1, 2004, it guaranteed a fixed pension of 50% of last drawn salary plus dearness allowance. No employee contribution was required.
- **National Pension System (NPS):** Introduced in 2004, it made pensions market-linked, requiring contributions from both employee and employer. However, it does not guarantee a fixed payout.
- **Unified Pension Scheme (UPS):** Announced in 2024 after recommendations of the Somanathan Committee (2023), the UPS aims to strike a balance between OPS's assured pension and NPS's fund-based structure. It is regulated by the Pension Fund Regulatory and Development Authority (PFRDA).

Key Features of UPS:

- **Eligibility:**
 - » Applicable to all existing Central Government employees covered under NPS as of April 1, 2025.
 - » New recruits joining after April 1, 2025, will also be eligible.
 - » Covers employees who retired or voluntarily retired before March 31, 2025, and even their legally wedded spouses (if the employee has passed away before opting).
- **Contributions:**
 - » **Employee:** 10% of basic pay + DA.
 - » **Employer:** 10% of basic pay + DA.
 - » **Additional Government contribution:** 8.5% of basic pay + DA into a pool corpus to support assured payouts.
- **Assured Benefits:**
 - » 50% of the average basic pay of the last 12 months before retirement, provided the employee has completed 25 years of service.
 - » **Minimum assured payout:** Rs.10,000/

month after completing at least 10 years of service.

- » Proportionate pension: For service between 10 and 25 years.
- » **Family pension:** Upon the pensioner's death, the spouse receives 60% of the assured payout.
- » **Dearness Relief (DR):** Payable as notified by the government.

▪ **Other Provisions:**

- » A one-time option exists to revert from UPS back to NPS, but only before superannuation or voluntary retirement.
- » UPS allows a lump-sum withdrawal: 1/10th of last basic pay + DA for every completed six months of service.
- » Employees dismissed from service are not eligible for assured payouts.

Unified Pension Scheme (UPS)

Cabinet approved introduction of UPS to improve the National Pension System (NPS) for Central Government employees

UPS to be initiated from 01.04.2025



Key aspects of UPS

- ❖ Employees who have adequate service to get an assured pension of at least 50% of the last 12 months' average salary as pension
- ❖ Minimum pension of ₹ 10,000 per month to be given to those with at least 10 years' service
- ❖ Family pension to spouse to be given @60% of the pension
- ❖ Dearness relief to be given on the assured pension, minimum pension and family pension
- ❖ In addition, a lumpsum to be provided at the time of retirement

Reason behind low adoption:

- Uptake of UPS has been slow – only about 40,000 of 23.94 lakh employees have opted so far.
- UPS offers more security than NPS, but many unions are not satisfied.
- Unions continue to demand restoration of OPS, which required no employee contribution and gave higher certainty.
- UPS still requires employee contributions, unlike OPS, making it less attractive.
- Complex rules and a short decision window

have also reduced adoption.

Conclusion:

The Unified Pension Scheme is an important milestone in India's pension reforms, designed to ensure post-retirement stability for government employees while containing fiscal risks. It reflects the state's attempt to reconcile employee welfare with economic prudence. However, whether it becomes widely accepted or remains overshadowed by demands for OPS will be clear only in the coming years.

India & FAO Join Hands to Build World-Class Blue Ports

Context:

India's Department of Fisheries, under the Ministry of Fisheries, recently has signed a Technical Cooperation Programme with the FAO to develop Blue Port infrastructure as part of the PMMSY initiative. This move aims to modernize fisheries, improve post-harvest efficiency, and promote sustainable, tech-driven coastal infrastructure.

- It supports pilot upgrades at Vanakbara and Jakhau ports, delivering capacity-building programs to promote sustainable fisheries port management.

About the Blue Port:

- The Blue Ports Initiative is an FAO programme focusing on transforming fishing ports into sustainable hubs that serve economic, social, and environmental goals.

Key pillars include:

- **Environmental Preservation:** Waste management, marine debris removal, renewable energy, pollution control, climate resilience.
- **Market oriented Innovation:** Traceability, enhanced value chain, improved trade standards, digital systems.
- **Social Welfare:** Stakeholder participation, safety, inclusion of women, livelihoods for fishermen.

Key Features of the India Blue Ports Framework:

- **Pilot Harbours:** Three fishing harbours are approved: Vanakbara (Diu), Jakhau (Gujarat), and Karaikal (Puducherry). Total investment ~ Rs. 369.8 crore.
- **Advanced Technologies:** Integration of AI, 5G, IoT, sensor networks, satellite communication, digital platforms for real time monitoring, traceability, and efficient operations.
- **Eco friendly Infrastructure:** Facilities for rainwater harvesting, energy efficient lighting, electric powered equipment, waste management, sewage treatment, marine debris clean ups.
- **Climate Resilience & Sustainability:** Designs to withstand sea level rise, extreme weather events; ensuring operations are resilient, minimizing ecological damage.

Significance for India:

- **Boosting Fisheries Sector & Blue Economy:** It aligns with India's goals under PMMSY and FIDF to modernize fisheries; better infrastructure leads to lower post harvest losses, more export oriented production; improved incomes for fishermen.
- **Environmental Protection & Sustainability:** Helps tackle pollution, marine debris, and overexploitation; contributes to SDG 14 (Life below Water).
- **Technological Leap:** Integration of emerging technologies can raise productivity, traceability, competitiveness in global seafood markets.
- **Inclusive Growth:** By ensuring safer, cleaner, stakeholder inclusive infrastructure, benefits reach smaller fishers, women, coastal communities.
- **Global Alignment & Best Practices:** Learning from FAO's global repository (e.g. Port of Vigo etc.), adopting international benchmarks.

About FAO's Technical Cooperation Programme (TCP):

- Technical Cooperation Programme (TCP) was established by the Food and Agriculture

Organization (FAO). It provides on-demand technical expertise to member countries.

▪ Purpose:

- » To help countries enhance food security and alleviate poverty.
- » To offer technical solutions in areas such as crop production, livestock, fisheries, aquaculture, forestry, nutrition, food safety, and rural development.
- » It responds to national priorities as defined in the Country Programming Framework (CPF).

About Pradhan Mantri Matsya Sampada Yojana (PMMSY):

- The Pradhan Mantri Matsya Sampada Yojana (PMMSY) is a flagship scheme launched in 2020 by the Ministry of Fisheries, Animal Husbandry and Dairying.
- It is a five-year programme (2020–21 to 2024–25) with a total investment of Rs.20,050 crore. The scheme has been extended until the financial year 2025-26 to continue promoting sustainable development and growth in India's fisheries sector.
 - » **Objective:** To enhance fish production, modernize the fisheries value chain, ensure fisher welfare, and promote sustainability in the sector.

Conclusion:

The partnership between India and FAO marks a significant step towards developing world-class Blue Ports that will benefit the fisheries sector and promote sustainable development. By integrating smart technologies and eco-friendly infrastructure, India can enhance its fisheries sector's competitiveness while ensuring environmental sustainability and social equity.

World Food India 2025

Context:

The 4th edition of World Food India (WFI) is scheduled to take place from September 25 to 28, 2025, at Bharat Mandapam, New Delhi. This global food event aims to attract investments,

showcase innovations, and highlight India's food processing potential.

Objectives:

- **Make India a Global Food Hub:** Use India's agricultural strengths and diversity to draw global investment and trade in food processing.
- **Empower MSMEs & Micro Entrepreneurs:** Improve their access to technology, credit, and markets.
- **Promote Innovation & Sustainability:** Showcase food technology, eco friendly packaging, cold chain solutions, and strategies to reduce food waste.
- **Connect the Full Food Ecosystem:** Link all stakeholders — from farmers to exporters, processors to innovators.
- **Enhance Regulatory Standards:** Enable global regulatory dialogue to improve food safety and export readiness.

About Food Processing Industry in India:

- Food processing involves converting raw plant and animal products into edible, marketable food through processes such as cleaning, grading, milling, preservation, packaging, etc.
- **India's Position & Key Contributions**
 - » India's Food Processing Industry is the 6th largest in the world.
 - » India ranks 2nd globally in fruits & vegetables production and 1st in dairy.
 - » The sector contributes ~ 9 % to Agriculture's Gross Value Added (GVA) and ~ 23 % to India's agricultural exports.
 - » It supports over 7 million jobs across the value chain (both directly & indirectly).

Growth enabler for food processing industry in India:

- **Changing Lifestyles & Demographics:** With ~ 65 % of Indians aged under 35, rising incomes, urbanisation, and busier lives, demand for processed and ready to eat foods is growing.
- **Abundant Raw Material Base:** India leads in milk, banana, mango, ginger production,

and is among the top producers of rice, wheat, fruits & vegetables — ensuring year round inputs.

- **Technological Advancement & Digitalisation:** Use of AI, IoT, satellite monitoring, smart supply chains reduces waste, improves traceability, and streamlines farm-to-fork integration.
- **Logistics & Market Access:** Organised retail, e-commerce, cold chain networks, and efficient last-mile delivery expand domestic markets. Exports of processed foods have been growing at ~ 11.74 % CAGR, reaching ~\$ 16.2 billion.
- **Policy & Investment Incentives:** Schemes like PLI (Production Linked Incentive) and liberal FDI (100 % under automatic route) attract global players to invest in the sector.

Key Challenges That Must Be Addressed:

- **Fragmented Supply Chain**
 - » ~ 86 % of farmers are small or marginal, making aggregation hard.
 - » Farmers often receive only 30–35 % of the final value (versus 65–70 % in developed countries).
- **Infrastructure Gaps & Food Losses**
 - » Due to inadequate cold chains and storage, India loses ~ Rs.92,651 crore annually.
 - » 25–30 % of fruits & vegetables spoil post-harvest.
- **Regulatory Complexity**
 - » Multiple regulatory bodies and lack of single-window clearance lead to delays & compliance costs, especially for MSMEs.
- **Skill & Quality Constraints**
 - » Only ~ 3 % of the food processing workforce is formally trained.
 - » Export rejections due to inconsistent standards: between 2020–24, 527 processed food items from India were flagged by the EU.

Government Initiatives & Reforms:

- **PM Kisan SAMPADA Scheme:** Enhance infrastructure, reduce waste, boost exports.
- **PMFME Scheme:** Formalise micro food processing units and SHGs.

- **Special Food Processing Fund:** Rs.2,000 crore via NABARD for infrastructure & supply chain projects.
- **PLI Scheme for Food Processing:** Incentivise investment in food & cold chain infrastructure.
- **Mega Food Park Scheme:** Create integrated processing + storage hubs.
- **National Makhana Board:** To promote Indian superfoods globally.

Conclusion:

World Food India 2025 is a significant step towards establishing India as a global food processing powerhouse. With its comprehensive policy framework, international partnerships, and focus on sustainability and innovation, the event is poised to drive India's food processing industry toward global competitiveness. By fostering collaboration, investment, and knowledge exchange, WFI 2025 will play a crucial role in shaping India's food future and contributing to the country's vision of becoming a developed, inclusive, and globally competitive nation.

Shipbuilding and Maritime Sector

Context:

The Union Cabinet, chaired by Prime Minister Narendra Modi, recently approved a comprehensive package worth Rs.69,725 crore to revitalise India's shipbuilding and reduce dependence on foreign ships as part of the government's plan to regain the country's maritime power.

Key Components of the Package:

The package is built on four pillars:

Pillar	Aim / Intervention	Budget / Details
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Ship-building Financial Assistance Scheme (SBFAS)	Extend assistance until 31 March 2036; motivate ship-yards; promote recycling of old ships via a credit note; oversight via a National Shipbuilding Mission.	Total corpus Rs.24,736 crore; includes Rs.4,001 crore for the Ship-breaking Credit Note; includes small amount for the National Shipbuilding Mission (Rs.181 crore)
Maritime Development Fund (MDF)	Provide long term financing (equity + debt) to make maritime projects bankable; reduce debt cost via interest incentives.	Rs.25,000 crore corpus: Rs.20,000 crore as Maritime Investment Fund (49% Govt participation), Rs.5,000 crore as Interest Incentivisation Fund.
Ship-building Development Scheme (SbDS)	Expand and strengthen domestic shipbuilding capacity; develop clusters; provide risk cover & insurance; enhance infrastructure & technology; boost greenfield & brownfield yards.	Outlay of Rs.19,989 crore: includes ~ Rs.9,930 crore for green-field clusters, Rs.8,261 crore for brownfield expansion, Rs.305 crore for India Ship Technology Centre, Rs.1,443 crore for risk related credit cover. Capacity target: ~ 4.5 million Gross Tonnage (GT) annually.

Legal, Taxation & Policy Reforms	Improve enabling environment: grant infrastructure status to large ships; ship registration & MRO services GST considerations; regulatory simplification; strengthen institutions.	Infrastructure status will apply to: commercial vessels with 10,000 GT or more that are Indian owned and flagged; and vessels built in India with 1,500 GT or more, also Indian owned/flagged.
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Rationale behind this package:

- India's maritime sector handles nearly 95% of trade by volume and 70% by value.
- Historically, Indian shipyards have had low share in global shipbuilding tonnage (~ 0.07%) and heavy dependence on foreign vessels for EXIM trade.
- Strategic, economic, and supply chain resilience concerns (energy, food security, defence) prompted the government to take bold action

into India's maritime sector.

- Build 2,500+ vessels over the scheme period.

Strategic Significance:

- Strengthens India's Make in India posture; reduces dependency on foreign shipyards & foreign flag / foreign vessels for critical trade routes.
- Enhances national security & strategic autonomy through self reliance in shipbuilding.
- Boosts economic multiplier effects: upstream industries (steel, engines, electronics), downstream services (repair, maintenance), and regional development

Conclusion:

The Rs.69,725 crore package represents a landmark policy step to put India on a path to becoming a major global shipbuilding power. If well implemented, it can offer economic, strategic, and employment dividends. However, success depends heavily on execution, reform coherence, and demand creation.



Expected Outcomes & Targets:

- Unlock 4.5 million GT of shipbuilding capacity.
- Generate ~ 30 lakh jobs (3 million) over time.
- Attract investment of ~ Rs.4.5 lakh crore

Depreciation of Indian Rupee

Context:

In recent times, the Indian rupee has reached fresh lows versus the U.S. dollar, reflecting pressure from both external and domestic dynamics. On September 23, the rupee fell to around Rs.88.62 per dollar, its weakest on record.

What determines the USD/INR exchange rate?

- The exchange rate is mainly determined by the supply and demand for US dollars versus Indian rupees in the foreign exchange market:
 - » **Supply of USD:** Export earnings, foreign investments (FDI and portfolio), remittances, and RBI dollar sales.
 - » **Demand for USD:** Payments for imports, foreign investors withdrawing capital, debt repayments, and holding dollars

for business or investment.

- If demand for USD exceeds supply, the rupee depreciates (weakens). If supply exceeds demand, the rupee appreciates (strengthens).

Key Drivers of the Weakness:

▪ **Trade Imbalance & Current Account Deficit:**

- » **Import dependence, especially on oil and raw materials:** India imports the majority of its crude oil, and also relies heavily on imports for fertilizers, electronics, and capital goods. The higher import bills translate into greater demand for foreign currency.
- » **Sluggish export growth & external shocks:** Global demand has softened, and protectionist trade policies (e.g., U.S. tariffs) have added headwinds. In this environment, export growth struggles to keep pace with rising import bills.
- » **Current account pressures:** Owing to the gap between imports and exports, India often runs a current account deficit (CAD). When CAD widens, net demand for foreign exchange exceeds inflows, putting downward pressure on the rupee.

▪ **Sluggish Capital / Investment Inflows:**

- » **Foreign Portfolio Outflows:** A major contributor has been the withdrawal of foreign funds from Indian equities and bonds. In 2025, foreign institutional investors (FIIs) have been net sellers, contributing to rupee depreciation as these investors convert rupee assets into dollars.
- » **Risk aversion & yield differentials:** As global risk sentiment tilts toward safer assets (e.g., U.S. Treasuries), capital often flows out of emerging markets. The U.S. Federal Reserve's tighter monetary policy has made dollar denominated assets more attractive, drawing away capital.

more expensive. For a heavily import reliant economy in energy and raw materials, this can push up inflation.

- To stabilize or support the rupee, the RBI may have to use reserves or engage in intervening in the forex market, which has costs and risks.
- As the currency weakens, servicing external debt (if denominated in foreign currency) becomes costlier in rupee terms.

Conclusion:

The rupee's recent depreciation is not merely a short term fluctuation, but the outcome of structural imbalances and external pressures. A persistent trade deficit, weak capital inflows, and a dominant dollar in a tightening global financial regime create a challenging environment for the rupee. Stabilizing the currency will require a multi pronged approach: reviving exports, attracting stable investment, careful central bank management, and structural reforms to reduce dependence on vulnerable imports. Unless these pressures are addressed, the rupee may remain under strain, with implications for inflation, external stability, and economic growth.

Impacts:

- A weaker rupee means that imports become



Internal Security

Great Nicobar Project: A Challenge to National Security and Sustainable Development

Context:

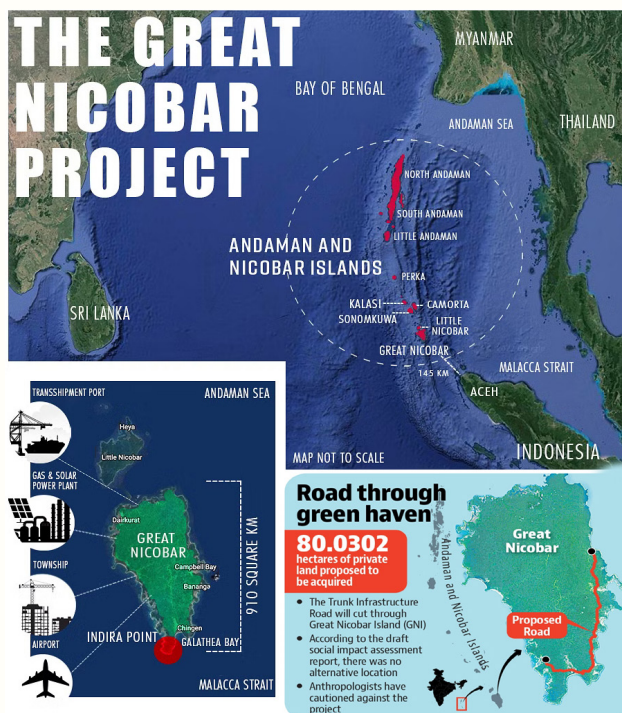
The Great Nicobar Project has emerged as one of India's most debated development initiatives. It is projected as a bold step toward strengthening maritime security, regional connectivity, and economic growth. At the same time, it has attracted concerns over its ecological, seismic, and social impacts. Proposed for Great Nicobar Island—the southernmost part of the Andaman & Nicobar group—the project includes a major container transshipment terminal, a greenfield dual-use airport, township development, and modern infrastructure.

- ❖ While the government highlights its strategic importance near the Malacca Strait, critics have raised serious environmental and social concerns. They have described the project as a “planned misadventure,” warning of potential permanent displacement of Nicobarese communities who had hoped to return after the 2004 tsunami, and highlighting risks of large-scale deforestation, estimating the loss of 8.5 lakh to 58 lakh trees.
- ❖ The project thus illustrates the delicate balance India faces between pursuing strategic and economic objectives and safeguarding ecological integrity, seismic safety, and the rights of Particularly Vulnerable Tribal Groups (PVTGs).

About the Great Nicobar Project:

- ❖ The project is a multi-billion-rupee integrated development plan for Great Nicobar Island, covering an estimated cost of Rs.81,000 crore. It is implemented by the

Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO) under the guidance of NITI Aayog. Environmental and forest clearances with conditions were granted in 2022. The project is planned as a 30-year phased development (2025–2047).



Key Components:

- **International Container Transshipment Terminal (ICTT)**
 - » Location: Galathea Bay.
 - » Capacity: ~16 million TEUs.
 - » Purpose: Reduce dependence on foreign ports like Colombo and Singapore by

positioning India as a global shipping hub.

❖ Greenfield International Airport

- » Civil-military dual-use design.
- » **Passenger capacity:** ~4,000 per hour by 2050.
- » Enhances logistical and defence readiness of the Andaman & Nicobar Command.

❖ Township Development

- » **Planned population:** 3–4 lakh.
- » Includes residential, commercial, and institutional zones.

❖ Power and Infrastructure

- » 450 MVA gas and solar-based power plant.
- » New road networks, water supply, and communication facilities.

Strategic Significance:

❖ Location Advantage

- » Six Degree Channel: A vital maritime passage close to Great Nicobar, adjacent to the Malacca Strait, through which 30–40% of global trade and much of China's energy imports pass.
- » Proximity: Just 150 km from Indonesia, giving India enhanced access to Southeast Asia.

❖ National Security and Defence

- » Expands India's surveillance and operational capacity in the Bay of Bengal and Andaman Sea.
- » Provides a counterbalance to external strategic influences such as China's "String of Pearls."
- » Strengthens Maritime Domain Awareness (MDA) and aligns with Quad security objectives.

❖ Regional Connectivity and HADR

- » Advances India's Act East Policy by enhancing ties with ASEAN nations.
- » Increases preparedness for Humanitarian Assistance and Disaster Relief (HADR) in Southeast Asia, a region frequently impacted by natural disasters.

THE GREAT NICOBAR PROJECT

INDIA'S LEAP INTO THE FUTURE

Strategic - Economic - Sustainable - Secure

STRATEGIC EDGE



- Near Malacca Strait
- Indo-Pacific security hub
- Port + Airport + Surveillance

ECONOMIC GROWTH



- Transshipment Port (ICTT)
- Reduce reliance on Colombo/Singapore
- Capacity: 4M → 16M TEUs

ENVIRONMENTAL SAFEGUARDS



- Coral relocation
- Afforestation in Aravallis
- Conservation zones for turtles, macaques

INFRASTRUCTURE BOOST



- ICTT
- International Airport
- Two Grdfield Cities
- Coastal Rapid Transit
- Cruise Terminal
- Ship Breaking Yard
- Free Trade Zone

World's busiest trade route

@WhyTheLetter_S

"Balanced development is not sacrilege, it's necessity."

Led by NITI Aayog - Implemented by ANIIDCO

Ecological Concerns:

❖ Deforestation

- » **Government Estimate:** Around 8.5 lakh trees will be felled.
- » **Independent Estimates:** Range between 32–58 lakh trees.
- » **Criticism:** Old-growth tropical forests cannot be recreated through compensatory afforestation.

❖ Biodiversity Risks

- » Threats to endemic and endangered species such as the Nicobar megapode, leatherback turtle, Nicobar macaque, and coral reef ecosystems.
- » Concerns that proposed infrastructure overlaps with turtle nesting grounds and fragile coastal ecosystems.

❖ Seismic Vulnerability

- » The island subsided ~15 feet during the 2004 Indian Ocean tsunami.
- » Being a high-risk seismic and tsunami-

prone zone, large-scale infrastructure faces questions of disaster resilience.

Tribal and Legal Concerns:

❖ **Indigenous Communities**

- » Home to the Nicobarese and Shompens, both classified as Particularly Vulnerable Tribal Groups (PVTGs).
- » Some communities displaced by the 2004 tsunami were planning to return to ancestral lands, raising concerns about permanent loss of traditional spaces and livelihoods.

❖ **Forest Rights Act, 2006**

- » Mandates recognition of community and individual rights of Scheduled Tribes over forest land.
- » Critics argue project clearances were granted without comprehensive consultations.

❖ **Government's Position**

- » No tribal displacement is planned.
- » Of the 166.10 sq. km project area, 73.07 sq. km of Tribal Reserve will be denotified, while 76.98 sq. km will be re-notified, leading to a net addition of 3.91 sq. km.
- » Tribal councils and institutions such as the Anthropological Survey of India have been consulted.
- » Dedicated committees have been set up for the welfare of Shompen and Nicobarese communities.

Environmental Safeguards and Government Response:

- ❖ **Compensatory Afforestation:** To be undertaken in Haryana due to lack of available land in the islands.
- ❖ **Biodiversity Conservation:** Over Rs.81 crore allocated to scientific institutions such as ZSI, BSI, SACON, and WII.
- ❖ **Infrastructure Design:** Incorporates wildlife corridors, viaducts, and mitigation for arboreal and coastal species.
- ❖ **Energy Mix:** Reliance on solar and gas-based power to limit carbon footprint.
- ❖ **Regulatory Oversight:** Environmental Impact Assessment (EIA) and Environmental

Management Plan (EMP) approved under EIA Notification, 2006.

- » Critics emphasise risks of deforestation, seismic vulnerability, and violation of tribal safeguards, calling for independent reviews. The government defends the project as a cornerstone of the Act East Policy, arguing that compensatory measures and phased planning balance economic, ecological, and social dimensions.

About Andaman & Nicobar Islands

- Union Territory comprising ~572 islands, of which ~38 are inhabited.
- Great Nicobar: Largest island, ~910 sq. km.
- Home to tribes such as Nicobarese, Shompens, Onge, and Jarawa.
- **Legal Safeguards:**
 - » **Article 338A:** Provides for the National Commission for Scheduled Tribes, which must be consulted on policies affecting STs.
 - » **Coastal Regulation Zone (CRZ) Rules:** Protect ecologically sensitive coastal stretches.
 - » **Forest (Conservation) Act, 1980:** Restricts diversion of forest land for non-forest purposes.

Conclusion:

The Great Nicobar Project encapsulates India's development dilemma: advancing strategic and economic imperatives in ecologically fragile and socially sensitive zones. Its location near the Malacca Strait offers India unmatched maritime leverage, making it a potential hub for trade, security, and disaster response in the Indo-Pacific. At the same time, the ecological cost of felling lakhs of old-growth trees, the vulnerability to seismic activity, and the potential disruption of PVTG communities raise long-term sustainability concerns. While the government has outlined safeguards, biodiversity management plans, and compensatory strategies, the effectiveness of these measures depends on rigorous monitoring, transparent consultations, and adaptive governance.

Short Issues

Defence Procurement Manual 2025

Context:

The Ministry of Defence recently approved the Defence Procurement Manual (DPM) 2025, a significant overhaul of the 2009 manual. This updated framework aims to streamline the procurement process for the Armed Forces, ensuring timely, efficient, and cost-effective acquisition of necessary resources.

Key objectives of DPM 2025:

- Streamline and rationalise the procurement process to meet the evolving needs of the Armed Forces.
- Promote Aatmanirbhar Bharat by encouraging domestic industries, including MSMEs and start-ups, to participate in defence manufacturing.
- Improve the efficiency of procurement, ensuring timely availability of resources at appropriate costs.
- Foster jointness among the Army, Navy, and Air Force to enhance military preparedness.

Key Features of Defence Procurement Manual (DPM) 2025:

- **Relaxation of Development Contracts:**
 - » Liquidity Damages (LD) will not be levied during the development phase.
 - » Minimal LD (0.1%) applied post-prototype development, with a maximum of 5% LD and up to 10% in case of significant delays.
- **Assured Orders and Handholding Support:**
 - » Assured guarantee of orders for up to five years, extendable in special cases.
 - » Services to provide support like technical knowhow and existing equipment to ensure successful development.
- **Empowerment of Competent Financial Authorities (CFAs):**
 - » CFAs empowered to make decisions at the field level without referring matters to higher authorities.
 - » Faster decision-making and reduced delays, including for delivery extensions

and bid date changes.

- **Support for Repair/Refit Activities:**
 - » 15% growth provision for repair/refit/maintenance activities of aerial and naval platforms to minimize downtime.
- **Limited Tendering and Proprietary Items:**
 - » Limited Tendering for specialized items up to Rs 50 lakh, and beyond that in exceptional cases.
 - » Proprietary items can be procured with a Propriety Article Certificate, provided market exploration for alternatives is also conducted.
- **Government-to-Government Agreements:**
 - » Streamlined procedure for high-value procurements based on such agreements.
- **Level Playing Field and Competitive Bidding:**
 - » No Objection Certificate from DPSUs no longer required for open bidding.
 - » Tenders will be awarded purely on a competitive basis to ensure a level playing field among participants.

Impact on the Defence Industry:

- The DPM 2025 is expected to transform India's defence procurement landscape. It simplifies processes, encourages private sector participation, and provides clear guidelines.
- This will boost the competitiveness of Indian industries, enhance the quality of products for the Armed Forces, and ensure timely availability of resources.

About the Defence Acquisition Council (DAC):

- The DAC is the highest decision-making body for defence procurement in India. Established in 2001 post-Kargil War, its primary function is to ensure the expeditious and efficient procurement of defence resources within the allocated budget and time frame.
- The DAC is chaired by the Defence Minister and includes key defence and financial officials.

Conclusion:

The approval of DPM 2025 represents a crucial step towards achieving self-reliance in India's defence sector. By promoting innovation, simplifying procurement, and supporting domestic industries, India is set to build a self-sustaining and competitive defence industry, ensuring enhanced military readiness and technological advancements in the future.

DeFi and National Security

Context:

Decentralized finance, or DeFi, has sparked intense debate about national security in recent times due to its potential misuse for illicit activities like terror financing and money laundering. With over billions worth of assets locked in DeFi projects, the sector's rapid growth has raised concerns among experts and regulatory bodies.

What is DeFi?

- DeFi is a blockchain-based financial ecosystem that offers peer-to-peer financial services via smart contracts and decentralised apps (DApps).
- It does not require a central authority or even identity verification.
- Users can operate anonymously with multiple crypto wallets and without any Know Your Customer (KYC) compliance.

The Scale of Growth:

- As of mid-2025, there were 14.2 million active DeFi wallets worldwide.
- The global DeFi market is projected to grow from \$30.07 billion in 2024 to \$178.63 billion by 2029 at an annual rate of 43%.
- India ranks 3rd globally in DeFi usage (Chainalysis, 2024).

Key Security Concerns:

- **Terror Financing**
 - » DeFi allows terrorist groups to anonymously raise and transfer funds globally, bypassing formal financial surveillance systems.

- » Transactions are difficult to trace, and even the recipients often don't know who sent the funds.

- **Anonymity and Lack of Regulation**

- » Most DeFi platforms do not require user identification, making them prone to misuse.
- » Crypto mixers, anonymising tools, and cross-chain transactions further obscure illicit trails.

- **Smart Contract Exploits**

- » DeFi relies on self-executing code which can be hacked or exploited.
- » Governance via DAOs (Decentralised Autonomous Organisations) lacks accountability and clear regulatory oversight.



International Response:

- **US Treasury (2023):** DeFi services must comply with AML and CFT rules.
- **EU (2025):** High risk of money laundering in DeFi, urges stricter supervision.
- **UK (2025) and FATF (2025):** Point to DeFi's vulnerability to terror financing and call for standard-setting.

India's Preparedness: Gaps and Challenges:

- India's last National Risk Assessment (NRA) was in 2022 — no specific assessment on DeFi has been done so far.
- While India has robust financial inclusion

through JAM trinity and UPI, DeFi's added value is marginal compared to its risks.

- The lack of DeFi-specific risk analysis leaves regulatory blind spots, especially in a country constantly threatened by terrorism.

The Way Forward:

- **Sectoral Risk Assessment:** A DeFi-specific NRA should be conducted, aligning with FATF standards and global best practices.
- **RegTech Integration:** Use AI/blockchain analytics to monitor suspicious DeFi transactions in real-time.
- **Public Awareness & Collaboration:** Sensitise DeFi developers, users, and platforms to national security implications.
- **Global Coordination:** Cooperate internationally to close loopholes exploited by cross-border criminals.

Conclusion:

While DeFi represents financial innovation, its unregulated growth poses a clear and present danger to national security, especially in a country like India with high terror risks. Banning DeFi is neither practical nor strategic — but smart, risk-based regulation is essential. India must urgently update its National Risk Assessment, adopt tech-driven compliance tools, and work with global institutions to ensure DeFi evolves responsibly. If left unchecked, DeFi could become — as Warren Buffett once described — another “financial weapon of mass destruction.”

INS ‘Androth’

Context:

The Indian Navy will commission INS Androth, the second indigenous Anti Submarine Warfare Shallow Water Craft (ASW SWC) of the Arnala class, on 6 October 2025 at the Naval Dockyard in Visakhapatnam. Built by Garden Reach Shipbuilders & Engineers (GRSE), Kolkata, this vessel is the second in a series of ASW-SWC ships being constructed for the Navy.

Technical & Design Features:

- **Indigenisation:** Androth is built with over

80% indigenous content aligning with the Atmanirbhar Bharat / Make in India vision.

- **Dimensions & Draft:** The ASW SWC corvettes are approximately 77 metres in length, with a shallow draught of ~2.7 metres, allowing operations in coastal and littoral waters.
- **Propulsion & Maneuverability:** Powered by marine diesel engines driving three water jets, enabling high agility in shallow waters.

Sensors & Weapon Systems:

- **Sonar & ASW equipment:** Hull mounted and variable depth sonar suites for submarine detection.
- **Torpedoes & ASW rockets:** Equipped with lightweight torpedoes and anti submarine warfare rockets.
- **Indigenous 30 mm Naval Surface Gun (NSG):** Androth is among the class ships to be fitted with this indigenous gun.
- **Crew & Automation:** The vessel is designed for a complement of about 57 personnel, including 7 officers.
- **Multirole Capability:** Beyond ASW, Androth can perform maritime surveillance, search & rescue, coastal defence, and low-intensity maritime operations (LIMO).

About ASW SWC Project:

- The ASW SWC (Anti Submarine Warfare Shallow Water Craft) programme is expected to replace the ageing Abhay class corvettes, which have served in coastal anti submarine and littoral roles.
- Under this programme, a total of 16 ASW SWC vessels will be built: 8 by Garden Reach Shipbuilders & Engineers (GRSE), Kolkata, and 8 by Cochin Shipyard Limited (CSL).
- The contract was signed in April 2019 following competitive bidding, with GRSE and CSL emerging as the selected shipbuilders.
- The first ship of the class, INS Arnala, was delivered by GRSE on 8 May 2025 from Kattupalli / GRSE arrangements.
- Arnala was officially commissioned into the Indian Navy on 18 June 2025 at Visakhapatnam, in the presence of senior

defence and naval leadership.

Strategic Significance:

- **Augmenting Littoral ASW Capability:** Submarines are a core asymmetric threat in the Indian Ocean Region, especially in shallow coastal zones. The ASW SWC series enhances India's ability to detect and neutralise such threats close to home shores.
- **Coastal Defense & Maritime Domain Awareness:** With rising maritime challenges (e.g., intrusion, sea lanes, offshore assets), vessels like Androth help maintain a vigilant presence in coastal waters.
- **Indigenous Defence Manufacturing & Self Reliance:** The high indigenous content signals growing confidence in Indian shipbuilding and defence systems. It reduces dependence on foreign supplies and strengthens strategic autonomy.

Conclusion:

The commissioning of INS Androth marks a significant milestone for the Indian Navy, showing India's commitment to strengthening its maritime security and defense capabilities. With its advanced features and indigenous design, INS Androth is set to play a crucial role in protecting India's maritime interests and contributing to the country's growing defense manufacturing capabilities.

Anti-Naxal operation in Jharkhand

Context:

On September 15, 2025, anti-Naxal operation in Jharkhand's Hazaribagh district resulted in the killing of three Maoist militants, with bounties totaling Rs.1.35 crore. The operation, conducted by the CRPF's CoBRA battalion in coordination with Jharkhand police, marks a decisive moment in the fight against Naxal insurgency in the region.

About Naxalism:

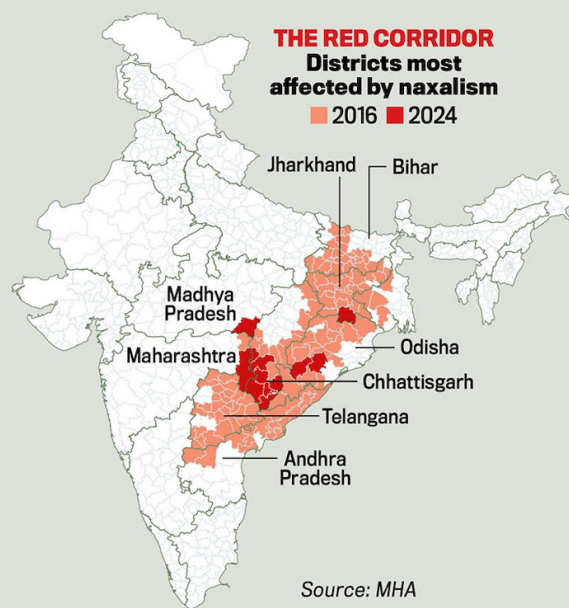
- Naxalism, also referred to as Left-Wing

Extremism (LWE), has been a significant internal security challenge for India since its inception in 1967.

- Originating in Naxalbari, West Bengal, as a peasant uprising led by the Communist Party of India (Marxist-Leninist) (CPI-ML), the movement sought to address socio-economic inequalities, land disputes, and tribal rights issues.
- The insurgency, which thrives in the 'Red Corridor'—a region spanning parts of Chhattisgarh, Jharkhand, Odisha, Andhra Pradesh, Bihar, and Maharashtra, continues to draw support from marginalized communities.
- The movement's goals often intersect with grievances over underdevelopment, poverty, and the marginalization of indigenous tribal populations.

THE GUNS AND GULAB POLICY

With a mix of anti-Naxal offensives and development initiatives, the Modi government is reclaiming territory and heralding peace



India's Strategy to Eliminate Naxalism:

India has employed a multi-pronged strategy to eliminate Left-Wing Extremism, blending

security measures with socio-economic development and community empowerment. Key initiatives include:

▪ **Development Initiatives:**

- » **Road Connectivity (PMGSY-II):** Improving access to remote tribal areas, enabling both development and better security operations.
- » **Eklavya Model Residential Schools:** Expanding educational opportunities for tribal children to combat long-standing socio-economic disparities.
- » **Mobile Connectivity (USOF/Digital Bharat Nidhi):** Reducing isolation and enhancing governance in tribal areas through improved mobile and internet access.

▪ **Security Operations:**

- » **Operation Green Hunt:** A large-scale paramilitary operation aimed at dismantling Naxalite strongholds across the country.
- » **Operation Black Forest:** Operation Black Forest is a military operation conducted by Indian security forces against Naxalite insurgents in areas located between the states of Chhattisgarh and Telangana. The operation began on 21 April 2025.
- » **Deployment of Specialized Units:** Forces like the CRPF's CoBRA battalion and Greyhounds are specially trained in guerrilla warfare and jungle operations, providing a tactical advantage in Naxal-affected areas.

▪ **Legal and Governance Framework:**

- » **Unlawful Activities (Prevention) Act (UAPA):** Allows the government to ban Naxalite groups and prosecute their members.
- » **Forest Rights Act (2006):** Aims to reduce tribal alienation by recognizing their traditional rights over forest resources.
- » **PESA Act (1996):** Empowers Gram Sabhas in Scheduled Areas, giving local communities more control over natural resources and governance.

Progress Made So Far:

- Recent data from the Ministry of Home Affairs and the CRPF paints an optimistic picture regarding the fight against Naxalism:
 - » The number of Naxal-affected districts has reduced from 126 in 2014 to just 18 in 2025.
 - » The most severely affected districts have dropped from 35 to 6.
 - » Violent incidents fell from 1,080 in 2014 to just 374 in 2024.
 - » Security personnel deaths have decreased from 287 in 2014 to just 19 in 2024.

Conclusion:

The elimination of these key Maoist leaders is expected to disrupt the operations of the Naxal movement significantly. With 18 districts currently affected by armed Maoist insurgency in India, the government aims to eradicate Naxalism by March 2026.

Drone-Driven Drug Smuggling

Context:

A recent report by the Narcotics Control Bureau (NCB) has highlighted a significant increase in drone-driven drug smuggling across the Indo-Pak border, particularly in Punjab. The state's proximity to Pakistan and history of cross-border drug trafficking have made it a hotspot for this new modus operandi.

Key Findings:

- **Sharp Increase in Drone-Based Smuggling:** NCB reported 179 cases of drone-based drug trafficking in 2024, a substantial jump from just three cases in 2021.
- **Heroin and Opium Smuggling:** The majority of smuggled substances were heroin and opium, with a total of 236 kilograms seized in 2024.
- **Punjab Hotspot:** Out of 179 cases, 163 incidents occurred in Punjab, with border districts like Amritsar, Tarn Taran, Ferozepur, and Gurdaspur witnessing a sharp increase in drone sightings and recoveries.

- **New Challenge for Law Enforcement:** Drones enable smugglers to bypass traditional security measures, making it harder for authorities to detect and track narcotics

NCB's Efforts to Counter the Threat:

- Registration of 96,930 drug-related cases in 2024
- Arrest of over 1.22 lakh individuals, including 660 foreign nationals
- Increased use of technology, radar, and drone-capture systems
- Coordination between agencies through the NCORD portal
- Strengthening of anti-narcotics task forces in states like Punjab
- The NCB is also actively tracking darknet transactions and cryptocurrency use in drug trafficking, having registered 96 such cases between 2020–2024.

Reason behind Drug Menace in India:

- **Escape from Realities:** The decline of the joint family system and moral values has led many to seek solace in drugs.
- **Loosening Social Control:** Weakening social cohesion makes individuals more vulnerable to drug abuse.
- **Peer Pressure:** Youth, especially in educational institutions, are often influenced by peers to use drugs.
- **Easy Availability:** India's location near drug-producing regions like the 'Golden Crescent' and 'Golden Triangle' facilitates drug trafficking.
- **Economic Prosperity:** Increased disposable incomes in states like Punjab have made drugs more accessible.

India's Regulatory Framework on Drugs:

- Article 47 of the Indian Constitution directs the state to prohibit harmful drugs.
- **International Conventions:** India is a signatory to various international drug control conventions such as 1961 Single Convention on Narcotic Drugs (amended in 1972), the 1971 Convention on Psychotropic Substances, and the 1988 United Nations Convention against Illicit Traffic in Narcotic

Drugs and Psychotropic Substances.

- **Existing Laws:** Key laws include the Narcotic Drugs and Psychotropic Substances Act, 1985 and the Drugs and Cosmetics Act, 1940.
- **Key Institutions:** The Narcotics Control Bureau (NCB), along with the Ministry of Health and Ministry of Social Justice, plays a pivotal role in combating drug abuse.
- **Technological Interventions:** The NCORD portal and MANAS helpline provide coordination and support for combating drug addiction.

Conclusion:

Drone-driven drug smuggling along the India-Pakistan border is a significant and growing security concern. The complex interplay of drug trafficking, socio-economic factors and the evolving tactics of traffickers require urgent attention. India's legal framework and multi-agency efforts are crucial to tackling the drug menace, but addressing the root causes of drug abuse will require sustained societal efforts.

AFSPA Extension

Context:

Recently, the Union Ministry of Home Affairs (MHA) has announced a six-month extension of the Armed Forces (Special Powers) Act (AFSPA) in select regions of Manipur, Nagaland, and Arunachal Pradesh, effective from October 1, 2025. The extension aims to maintain law and order and address ongoing insurgent activities.

What the Extension Means:

- Most of Manipur is declared a "disturbed area under section 3 of AFSPA," excluding some police station jurisdictions in five districts (Imphal West, Imphal East, Thoubal, Bishnupur, Kakching).
- In Nagaland, eight districts and 21 police station areas in five other districts remain under the AFSPA "disturbed areas" classification.
- In Arunachal Pradesh, the districts of Tirap, Changlang, Longding, plus certain police

stations in Namsai district, are similarly under “disturbed area” status.

Implications

- forces can Search and arrest without warrant under certain conditions.
- Use of lethal force under prescribed conditions (if necessary for maintaining public order or in counter-insurgency operations).
- Greater legal protection / procedural immunity for security personnel in carrying out operations under AFSPA.

What is AFSPA?



AFSPA means Armed Forces Special Protection Act.

AFSPA was enacted on 11 September 1958 after the approval of Parliament.

AFSPA was initially imposed in the Northeastern states.

At present AFSPA is in force in some parts of Jammu and Kashmir, Nagaland, Assam, Manipur and Arunachal Pradesh.

About Armed Forces (Special Powers) Act, 1958:

- AFSPA is an Indian law enacted by Parliament on 11 September 1958. Originally, it was known as the Armed Forces (Assam and Manipur) Special Powers Act, 1958. Over time, its territorial scope was expanded and the name was changed to Armed Forces (Special Powers) Act, 1958.
- Purpose:**
 - The Act was introduced to empower the armed forces to maintain law and order (or public order) in “disturbed areas” where civil administration is unable to

handle insurgency, internal conflict, or serious unrest.

Key Provisions:

Provision	Description
Declaration of disturbed area	Under Section 3, the State Governor or the Central Government can declare any part of a state or a union territory a "disturbed area" by issuing a notification. This declaration triggers the application of AFSPA in that area.
Use of force (Section 4)	In a disturbed area, authorized armed forces personnel have the power to use force, even to the point of causing death, under certain conditions. For example: if a person is violating prohibitory orders; or carrying arms; or assembly of persons is prohibited. A warning is to be given “if possible” before opening fire.
Arrest and search without warrant	The law allows the armed forces to arrest a person without a warrant on “reasonable suspicion,” and also to enter and search premises without a warrant, if needed, to recover weapons, etc.
Legal immunity / sanction requirement	Section 6 and other parts of the Act provide a degree of legal protection: security forces acting under AFSPA typically require prior sanction from the central government for prosecutions. This makes it harder to bring legal action against them.

Conclusion:

The six month extension of AFSPA in parts of Manipur, Nagaland, and Arunachal Pradesh underscores that the government assesses the security situation in these areas still to be fragile and requires extraordinary measures. While these measures may help strengthen enforcement and deter violence, they also bring

substantial risks of human rights concerns, social alienation, and political backlash if used without care, oversight, and proper engagement with local communities.

Tejas Mk1A Jets

Context:

On 25 September 2025, the Ministry of Defence signed a major contract with Hindustan Aeronautics Limited (HAL) for the procurement of 97 LCA Tejas Mk1A fighter aircraft for the Indian Air Force (IAF). The deal, worth ₹62,370 crore, is a significant step in India's efforts towards military modernization and self-reliance.

About the deal:

- The order includes 68 single-seat fighters and 29 twin-seat trainer aircraft, with deliveries scheduled to begin in 2027–28 and completed over six years.
- The procurement falls under the 'Buy (Indian-IDDMM)' category of the Defence Acquisition Procedure (DAP) 2020, emphasizing indigenous design, development, and manufacturing.

About Tejas Mk1A:

- Tejas Mk1A is an upgraded version of the LCA Tejas Mark 1 developed by ADA (Aeronautical Development Agency) and manufactured by HAL (Hindustan Aeronautics Limited) for the Indian Air Force (IAF).
- It builds on the Mk1 model with several enhancements in avionics, radar, electronic warfare, maintainability, and indigenous content.

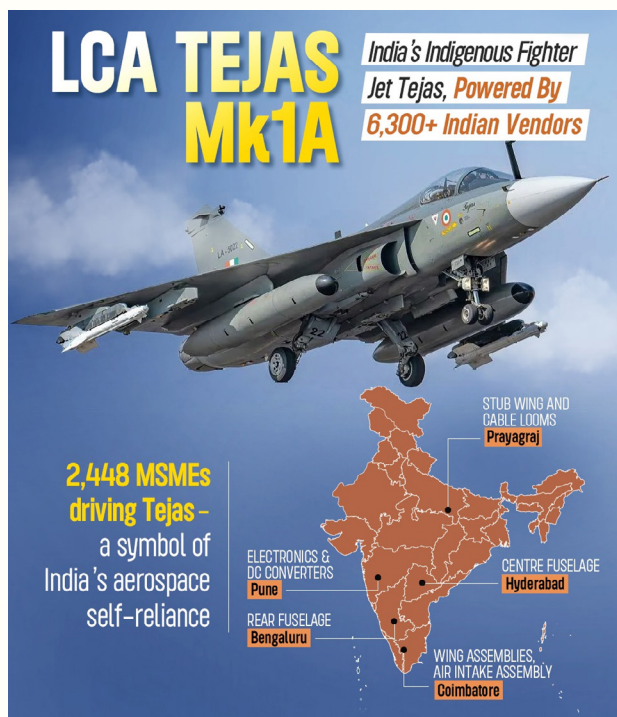
Key Upgrades & Features:

- **Radar & Sensor Suite**
 - » The first ~40 Mk1A jets will use the Israeli EL/M 2052 AESA radar.
 - » There after "Uttam" AESA radar (developed indigenously by DRDO/BEL/HAL) will be integrated.
 - » Uttam features ~912 transmit receive (TR) modules, multi mode operations

(air to air, air to ground etc.), better target tracking, and superior electronic warfare performance.

- **More Indigenous Content & Avionics**

- » Mk1A has ~50% more indigenous content compared to Mk1.
- » Integration of an indigenous digital fly by wire flight control computer (DFCC) in the LSP 07 prototype, improving flight control, handling and maneuverability.



- **Electronic Warfare / Survivability**

- » New EW suite including Radar Warning Receiver (RWR), advanced self protection jammer pods and better situational awareness systems.

- **Weapon Integration & Hardpoints**

- » **Better weapon carriage:** ~9 hardpoints for a mix of air to air, air to ground munitions, including Beyond Visual Range (BVR) missiles and ASRAAM.
- » Capability to integrate precision guided munitions and ground attack roles in addition to air defence.
- » The aircraft will have over 64% indigenous content, with 67 new indigenously developed components

added compared to the 2021 contract. This move strengthens India's defence manufacturing ecosystem and supports the Atmanirbhar Bharat initiative.

Strategic & Economic Importance:

- The Mk1A jets will help replace India's aging MiG-21/23/27 fleet, address fighter squadron shortages, and improve combat readiness.
- The contract will involve around 105 Indian companies and is expected to generate over 11,000 jobs annually, giving a boost to the Indian aerospace sector.
- Additionally, the indigenous platform enhances strategic autonomy, reduces foreign dependency, and may open export opportunities, boosting India's profile as a defence exporter.

Conclusion:

This contract is a strategic milestone that merges national security priorities with industrial development. If executed efficiently, it will enhance the IAF's capabilities, promote indigenous innovation, and solidify India's position as a credible defence manufacturer on the global stage.

Agni Prime Fired from Train

Context:

India successfully test fired its Agni Prime missile from a specially designed rail based mobile launcher. This test marks the first time this missile has been launched from a rail platform, adding a new dimension to India's strategic deterrence.

About Agni-Prime (Agni-P):

- Agni-Prime (Agni-P) is a next-generation, canisterised, solid-fueled, medium-range ballistic missile (MRBM) developed by India's Defence Research and Development Organisation (DRDO). It is a two-stage missile, road- and rail-mobile, with an operational range of up to 2,000 km, and is part of the Agni missile family, but with several critical upgrades.

INDIA'S TIGER FIREARM THE AGNI

AGNI-I

- Short-range (SRBM) upto 1,200 km
- Single-stage, solid-fuel, road-mobile; payload capacity up to 1,000 kg
- Used primarily for regional deterrence; proven accuracy.



AGNI-II

- Medium-range upto 3,500 km
- Two-stage solid propellant missile, Payload up to 2,000 kg
- Advanced navigation target accuracy (CEP 30-40 mtr)

AGNI-III

- Intermediate-range (IRBM) upto 5,000 km
- Two-stage, solid-fuel
- Max payload 2,500 kg and highly accurate to 40 meters



AGNI-IV

- Intermediate-range upto 4,000 km
- Ring Laser Gyro-based INS navigation systems (CEP <100 meters).
- Lighter and mobile, self-correction in flight disturbances

AGNI-U

- ICBM range of 8,000 km, Three-stage solid fuel, Multiple nuclear warheads
- Anti-satellite modification
- Canister-launch and thrust vectoring, Payload capacity 1.5 tonnes



AGNI-VI *Under Development*

- Expected range 12,000 km, Four-stage solid propellant design
- Carry MIRV warheads (up to 10 independently targetable)
- Capable of submarine launch for enhanced survivability

AGNI PRIME

- Latest lightweight variant with range of 2,000 km, Two-stage, solid fuel
- Rapid deployment and high accuracy
- Canister-launch and rail-based deployment
- Equipped with MIRV capability



Key features:

- **Propulsion:** Solid-fueled stages with composite propellants and aluminium-based high-energy fuel, enabling lighter weight and higher payload ratio.
- **Canister Launch & Mobility:** Hermetically sealed twin-canister system, road/rail-mobile, allows rapid deployment in diverse terrains. It can be launched from cold-start positions, enhancing survivability.
- **Guidance & Navigation:** Equipped with dual redundant navigation systems:
 - » Ring Laser Gyroscope (RLG)-based Inertial Navigation System (INS)
 - » Micro Inertial Navigation System (MINS)
 - » Optional augmentation with NaVIC and GPS for precision.
- **MaRV Capability:** Features a Manoeuvrable Reentry Vehicle with four delta fins, providing terminal manoeuvrability to evade missile defences and improve accuracy.
- **Operational Readiness:** Pre-induction trials by SFC, including day and night launches from road and rail platforms, have proven its reliability in real-time deployment scenarios.
- Agni-P is lighter (half the weight of Agni-III), uses advanced materials like corrosion-free composite casings, and is designed for quicker deployment and improved survivability, enhancing India's nuclear deterrence posture.

Strategic Significance of rail-based launch:

- **Enhanced Survivability & Deterrence:** Rail mobile launch capability means missiles can be dispersed, hidden along extensive railway lines, moved unpredictably, and thus harder for adversaries to locate and neutralise. This strengthens second strike capability — the ability to respond even after an initial strike.
- **Flexibility & Rapid Deployment:** Using rail networks to move missile launchers allows deployment from remote areas without the need for dedicated roads or fixed launch sites. It adds operational flexibility and speed. Reduced reaction time matters in

strategic scenarios.

- **Low Visibility & Concealment:** Rail mobile systems can be disguised among civilian train traffic or hidden in tunnels, making satellite or surveillance detection more difficult. This unpredictability is a deterrent.
- **Putting India in an Elite Group:** With this test, India joins a select group of countries that possess rail mobile missile launch capability. Examples mentioned include Russia, the US, China. Such capability denotes advanced strategic and technological maturity.

Implications:

- India's deterrence posture is strengthened; adversaries cannot as easily track or pre-empt missile deployments.
- Forces like the Strategic Forces Command gain more deployment options, flexibility in both peacetime movement and wartime readiness.
- It demonstrates DRDO's growing capability in integrating mobility, advanced missile technology, and strategic systems (like canisterised solid fuel, rail, and road dual mobility).

Conclusion:

The rail-based Agni-P test marks a key step in enhancing India's strategic missile capabilities. With 2,000 km range, solid fuel, canisterisation, and rail mobility, it strengthens second-strike readiness and survivability. It boosts India's deterrence posture and strategic autonomy, with potential regional implications.

Power Packed News

Shailendra Chandra appointed as Tata Motors' new MD and CEO

- Tata Motors has appointed Shailendra Chandra as its new Managing Director and Chief Executive Officer for a three-year term, effective October 1, 2025.
- Shailendra Chandra is currently Joint MD of the Passenger Vehicle and Electric Mobility Division and will continue to lead the company's electric vehicle strategy.
- With this leadership change, Dhiman Gupta has been appointed as the new Chief Financial Officer (CFO), replacing P.B. Balaji, who has been appointed CEO of Jaguar Land Rover.
- These changes signal Tata Motors' increased focus on electric vehicles and its preparedness for global competition.

R. Venkataramani reappointed Attorney General of India

- Senior advocate R. Venkataramani has been reappointed Attorney General of India. His new term will begin on October 1, 2025, and will last for two years. His previous term ended on September 30. According to a notification issued by the Law Ministry, he was appointed by the President on the recommendation of the Central Government.
- Venkataramani began his legal practice with the Tamil Nadu Bar Council in 1977 and began practicing in the Supreme Court in 1979. He became a Senior Advocate in 1997 and a Member of the Law Commission in 2010. He has acquired deep expertise in constitutional, tax, human rights, and criminal laws.
- The Attorney General is the highest legal position that provides legal advice to the government and represents it in court.

Mithun Manhas Appointed BCCI President

- Former cricketer Mithun Manhas has been appointed the 37th President of the Board of Control for Cricket in India (BCCI). He succeeds Roger Binny, who stepped down upon reaching the age of 70.
- Manhas was unanimously elected at the BCCI's Annual General Meeting in New Delhi. He is the third former cricketer to hold the position. He has previously held the position, followed by Sourav Ganguly and Roger Binny.
- Among the new office bearers, Rajiv Shukla has been elected as Vice President.
- Manhas's appointment is being considered a positive step for Indian cricket, as his experience will bring balance to the administrative and sporting levels.
- The BCCI is considered one of the most powerful bodies in world cricket, and a change in its leadership always holds immense significance.

India Wins Ninth Asia Cup

- On September 28, 2025, India defeated Pakistan to win its ninth Asia Cup title. Pakistan was all out for 146, setting India a target of 147.
- Tilak Verma batted brilliantly, scoring an unbeaten 69 off 53 balls to lead the team to victory. He was named Player of the Match, while Abhishek Sharma was declared Player of the Series.

- India currently holds the record for most Asia Cup titles (9), including two T20Is (2016 and 2025) and seven ODIs. Sri Lanka has won six, and Pakistan two.
- The next Asia Cup will be held in 2027 in the ODI format. This victory further strengthens India's dominance in Asian cricket.

Sudhanshu Vats Appointed ASCI President

- Sudhanshu Vats, Managing Director of Pidilite Industries Limited, has been appointed the new President of the Advertising Standards Council of India (ASCI). The announcement was made at the organization's 39th Annual General Meeting.
- Vats' appointment comes as ASCI is set to celebrate its 40th anniversary in October. S. Subrahmanyeshwar of MullenLowe Global was elected as Vice President and Paritosh Joshi of Provocateur Advisory was elected Honorary Treasurer.
- The organization plans to launch several new initiatives to mark its 40th anniversary next year. Sudhanshu Vats's experience and leadership will further strengthen ASCI's activities.
- ASCI is an independent self-regulatory body for the advertising sector in India, monitoring misleading and unfair advertising.

Discovery of a New Fish Species, "Apteriichthys kanyakumari"

- Indian scientists have discovered a new species of finless snake-like fish in the ocean, named Apteriichthys kanyakumari. The discovery was made by scientists from the National Bureau of Fish Genetic Resources (NBFGR), Kochi.
- The fish was caught at a depth of approximately 100 meters near the Colachel coast in Kanyakumari district. Detailed anatomical, bone, and genome analysis of two specimens for the study revealed it to be a previously unknown species.
- Its body proportions are unique – the head is 9.6-9.7% of the length, the tail 1.8-1.9% of the length, and the teeth are conical. The body is golden yellow, with three black spots. The discovery was published in the journal Zootaxa.
- This is the 16th marine species identified by the NBFGR team off the Indian coast and the name pays tribute to the cultural and geographical significance of Kanyakumari.

World Food India 2025

- World Food India 2025 was inaugurated by Prime Minister Narendra Modi on September 25th at the Bharat Mandapam in New Delhi. More than 90 countries and over 2,000 exhibitors participated in the event.
- New Zealand and Saudi Arabia were designated as partner countries, while Japan, the UAE, Vietnam, and Russia were designated as focus countries.
- India was declared the largest producer of milk, onions, and pulses, and the second-largest producer of rice, wheat, sugarcane, and vegetables.
- India contributes 25% of global milk supply and has attracted \$7.33 billion in FDI in the food processing sector. India played a key role during the global crop crisis and supply disruptions.
- India has become the third-largest startup ecosystem, and this event highlights its global leadership.

Indigenous 4G Towers Inaugurated

- Prime Minister Narendra Modi inaugurated over 97,500 new 4G mobile towers across the country on September 26, of which 92,600 are built using completely indigenous technology.
- Bharat Sanchar Nigam Limited (BSNL) installed these towers at a cost of Rs.37,000 crore. This initiative will bring internet access to 30,000 new villages.
- The Prime Minister noted that India lagged in 2G, 3G, and 4G technologies but is now capable of building its own networks. Of these towers, 18,900 are funded by the Digital India Fund and will connect 26,700 underserved and border villages. Most of the towers are solar-powered and are considered the largest cluster of green telecom sites.
- This initiative covers several states, including Odisha, Andhra Pradesh, Uttar Pradesh, Maharashtra, Rajasthan, Assam, Gujarat, and Bihar. This initiative will strengthen India's digital self-reliance and rural connectivity.

National Geoscience Awards 2024 Presented

- On September 26, 2025, President Draupadi Murmu presented the National Geoscience Awards (NGA) 2024. These awards were instituted by the Ministry of Mines in 1966 and are considered the most prestigious honors in the field of geology in India.
- Previously known as the National Mineral Awards, they were renamed in 2009. They aim to recognize contributions to mineral exploration, mining technology, and fundamental and applied geology.
- The awards are given in three categories – Lifetime Achievement, National Geoscience Awards, and Young Geoscientist Awards.
- A total of 208 nominations were received in 2024, from which 20 geologists were selected. This included nine individual and three team awards. Prof. Shyam Sundar Rai received the Lifetime Achievement Award, while Mr. Sushobhan Niyogi received the Young Geoscientist Award.
- This recognition underscores the importance of scientific research and geosciences in India.

NIRF Rankings 2025

- The Ministry of Education recently released the National Institutional Ranking Framework (NIRF) 2025. It evaluates higher education institutions based on five parameters: teaching quality, research and innovation, graduate outcomes, inclusivity, and perception.
- In the overall category, IIT Madras ranked first, IISc Bangalore second, and IIT Bombay third. Among universities, IISc Bangalore topped for the tenth consecutive year, followed by JNU and Manipal Academy.
- In engineering, IIT Madras topped, while in the medical category, AIIMS New Delhi ranked first for the eighth consecutive year. In the college category, Hindu College, Delhi ranked first, followed by Miranda House and Hansraj College.
- This ranking reflects the quality of Indian higher education institutions and propels them towards innovation and global competitiveness.

Chief of Defence Staff

- The Appointments Committee of the Cabinet (ACC) has approved the extension of the tenure of Chief of Defence Staff (CDS) General Anil Chauhan until May 30, 2026. He will also serve as

Secretary, Department of Military Affairs.

- General Chauhan was appointed India's second CDS on September 28, 2022. Joining the Army in 1981, he has held several important command and staff positions.
- For his outstanding contributions, he was awarded the Param Vishisht Seva Medal, Uttam Yudh Seva Medal, Ati Vishisht Seva Medal, Sena Medal, and Vishisht Seva Medal.
- The previous CDS was General Bipin Rawat. This extension is considered crucial to accelerate military modernization and joint operations of the three services.

71st National Film Awards Presented

- President Draupadi Murmu presented the 71st National Film Awards. "12th Fail" was named Best Feature Film, while "Flowering Man" was named Best Non-Feature Film.
- Shah Rukh Khan ("Jawaan") and Vikrant Massey ("12th Fail") received the Best Actor award. Rani Mukerji was awarded Best Actress for her performance in "Mrs. Chatterjee vs Norway."
- Vijayaraghavan and Muthupettai Somu Bhaskar (actors), Urvashi and Janaki Bodiwala (actresses) received honors in the supporting cast category.
- "Hanu-Man" was declared Best Film in the AVGC category, while "Vulture: The Scavenger" won Best Short Film. These awards recognize the diversity and creativity of Indian cinema.

National e-Governance Awards for Gram Panchayats

- Several Gram Panchayats were presented with National e-Governance Awards at the National e-Governance Conference held in Visakhapatnam on September 22, 2025.
- Rohini (Dhule, Maharashtra) won the Gold, West Majlishpur (Tripura) won the Silver, while Palsana (Gujarat) and Suakati (Odisha) won the Jury Awards.
- Rohini Gram Panchayat adopted a paperless e-office system, while West Majlishpur digitized birth and death registration. Palsana integrated tax payments and welfare schemes into digital platforms, and Suakati provided 24/7 digital services. These awards were accompanied by financial incentives of Rs.10 lakh and Rs.5 lakh, along with trophies and certificates.
- These initiatives are examples of empowering digital governance at the rural level.

Arshdeep Singh Sets T20 Record

- Indian fast bowler Arshdeep Singh became the first Indian to take 100 T20 wickets. He achieved this feat against Oman in the Asia Cup 2025. Arshdeep reached this milestone in just 64 matches, becoming the 25th international bowler to take 100 wickets.
- Arshdeep, who made his debut against England in July 2022, achieved this milestone in just three years and 74 days.
- This is the second-fastest by a fast bowler, after Bahrain's Rizwan Butt. Arshdeep's average of 18.37 is the best among fast bowlers from Full Member countries. Previously, Vinoo Mankad was the first Indian to reach 100 wickets in Tests, and Kapil Dev in ODIs.

Singer Zubeen Garg Passes Away

- Renowned Assamese singer and cultural icon Zubeen Garg passed away at the age of 52 in a scuba diving accident in Singapore. He was rescued unconscious from the sea but could not be revived at the hospital.

- Zubeen had gone to Singapore to perform at the North East Festival. He gained recognition in Bollywood with the song "Ya Ali" from the 2006 film "Gangster." During his career, he recorded over 38,000 songs in 40 languages.
- His first music album, "Anamika," was released in 1992. He was respected as a singer, composer, actor, producer, and humanitarian. The Assam government declared three days of state mourning upon his passing.

First National Geothermal Energy Policy

- The Ministry of New and Renewable Energy notified India's first National Geothermal Energy Policy. It outlines resource assessment, exploration, and project development. So far, 381 hot springs have been identified in India, spread across 10 geothermal provinces.
- The policy recognises geothermal energy as a reliable renewable energy option with a capacity utilization factor of 80%. It is described as useful in power generation, heating and cooling, agriculture, and tourism. Incentive measures include concessional land allocation, priority transmission, green bonds, and tax exemptions.
- The policy allows 100% FDI and emphasizes indigenous technology development. Joint ventures with oil and gas companies are also encouraged.
- This step will move India towards energy self-sufficiency and diversifying renewable sources.

Allowance for Unemployed Graduates in Bihar

- Bihar Chief Minister Nitish Kumar announced a monthly allowance scheme of Rs. 1,000 for unemployed graduates. This scheme is part of the "Chief Minister Self-Help Allowance Scheme" and falls under the flagship Saat Nischay program.
- Previously, this benefit was available only to intermediate-pass students. Now, graduates aged 20–25 years, who are neither studying nor employed or self-employed, will receive this allowance for two years.
- Its purpose is to help with competitive exam preparation and skill training.
- The Bihar government has set a target of providing employment to 10 million youth in five years. Recently, the Bihar government also launched financial assistance and the "Pratigya" portal for construction workers.

Apollo Tyres Becomes Indian Cricket Team Sponsor

- Apollo Tyres has now become the title sponsor of India's men's, women's, senior, and junior cricket teams. This agreement will last for two and a half years, and the Apollo logo will be displayed on the teams' jerseys.
- Apollo won the contract by bidding Rs.579 crore in the BCCI's competitive bidding process. Canva had bid Rs.44 crore and JK Tyres Rs.477 crore.
- The BCCI had set a base price of Rs.3.5 crore per bilateral match and Rs.1.5 crore for ICC matches. Apollo offered Rs.4.5 crore and Rs.1.72 crore, respectively.
- The contract will begin with the Women's ODI World Cup on September 30. The BCCI cited this as evidence of the growing commercial appeal of Indian cricket.

India-US Joint Military Exercise "Yudh Abhyas 2025"

- The 21st bilateral military exercise between India and the United States, "Yudh Abhyas 2025," was held at Fort Wainwright and the Yukon Training Area in Alaska. It began on September 1 and involved a battalion of the Madras Regiment and approximately 450 soldiers from the US 11th Airborne Division.
- The exercise focused on coordinated operations involving infantry, artillery, aviation, electronic warfare, and anti-drone systems. It included live-fire drills, sniper training, anti-IED operations, and reconnaissance missions.
- Training was also conducted in frostbite rescue, casualty evacuation, and high-altitude physical acclimatization in the sub-Arctic conditions of Alaska.
- This exercise is considered one of the most advanced bilateral exercises conducted by India since 2002, and both sides described it as an opportunity to enhance the comprehensive global strategic partnership and strategic responsiveness.
- The exercise served as a means to strengthen military cooperation, technical exchange, and operational interoperability.

CSIR-CCMB Reveals the Role of Spin90 in Cell Movement

- Scientists at the CSIR-Centre for Cellular and Molecular Biology (CCMB) in Hyderabad have discovered a key mechanistic mechanism of cellular motility—the central role of the Spin90 protein.
- The research found that Spin90 forms dimers with the ARP2/3 complex to initiate bidirectional growth of actin filaments, creating a branched actin network that enables the cell to rapidly move in a directional manner by forming protrusions.
- These protrusions—which form in microseconds—are essential for processes such as pathogen capture and wound healing. This study, led by Saikat Chaudhary of the CCMB team, has been published in Nature Structural & Molecular Biology.
- The discovery will advance fundamental understanding of cell mobility, immune responses, and cellular reorganization in diseases such as cancer and may help identify potential therapeutic targets.

Meenakshi and Jasmine win gold at World Boxing Championships

- Indian women boxers Meenakshi Hooda (48 kg) and Jasmine Lamboria (57 kg) won gold medals respectively at the 2025 World Boxing Championships held in Liverpool.
- Meenakshi defeated Kazakh opponent Nazim Kyzebay 4–1 in the final, while Jasmine defeated Polish Olympian Seremeta 4–1.
- The Indian women's team finished with two gold, one silver, and one bronze in the overall medal tally; the male wrestlers failed to win a medal. Nupur won silver in the 80 kg category and Pooja Rani won bronze in the 80 kg category.
- This performance demonstrates the strength of Indian women's boxing and the results of high-level training, raising hopes for Olympic and world competitions.

India's first bamboo-based bio-ethanol plant in Assam

- Prime Minister Narendra Modi inaugurated India's first bamboo-based bio-ethanol plant in Assam's Golaghat district, describing it as a significant step towards clean energy and fuel self-sufficiency.

- During the inauguration, the Prime Minister also laid the foundation stone for a polypropylene unit at the refinery site. He also laid the foundation stone for eastern infrastructure projects in Assam—new medical and nursing colleges, a bridge over the Brahmaputra, and the Guwahati Ring Road.
- The project will produce biofuel using local raw material—bamboo—reducing dependence on imported petroleum and supporting the rural economy.
- The project is being seen as an initiative to bridge local manufacturing, green energy, and regional development, and bamboo-based fuel was presented as an innovative bio-based solution.

Sushila Karki—Nepal's First Female Prime Minister

- Sushila Karki has been elected as Nepal's interim Prime Minister, becoming the first woman to hold the position.
- She was sworn in before President Ramchandra Poudel. Her appointment followed the resignation of former Prime Minister KP Sharma Oli, which was influenced by a broad youth-based (Generation Z) movement.
- This movement demanded neutral leadership through active youth groups on social platforms and online voting; Karki was elected with widespread support in a public vote organized by young leaders.
- Karki, who has a judicial background, is known for her integrity and independent judgment—she has also served as Nepal's first female Chief Justice since July 2016.
- Her goal under the interim government is to restore peace, conduct elections, and promote stability and development in the country. Her appointment signals the openness of youth leadership and new political processes in Nepal.

INS Aravali Launched

- INS Aravali was launched on September 12 in Gurugram—a significant milestone in the Indian Navy's maritime defense capabilities and information-based operations.
- Aravali, named after the Aravalli mountain range, will serve as a key hub for communication and information systems and strengthen the Navy's digital infrastructure.
- Several advanced communication and information centers established at the base will enhance the Navy's command-control and maritime awareness (MARITIME DOMAIN AWARENESS) capabilities, improving maritime surveillance and operational coordination.
- The Ministry of Defense also emphasized the base's role—particularly in enhancing real-time information-handling capabilities for the protection of confined waters, maritime resources, and economic interests. INS Aravali will become a hub for remote surveillance, strategic communication, and maritime cooperation.

“Adi Sanskriti”—A Digital Platform for Tribal Knowledge Launched

- On September 10, 2025, the Union Ministry of Tribal Affairs launched the beta version of a digital platform called “Adi Sanskriti”—described as an integrated digital university for the preservation of tribal culture.
- The platform is divided into three components: Adi Vishwavidyalaya (Digital Tribal Arts

Academy), Adi Sampada (Socio-Cultural Repository), and Adi Haat (Digital Marketplace).

- 45 intensive courses—on dance, painting, crafts, music, and folklore—are initially available on Adi Vishwavidyalaya, while Adi Sampada houses a collection of over 5,000 documents.
- Adi Haat is currently linked with TRIFED to provide direct market access to the livelihoods of tribal artisans.
- The content collected by State Tribal Research Institutes is designed to preserve traditional knowledge sources, ensure intergenerational transmission, and commercialize cultural products. This initiative represents a confluence of cultural self-respect, digital inclusion, and economic empowerment.

Irfaan Ali Takes Over for Second Term in Guyana

- On September 7, 2025, Guyana's President Irfaan Ali officially began his second term after winning the recent national elections. His party, the People's Progressive Party, secured a majority, winning 36 of the 65 seats in the National Assembly.
- Large-scale oil discoveries offshore over the past ten years have made Guyana a focus of international investment and geopolitical interest. The border dispute with Venezuela over the resource-rich Essequibo region remains a sensitive issue.
- Located in northern South America, Guyana shares borders with Brazil, Venezuela, and Suriname, with Georgetown as its capital.
- Ali's second term will see key challenges in the economy, oil policy, and diplomacy with neighboring countries; along with resource management, revenue sharing, and ensuring local benefits, international scrutiny will remain.

AI-Based Mental Health Initiative “Never Alone” App

- The All-India Institute of Medical Sciences (AIIMS), New Delhi, launched the AI-based mental health and wellness program “Never Alone” on September 10th.
- The programme aims to reduce suicidal vulnerability among students and ensure accessible delivery of mental health support.
- The service provides 24x7 consultations from mental health experts, daily personalized mental health checkups, and guidance through a WhatsApp-enabled app; the daily cost per student is set at only Rs.0.70.
- The initiative targets institutions with 5,000+ students. The program is positioned as a means to reduce anti-suicide stigma, quickly reach students in need of support, and increase community awareness.
- In the context of NCRB data—over 1.7 lakh suicides in 2022—this initiative highlights the need to focus on youth mental health; It is emerging as a technology-enabled, low-cost, and scalable solution.

India Qualifies for the 2026 Hockey World Cup by Winning the Asia Cup Hockey Title

- India defeated South Korea 4–1 in the final of the Asia Cup Hockey held in Bihar on September 7, 2025, to win the title and directly qualify for the 2026 Hockey World Cup.
- Sukhjeet Singh scored the fastest goal of the tournament in just 31 seconds; Dilpreet Singh scored twice, and Amit Rohidas added the fourth.

- Korea scored a goal through Dan Son in the 51st minute. With this victory, India regained the continental title after a gap of eight years.
- With the Man of the Match and team coordination being praised, this result sends strong signals for Indian hockey's revival and the upcoming World Cup; the team's form, fast start, and result-oriented strategy are positive signs for world-class competition.

Anutin Charnvirakul becomes Thailand's new Prime Minister

- On September 5, 2025, the Thai Parliament elected Anutin Charnvirakul as the country's new Prime Minister—this appointment came amid ongoing political unrest, making him Thailand's third Prime Minister since 2023.
- 58-year-old Anutin secured 273 votes in the lower house, exceeding the 247 required to win.
- His rival, Chaikasem Nitisiri, received 132 votes. Anutin received the support of the pro-democracy People's Party, which provided for new elections within a few months.
- He will replace Patongtarn Shinawatra—who was removed after being convicted by the Constitutional Court.

Justice Shri Chandrasekhar appointed Chief Justice of the Bombay High Court

- On September 4, 2025, the Central Government appointed Justice Shri Chandrasekhar as the Chief Justice of the Bombay High Court. This appointment was made in accordance with the Supreme Court Collegium's recommendation of August 24, 2025, and the provisions of the Constitution of India.
- Justice Chandrasekhar began his legal career with the Delhi State Bar Council in 1993, became an Additional Judge of the Jharkhand High Court in 2013, and later received a permanent appointment.
- He served in Jharkhand, Rajasthan, and the Bombay High Court from July 2025. His experience includes constitutional, administrative, and High Court-level judicial decisions.
- As Chief Justice, his role will be crucial in ensuring judicial management, court efficiency, and the protection of constitutional rights. His appointment will strengthen the constitutional and administrative objectives of the Bombay High Court.

NITI Aayog's Pulses Enhancement Plan—Doubling Production Target by 2047

- NITI Aayog released a detailed roadmap for increasing pulses production. The goal is to double production by 2047 and achieve self-sufficiency by 2030.
- Production is projected to reach 30.59 million tonnes by 2030 under the baseline scenario; with policy interventions, it is targeted to increase this to 48.44 million tonnes in 2030 and 63.64 million tonnes in 2047.
- The sector supports the livelihoods of over 50 million farmers, and India is currently a major producer and consumer of pulses globally.
- The roadmap includes district-specific targeted interventions (111 high-potential districts), crop-specific clusters, improved seed distribution, intercropping and fallow land use, and climate-resilient agricultural techniques.

- The Union Budget 2025–26 launched a six-year mission and emphasized investment, seed spacing, and data-driven monitoring for the 2030–2047 targets, aiming to ensure nutritional security and sustainable agriculture by reducing imports.

Rajasthan Coaching Centers (Control and Regulation) Bill, 2025

- The Rajasthan Legislative Assembly recently passed the Coaching Centers (Control and Regulation) Bill, 2025. Its primary objective is to reduce the increasing pressure on students, ensure their safety, and make the coaching industry more accountable.
- According to the bill, registration will be mandatory for all coaching institutes with more than 100 students.
- A special authority will be created for this purpose, consisting of representatives from the education department, police, psychiatrists, parents, and coaching institutes.
- Coaching institutes will be required to publicly disclose information regarding their teachers' qualifications, results, study hours, and grievance redressal mechanism.
- Classes will be limited to a maximum of 5 hours per day, and one day off per week will be mandatory. Counseling facilities will also be required for students.
- Violations will result in a fine of Rs.50,000 for the first offense and up to Rs.200,000 for a second offense, and registration may also be revoked. This bill is an important step toward balancing students' mental health and the quality of education.

Famous Italian Fashion Designer Giorgio Armani Passes Away

- Renowned Italian fashion designer and industrialist Giorgio Armani has passed away at the age of 91. Armani was universally respected for his simplicity, pure lines, and modern elegance—he changed the standard of tailoring for both men's and women's clothing.
- In 2006, he sparked a debate about ethical standards in the industry by banning extremely thin models from his runway shows; this decision was made after the death of model Ana Carolina Reston.
- Armani began his professional career studying medicine, but in the 1960s, he switched to fashion and quickly rose to prominence. He received the highest honors, including France's Legion of Honor and Italy's Order of Merit for Labor.
- Armani's impact on fashion was lasting—he forged a new language of clothing, both aesthetic and function, and his passing is a huge loss to the global fashion community.

Amit Mishra retires from professional cricket

- Veteran right-arm leg-spinner Amit Mishra has announced his retirement from professional cricket after a career spanning over 25 years. Mishra cited persistent injuries and a belief in providing opportunities to young talent as the primary reasons.
- He represented Haryana in the domestic Ranji Trophy and played for several franchises—Delhi Daredevils, Deccan Chargers, Sunrisers Hyderabad, and Lucknow Super Giants—in the Indian Premier League.
- During his career, Mishra made significant contributions to shorter formats and domestic cricket with his spin control, dynamic trajectory, and experienced bowling.
- Young spinners will learn from his experience, and he can now contribute to the fields of coaching, mentoring, or cricket administration.

- His long-term service and long career to Indian cricket make him a respected player; his experience and understanding of match situations will prove useful to new players.

"The Chola Tigers" Book Launch

- Popular author Amish Tripathi released his new book, "The Chola Tigers: The Avengers of Somnath," in Chennai. This is the second installment in his Indic Chronicles series and focuses on the Chola dynasty's heroic tales, administrative prowess, and business acumen, while emphasizing a prose depiction of war and vengeance.
- The book prominently features the story of the fearless warriors who responded to the destruction of the Somnath Temple, and female characters are given a pivotal and active role in the plot.
- In a career spanning 15 years and 12 books, Amish has adapted Indian mythological and historical themes in a new and engaging style and garnered a wide readership.
- At the launch, the author emphasized the need to bring the achievements of the Chola Empire into the mainstream. This work raises hopes of re-establishing its popularity among readers and strengthening the Indian perspective in historical fiction.

Approval of Rs.1,500 Crore Scheme for Recycling of Critical Minerals

- The Union Cabinet chaired by the Prime Minister approved a six-year scheme worth Rs.1,500 crore for recycling of critical minerals.
- This initiative focuses on the recovery of critical minerals from e-waste, lithium-ion battery scrap, scrapped car catalytic converters, and other high-value materials and is part of the National Critical Minerals Mission (NCMM).
- The program will encourage small and large recycling enterprises, start-ups, and leading companies—one-third of the funds will be reserved for small/emerging players.
- Capital incentives include a 20% subsidy on plant and machinery, and operational expense subsidy will be provided in phases (40% in the second year, 60% in the fifth year).
- The goal is to establish a recycling capacity of 270 kilotonnes per year and a production capacity of 40 kilotonnes of critical minerals, which is expected to attract an estimated investment of Rs.8,000 crore. The plan aims to reduce import dependence and promote green industries by strengthening domestic supply chains.

Rajit Punhani appointed Chief Executive Officer of FSSAI

- Rajit Punhani, a 1991 batch IAS officer of Bihar cadre, assumed charge as Chief Executive Officer of the Food Safety and Standards Authority of India (FSSAI).
- Punhani, who has over three decades of administrative experience, has previously served as Secretary in the Ministry of Skill Development and Entrepreneurship, Secretary of the Rajya Sabha, and CEO of Sansad TV.
- FSSAI is a statutory body under the Ministry of Health and Family Welfare that sets, regulates, and inspects food safety standards. Punhani's appointment is expected to bring administrative efficiency and policy coordination to food standards enforcement, supply chain monitoring, and consumer protection initiatives.

Cotton Farmer App

- Union Textiles Minister Giriraj Singh launched the Cotton Farmer App on September 2nd—a mobile application developed by the Cotton Corporation of India (CCI) to digitise the MSP-based cotton procurement process.
- Through the app, farmers will be able to self-register, book purchase slots, and monitor payment statuses; features such as quality assessment, approved quantities, and digital scheduling of procurement centers will also be available.
- The aim is to increase transparency in the process, reduce paperwork, and minimise waiting and congestion at procurement centers.
- The app will provide information and real-time updates in Indian languages, enabling farmers to sell their produce at a secure price and avoid distress sales. This initiative will strengthen the MSP mechanism and improve the livelihoods and market access of cotton farmers.

India-Thailand Joint Exercise Maitri-XIV Concludes in Meghalaya

- The armies of India and Thailand conducted the 14th edition of Maitri-XIV at the Umroi Joint Training Centre in Meghalaya from September 1 to 14.
- 120 Indian soldiers from a battalion of the Madras Regiment and a contingent of 53 soldiers from the Royal Thai Army participated in the exercise.
- This year, the focus of the exercise was on company-level counter-terrorism operations in semi-urban terrain—including a 48-hour phase of tactical planning, weapon skills, raids, and verification.
- This bilateral exercise has been conducted regularly since 2006 with the aim of strengthening interoperability, joint operational capabilities, and regional security cooperation between the two armies.
- The exercise enhanced understanding of regional peacekeeping, collaboration, and each other's operational methods; it also provided practical training on theater-specific challenges such as semi-urban operations, identification of hidden terrorist sources, and civil security coordination.

Educate Girls Receives the 2025 Ramon Magsaysay Award

- The Foundation to Educate Girls Globally, or Educate Girls, has been awarded the prestigious Ramon Magsaysay Award for 2025—the first time an Indian non-governmental organization has received this honor.
- Founded in 2007 by Safina Hussain of Rajasthan, the organization works through community-based collaboration and government partnerships to ensure girls' education in rural and underserved areas.
- Educate Girls brings out-of-school girls back into the classroom and supports them to remain in school until they are eligible for higher education or a career; their motto is “One Girl at a Time.” The Ramon Magsaysay Foundation praised the organization's grassroots strategies and work focused on the most disadvantaged communities.
- Awardees will receive a medal, certificate, and cash prize; the 67th ceremony will be held in Manila on November 7, 2025. This honour brings global recognition to Indian civil society and its collective efforts in the field of girls' education.

MCQs Based on Current Affairs

1. With reference to India–Thailand relations, consider the following statements:

1. The bilateral relationship was elevated to a Strategic Partnership in 2025.
2. Thailand is a founding member of BIMSTEC.
3. Both countries cooperate in multilateral forums like East Asia Summit and ADMM-Plus.

Which of the statements given above is/are correct?

- A: 1 and 3 only
B: 2 and 3 only
C: 1 only
D: All of the above

2. Which of the following statements regarding the Chandrayaan-5 mission?

1. Chandrayaan-5 mission is joint mission between ISRO and JAXA
2. ISRO is developing the rover while JAXA is developing the lander.
3. The mission will be launched using ISRO's GSLV Mk III launch vehicle.

Options:

- A: 1 and 2 only
B: 1 only
C: 2 and 3 only
D: All of the above

3. Consider the following statements regarding the SCO Summit 2025:

1. The summit was held in Tianji, China.
2. It was the 25th meeting of the Council of Heads of State of the SCO.
3. The Tianjin Declaration was adopted which focused on economic and security cooperation.

Which of the statements given above is/are correct?

- A: 1 and 3 only
B: 2 only
C: 1 and 2 only
D: 1,2 and 3

4. Consider the following statements about the Shanghai Cooperation Organisation (SCO):

1. It was founded in 2001 after evolving from the Shanghai Five mechanism.
 2. Its Regional Anti-Terrorist Structure (RATS) is based in Beijing.
 3. The current SCO Secretariat is located in Tashkent.
- Which of the statements given above is/are correct?

- A: 1 only
B: 1 and 2 only
C: 2 and 3 only
D: 1,2 and 3

5. Which of the following was NOT among the other 2025 Ramon Magsaysay Award winners?

- A: Shaahina Ali – Maldives
B: Flaviano Antonio L. Villanueva – Philippines
C: R. Ravi Kannan – India
D: None of the above

6. Consider the following statements regarding the Air Quality Life Index (AQLI):

1. It is developed by the World Health Organization (WHO).
2. AQLI quantifies the impact of PM2.5 pollution on human life expectancy.
3. The 2025 edition of AQLI is based on global data from the year 2023.

Which of the statements given above is/are correct?

- A: 1 and 2 only
B: 2 and 3 only
C: 1 and 3 only
D: 1, 2 and 3

7. With reference to the Air Quality Life Index (AQLI) 2025, consider the following statements:

1. Air pollution is identified as the most severe health threat in India, reducing the average life expectancy by over 5 years.
2. According to the report, all of India's population lives in areas exceeding the WHO's PM2.5 guideline.
3. Delhi-NCR shows the highest potential life expectancy loss due to air pollution in India.
4. PM2.5 pollution is now the second-largest external

risk to global life expectancy, after smoking.

Which of the statements given above are correct?

- A: 1 and 3 only
- B: 2 and 4 only
- C: 2 and 3 only
- D: 1, 2 and 3 only

8. With reference to CEREBRO, recently launched in India, consider the following statements:

1. It is an invasive diagnostic tool for detecting Traumatic Brain Injuries (TBIs).
2. The device uses near-infrared spectroscopy and machine learning to detect intracranial bleeding and cerebral edema.
3. It does not require advanced radiological infrastructure and trained radiologists for operation.
4. CEREBRO is designed for use even in rural and emergency settings.

Which of the statements given above is/are correct?

- A: 1 and 2 only
- B: 2 and 4 only
- C: 1, 3 and 4 only
- D: 2, 3 and 4 only

9. With reference to Vikram 3201, consider the following statements:

1. Vikram 3201 is India's first fully indigenous 32-bit microprocessor.
2. It is designed primarily for commercial applications such as smartphones and laptops.
3. The processor has been developed jointly by ISRO and the Semiconductor Laboratory (SCL), Chandigarh.

Which of the statements given above are correct?

- A: 1 and 3 only
- B: 1, 2 and 3
- C: 3 only
- D: 2 only

10. With reference to semiconductors and the India Semiconductor Mission (ISM), consider the following statements:

1. Semiconductors are materials that can behave as

both conductors and insulators.

2. The India Semiconductor Mission (ISM) was launched in 2021 with the aim of establishing a self-reliant semiconductor and display manufacturing ecosystem in India.
3. The Design-Linked Incentive (DLI) scheme under ISM focuses on promoting large-scale chip manufacturing facilities in India.
4. Semiconductors are crucial not only for consumer electronics but also for sectors like defense, space, and healthcare.

Which of the statements given above are correct?

- A: 1, 2 and 4 only
- B: 1, 3 and 4 only
- C: 2, 3 and 4 only
- D: 1, 2, 3 and 4

11. With reference to reservation in India, consider the following statements:

1. Article 15(4) empowers the state to provide reservations for SCs, STs, and OBCs in educational institutions, including private unaided institutions.
2. Article 16(4A) allows for reservation in promotions for Scheduled Castes and Scheduled Tribes.
3. Article 335 allows for unqualified relaxation of standards in appointments to ensure representation of SCs and STs in state services.
4. Article 15(6) enables the state to provide 10% reservation for Economically Weaker Sections (EWS) in education and employment.

Which of the statements given above is/are correct?

- A: 1 and 2 only
- B: 2 and 4 only
- C: 2, 3 and 4 only
- D: 1, 2, 3 and 4

12. With reference to the BHARATI Initiative recently launched by APEDA, consider the following statements:

1. It aims to empower agri-food and agri-tech startups to boost innovation and exports.
2. The initiative targets enhancing India's agricultural exports to \$100 billion by 2030.
3. BHARATI stands for Bharat's Hub for Agritech,

Resilience, Advancement, and Incubation for Export Enablement.

Which of the statements given above is/are correct?

- A: 1 and 2 only
- B: 1 and 3 only
- C: 2 and 3 only
- D: 1, 2 and 3

13. With reference to the Agricultural and Processed Food Products Export Development Authority (APEDA), consider the following statements:

1. APEDA is a statutory body functioning under the Ministry of Agriculture and Farmers' Welfare.
 2. It was established under the APEDA Act of 1985 and became operational in 1988.
 3. One of its key functions is to register exporters of scheduled products and ensure quality compliance.
- Which of the statements given above is/are not correct?

- A: 1 and 2 only
- B: 2 and 3 only
- C: 1 and 3 only
- D: 1, 2 and 3

14. Recently, India and Singapore signed Memorandums of Understanding (MoUs) in multiple sectors. Which of the following was NOT among the areas covered?

- A: Green and Digital Shipping Corridors
- B: Civil Aviation
- C: Defence Procurement
- D: Digital Asset Innovation

15. Consider the following statements about India–Singapore economic relations:

1. Singapore is India's largest trade partner in the ASEAN region.
2. A Double Tax Avoidance Agreement (DTAA) between the two countries was signed in 2016.
3. India runs a trade surplus with Singapore as of 2024–25.

Which of the statements is/are correct?

- A: 1 only

B: 2 and 3 only

C: 1 and 3 only

D: 1, 2 and 3

16. Consider the following statements:

1. India has joined the Minerals Security Partnership as a member.
2. India is resource-rich in all the 30 critical minerals it has identified.
3. The Parliament in 2023 amended the Mines and Minerals (Development and Regulation) Act, 1957, empowering the Central Government to exclusively auction mining leases and composite licenses for certain critical minerals.

Which of the statements given above are correct?

- A: 1 and 2 only
- B: 2 and 3 only
- C: 1 and 3 only
- D: 1, 2 and 3

17. Which of the following organizations publishes the Global Peace Index (GPI)?

- A: United Nations Development Programme (UNDP)
- B: World Economic Forum (WEF)
- C: Institute for Economics and Peace (IEP)
- D: International Institute for Strategic Studies (IISS)

18. With reference to India's ranking in the Global Peace Index (GPI) 2025, consider the following statements:

1. India was ranked 115th out of 163 countries.
2. India's GPI score showed an improvement of 0.58% over the previous year.
3. India is ranked among the top 10 most peaceful countries in the Asia-Pacific region.

Which of the statements given above is/are correct?

- A: 1 and 2 only
- B: 2 and 3 only
- C: 1 and 3 only
- D: 1, 2 and 3

19. Which of the following countries is NOT a member of the expanded BRICS+ grouping as

of 2025?

- A: Indonesia
- B: Iran
- C: Saudi Arabia
- D: Ethiopia

20. Consider the following statements regarding BRICS's economic and geopolitical influence:

1. BRICS nations account for over one-third of global GDP.
2. BRICS controls over 50% of global crude oil production.
3. BRICS operates financial mechanisms like the NDB and CRA.
4. BRICS supports the reform of global institutions like the IMF and UNSC.

Which of the above statements are correct?

- A: 1, 2, and 3 only
- B: 1, 3, and 4 only
- C: 2, 3, and 4 only
- D: 1, 2, 3 and 4

21. Consider the following functions of the HealthAI Global Regulatory Network (GRN):

1. Creating a global directory of registered AI health tools
2. Issuing early warnings on emerging technological risks
3. Promoting AI-based health insurance pricing
4. Supporting global regulatory harmonization

Which of the above key functions of GRN?

- A: 1, 2, and 4 only
- B: 1, 2, and 3 only
- C: 2, 3, and 4 only
- D: 1, 2, 3 and 4

22. Which of the following statements is/are correct regarding INDIAai?

1. It was launched as a joint venture between WHO and India in 2023
2. It functions as an independent division under Digital India Corporation
3. It functions as India's central hub for Artificial Intelligence knowledge

Select the correct answer:

- A: 1 and 2 only
- B: 2 and 3 only
- C: 1 and 3 only
- D: All of the above

23. With reference to the NISAR mission, consider the following statements:

1. It is a joint mission between ISRO and NASA.
2. It was launched into Geostationary Orbit via GSLV-F16.
3. It will monitor environmental changes such as shoreline erosion and ice melt.

Which of the statements given above is/are correct?

- A: 1 and 2 only
- B: 1 and 3 only
- C: 2 and 3 only
- D: All of the above

24. With reference to India's trade with the European Union (EU), consider the following statements:

1. The EU is India's largest trading partner in goods.
2. The trade in goods between the EU and India has nearly doubled over the past decade.
3. India has a services trade surplus with the EU.

Which of the statements given above are correct?

- A: 1 and 2 only
- B: 2 and 3 only
- C: 1 and 3 only
- D: 1, 2 and 3

25. With reference to the Swachh Vayu Sarvekshan Awards 2025, consider the following statements:

1. The awards are a part of the National Clean Air Programme (NCAP).
2. Indore secured the top position in cities with population over 10 lakh.
3. Dewas secured the first rank in Category 3 (population under 3 lakh).

Which of the statements given above are correct?

- A: 1 and 2 only
- B: 2 and 3 only
- C: 1 and 3 only

D: 1, 2 and 3

26. With reference to the UPI–UPU Integration project launched in 2025, consider the following statements:

1. It aims to enable cross-border digital payments through postal services.
2. It is a collaborative effort between India's Department of Posts, NITI Aayog, and Universal Postal Union (UPU).
3. The project was launched at the 28th Universal Postal Congress in Dubai.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2 and 3

27. Recently, Sébastien Lecornu was appointed the Prime Minister of France amid political instability. Which of the following statements regarding the France's political structure is/are correct?

1. The Prime Minister of France is directly elected by the people through a two-round system.
2. The President of France can dismiss the Prime Minister at any time.
3. France follows a semi-presidential system where both the President and Prime Minister exercise executive powers.
4. A vote of no confidence in the French Parliament can lead to the resignation of the Prime Minister.

Select the correct answer using the code below:

- A: 1 and 2 only
 B: 2, 3 and 4 only
 C: 1, 3 and 4 only
 D: 2 and 4 only

28. Consider the following statements regarding India's foreign exchange reserves:

1. Foreign Currency Assets (FCA) forms the largest component of the reserves of India.
2. SDRs are valued based on a basket of six major

international currencies.

3. Forex reserves help stabilize a country's exchange rate and meet external obligations.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 2 and 3 only
 C: 1 and 3 only
 D: 1, 2 and 3

29. With reference to the ULLAS Programme, consider the following statements:

1. It was launched in 2022 to achieve universal literacy by 2030.
2. It targets adults aged 15 and above who missed formal education.
3. Learners are tested through the Functional Literacy and Numeracy Assessment Test (FLNAT).
4. Certification is provided by the National Institute of Open Schooling (NIOS).

How many of the above statements are correct?

- A: Only two
 B: Only three
 C: All four
 D: Only one

30. Which one of the following pairs is not correctly matched?

- A: RTS,S/AS01 – Malaria vaccine recommended by WHO (2021)
 B: R21/Matrix-M – Malaria vaccine recommended by WHO (2023)
 C: AdFalcivax – Multi-stage vaccine developed by WHO in collaboration with India
 D: Plasmodium vivax – Dominant malaria strain in India and Asia

31. The term “Exorbitant Privilege”, often linked with U.S. dollar dominance, was coined by:

- A: John Maynard Keynes
 B: Valéry Giscard d'Estaing
 C: Milton Friedman
 D: Alan Greenspan

32. Consider the following features of the 'Never Alone' Mental Health App:

1. It is a web-based app, accessible via WhatsApp and QR code.
2. It is available 24×7 and uses DSM standards for diagnosis.
3. It is free for students, with no institutional funding model.
4. It offers both online and offline consultation.

How many of the above statements are correct?

- A: One only
 B: Two only
 C: Three only
 D: All four

33. With reference to the provisional patent filed for the red ivy wound pad, consider the following statements:

1. In India, patents are granted by the Indian Patent Office under the DPIIT, Ministry of Commerce & Industry.
2. A provisional patent secures a priority date but is valid only for 12 months unless a complete specification is filed.
3. Patents in India are granted for 10 years.

Which of the above statements are correct?

- A: 1 and 2 only
 B: 2 and 3 only
 C: Only 1 and 3
 D: 1, 2 and 3

34. Which of the following is/are true regarding the UNESCO Tentative List and its role in the process of World Heritage Site nomination?

1. A site must be included in the Tentative List at least one year before it is nominated for World Heritage status.
2. The Tentative List is a permanent record of all natural and cultural heritage sites nominated for World Heritage status.
3. The UNESCO Tentative List provides the first step in a nation's effort to protect and preserve its significant heritage sites.

Options:

- A: 1 and 3 only
 B: 2 and 3 only
 C: 1, 2 and 3
 D: Only 3

35. Consider the following statements about manuscript:

1. A manuscript is a handwritten composition on materials like paper, bark, cloth, or metal, and must be at least 75 years old to be considered a manuscript.
2. Manuscripts are distinct from printed volumes and lithographs, which are not considered manuscripts.
3. Manuscripts are found in only a few languages and scripts, such as Sanskrit written in Devanagari script.
4. Epigraphs, revenue records, and firmans are considered manuscripts as they also contain knowledge content.

Which of the above statement are correct?

- A: 1 and 2 only
 B: 1, 2, and 3 only
 C: 1, 2, and 4 only
 D: 1, 3, and 4 only

36. Consider the following statements about UNESCO:

1. UNESCO was established in 1945 as a specialized agency of the United Nations.
2. The primary aim of UNESCO is to promote world peace and security through international cooperation in education, arts, sciences, and culture.
3. The Director-General of UNESCO is elected every two years.
4. UNESCO works with both its 194 member states and does involve non-governmental or private sector partners.

Which of the above statements is/are correct?

- A: 1, 2, and 3 only
 B: 1 and 2 only
 C: 1, 2, and 4 only
 D: 1 and 4 only

37. Consider the following statements regarding

the Manki-Munda system:

1. It is a traditional self-governance system followed by the Ho tribe in the Kolhan region of Jharkhand.
2. In this system, the Munda heads a cluster of villages, while the Manki resolves disputes at the village level.
3. The system was formally recognized during British rule under Wilkinson's Rules.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2 and 3

38. Consider the following statements regarding Makhana (fox nuts):

1. Makhana is primarily grown in the states of Bihar, Uttar Pradesh, and West Bengal in India.
2. Makhana is rich in protein, fiber, and antioxidants, but low in fat.
3. The cultivation of Makhana requires wetland areas and shallow ponds for optimal growth.
4. Makhana is commonly consumed during religious fasts, especially in North India.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 2, 3, and 4 only
 C: 1, 3, and 4 only
 D: 1, 2, 3, and 4

39. Why did the Supreme Court of India dismiss the 2025 petition seeking to bring women political workers under the ambit of the POSH Act, 2013?

- A: Because political parties already have their own grievance redressal mechanisms.
 B: Because political parties are not formal employers and such inclusion requires legislative action.
 C: Because the POSH Act already applies to all informal sectors, including political work.
 D: Because women political workers are covered under the Representation of the People Act, 1951.

40. Which of the following is/are key guidelines

issued by the Supreme Court in Kattavellai @ Devakar for handling DNA evidence in criminal cases?

1. DNA samples must be labeled with FIR number, date, and details of investigating officer and medical examiner at the time of collection.
2. DNA samples must be sent to the Forensic Science Laboratory (FSL) within 72 hours of collection.
3. A detailed Chain of Custody Register must be maintained until the conclusion of the case.
4. DNA samples can be opened or resealed anytime by police officials during trial without court permission.

Select the correct answer using the code below:

- A: 1 and 3 only
 B: 2 and 4 only
 C: 1, 2, and 3 only
 D: 1, 2, 3, and 4

41. Consider the following statements regarding the Unified Pension Scheme (UPS):

1. It is applicable only to Central Government employees who join service after April 1, 2025.
2. It assures a fixed monthly pension equal to 50% of the average basic pay of the last 12 months before retirement, provided certain conditions are met.
3. Employees dismissed from service are still eligible for the assured benefits under UPS.

Which of the above statements is/are correct?

- A: 1 and 2 only
 B: 2 only
 C: 1 and 3 only
 D: 1, 2, and 3

42. With reference to the PM Mega Integrated Textile Region and Apparel (PM MITRA) Yojana, consider the following statements:

1. It was launched in 2021 by the Ministry of Textiles.
2. The scheme aims to integrate the textile value chain from fibre to fashion.
3. One of its objectives is to promote the export of handloom products exclusively.
4. It seeks to reduce logistics costs and generate employment.

Which of the statements given above are correct?

- A: 1, 2 and 3 only
 B: 1, 2 and 4 only
 C: 1 and 4 only
 D: 4 only

43. Which of the following statements regarding Geothermal Energy are correct?

1. It provides base load power, unlike solar and wind.
2. It is a renewable and low-emission energy source.
3. It can be used only for electricity generation.

Select the correct option:

- A: 1 and 2 only
 B: 2 and 3 only
 C: 1 and 3 only
 D: 1, 2 and 3

44. With reference to the India-UAE Comprehensive Economic Partnership Agreement (CEPA), consider the following:

1. It was signed in 2023 and started in 2024.
2. It is India's first deep Free Trade Agreement (FTA) in the Middle East.
3. It removes most tariffs and gives market access benefits.

Which of the above is/are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

45. Consider the following statements regarding state debt in India as per the CAG Report (2023):

1. The total public debt of all Indian states has increased more than threefold in the last decade.
2. In FY 2022–23, all states had a debt-to-GSDP ratio below 30%.
3. Odisha had one of the lowest debt-to-GSDP ratios among Indian states.

Which of the above statements is/are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only

- D: 1, 2, and 3

46. Consider the following statements about the Anand Marriage Act, 1909:

1. The Act was originally introduced under the guidance of Bhai Kahan Singh Nabha.
2. The Act's jurisdiction covered all of India until it was amended in 1959 to exclude Jammu and Kashmir.
3. The 2012 amendment required marriages registered under the Anand Marriage Act to also be registered under the Hindu Marriage Act, 1955.

How many of the above statements is/are correct?

- A: Only one
 B: Only two
 C: All three
 D: None

47. With reference to the Sawalkote Hydroelectric Project (HEP) on the Chenab River, consider the following statements:

1. The Sawalkote project, once completed, will be the largest hydropower project in Jammu & Kashmir.
2. The dam is designed to completely divert the Chenab's flow to maximize power generation, even during lean seasons.
3. The project includes an auxiliary power unit to maintain ecological flow downstream.
4. It is located in the districts of Doda and Kishtwar in Jammu & Kashmir.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 2 only
 C: 1 and 3 only
 D: 1, 2, 3 and 4

48. With reference to the recent developments regarding the H-1B visa policy of the United States, consider the following statements:

1. The H-1B visa allows U.S. companies to hire foreign workers for low-skilled jobs in agriculture, IT and domestic work.
2. The recent fee hike for H-1B visas is expected to disproportionately affect Indian IT firms due to

their high dependence on onsite deployments.

3. The H-1B visa is valid for a maximum of six years in most cases.
4. The total annual cap for H-1B visas includes 85,000 slots, with 20,000 of them reserved for U.S. university graduates with a master's degree or higher.

Which of the above statements is/are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2, 3 and 4 only
 D: 1, 2, 3 and 4

49. With reference to the India–Morocco Defence Pact signed in 2025, consider the following statements:

1. It includes cooperation in maritime security and cyber defence.
2. It marks the first time India has signed a defence MoU with a North African country.
3. The pact includes the establishment of a permanent military base in Morocco.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 2 only

C: 2 and 3 only

D: 1, 2, and 3

50. With reference to INS Androth, newly built for the Indian Navy, consider the following statements:

1. It is a type of Anti Submarine Warfare ship, part of the “Arnala class”.
2. It is made by GRSE with more than 80% of the parts made in India.
3. It moves using water-jet systems powered by diesel engines.
4. The ship is named after an island in Andaman & Nicobar

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 1, 3 and 4 only
 C: 1, 2 and 3 only
 D: 1, 2, 3 and 4

ANSWER

1	D
2	B
3	D
4	A
5	C
6	B
7	C
8	D
9	A
10	A

11	B
12	B
13	A
14	C
15	A
16	C
17	C
18	A
19	C
20	B

21	A
22	B
23	B
24	D
25	D
26	B
27	B
28	C
29	C
30	C

31	B
32	C
33	A
34	A
35	A
36	C
37	B
38	D
39	B
40	A

41	B
42	B
43	A
44	C
45	B
46	A
47	C
48	C
49	A
50	C

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