

# NEXT IAS THE CRUX

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Chief Editor

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# EDUCATION IN INDIA

The Ministry of Statistics released the CMS-Education 2025 under NSS's 80th Round, while the Union Education Minister inaugurated ABSS 2025, highlighting achievements and ongoing challenges in five years of NEP 2020 implementation.

## Status of Education in India

- **School Enrolment Patterns:** Government schools continue to play a major role in India's education system, accounting for 55.9% of total enrolments.
- Their role is much stronger in rural areas, where government schools account for 66% of enrolments, compared to 30.1% in urban areas.
- **Education Expenditure:** Average expenditure per student is significantly higher in urban areas than in rural India. The average annual spending per student is estimated at Rs. 8,382 in rural areas and Rs. 23,470 in urban areas across government and non-government schools.
- **Dependence on Private Coaching:**
  - ◆ Nearly 27% of students avail private coaching during the academic year. Dependence on coaching is higher in urban areas at 30.7% compared to 25.5% in rural areas.
  - ◆ This reflects growing competition and concerns regarding the quality of classroom learning.
- **Sources of Educational Finance:**
  - ◆ Around 95% of educational expenditure is financed by household or family members.
  - ◆ Only 1.2% of students reported government scholarships as their primary source of educational funding.

## Major Developments Shaping India's Education Landscape

- **Expansion of Digital and Online Education:**
  - ◆ Online and hybrid learning systems have expanded access to education, especially in remote areas.
  - ◆ Initiatives such as PM e-Vidya and rising edtech investments have supported this transformation.
  - ◆ India's edtech sector received investments worth USD 3.94 billion in FY22 and is expected to grow further by 2025.
- **Growth of STEM Education:**
  - ◆ STEM education is being promoted through more than 8,000 Atal Tinkering Labs across the country.
  - ◆ These labs encourage creativity, innovation, and scientific thinking among students.
- **Vocational and Skill-Based Education:**
  - ◆ NEP 2020 integrates vocational and skill-based learning into school and higher education systems to improve employability.
  - ◆ The Skill India Mission has trained millions of youth in different sectors.

- ◆ The Union Budget 2025–26 allocated Rs. 500 crore for a Centre of Excellence in AI for Education to strengthen advanced technology skills.
- **Rising Private Investment and FDI:**
  - ◆ The government permits 100% Foreign Direct Investment (FDI) in education to improve infrastructure and attract global participation.
  - ◆ The Indian school market is projected to reach USD 125.8 billion by 2032.
  - ◆ Total FDI inflows into education stood at Rs. 83,550 crore between April 2000 and September 2024.
- **Expansion of Higher Education:**
  - ◆ India has 1,289 universities and 48,246 colleges as of FY25.
  - ◆ The higher education sector recorded nearly 10% growth between 2020 and 2025.
  - ◆ The Gross Enrolment Ratio (GER) in higher education has increased to 28.4%.
- **Research and Innovation:** Research and innovation are being promoted through initiatives such as:
  - ◆ Atal Innovation Mission (AIM),
  - ◆ Research and Innovation in Higher Education (RISE), and
  - ◆ Anusandhan National Research Foundation (ANRF).
- **Regional Language and Inclusive Education:**
  - ◆ NEP 2020 promotes multilingual education to reduce inequalities and preserve cultural identity.
  - ◆ The government allocated Rs. 500 crore under PM e-Vidya for development of digital learning materials in multiple Indian languages.

## National Education Policy (NEP) 2020

- **About NEP 2020:**
  - ◆ The National Education Policy 2020 seeks to address challenges relating to quality, equity, access, and affordability in education.
  - ◆ It replaced the earlier National Education Policy of 1986 after a gap of 34 years.
  - ◆ The policy is based on the recommendations of the Dr. K. Kasturirangan Committee.
- **Major Features and Achievements of NEP 2020:**
  - ◆ **Curriculum and School Structure Reform**
    - ◆ NEP 2020 introduced the 5+3+3+4 curricular structure replacing the earlier 10+2 system.
    - ◆ The National Curriculum Framework for School Education (NCF-SE) promotes experiential and competency-based learning.



- ♦ Mother tongue or regional language is encouraged as the medium of instruction in the foundational years.
- ♦ **Foundational Literacy and Numeracy**
  - ♦ Programmes such as NIPUN Bharat and Vidya Pravesh have reached more than 4.2 crore students across 8.9 lakh schools.
  - ♦ These initiatives focus on strengthening foundational literacy and numeracy (FLN).
- ♦ **Teacher Training:** More than four lakh teachers have been trained under NISHTHA through digital platforms such as DIKSHA and PM e-Vidya.
- ♦ **Inclusive Education**
  - ♦ More than 1.15 lakh students from Socially and Economically Disadvantaged Groups (SEDGs) and 7.58 lakh girls have enrolled in residential schools.
  - ♦ The PRASHAST App supports screening of disabilities among students.
- ♦ **Higher Education Reforms**
  - ♦ NEP 2020 promotes Multidisciplinary Education and Research Universities (MERUs) for world-class higher education.
  - ♦ The Academic Bank of Credits (ABC) supports flexible learning and credit transfer.
  - ♦ The policy also introduced multiple entry and exit options in higher education.
- ♦ **Digital Education Initiatives**
  - ♦ Around 53.9% of schools now have internet access.
  - ♦ Initiatives such as Vidyanjali, DIKSHA, PM e-Vidya, e-Jaadui Pitara, and AI-based tools like Katha Sakhi and Teacher Tara are improving learning delivery.
- ♦ **Common Entrance Testing:** The Common University Entrance Test (CUET), introduced in 2022, has become a major gateway for undergraduate admissions.
- ➔ **Challenges in NEP 2020 Implementation:** Several States such as Tamil Nadu and West Bengal have opposed certain provisions relating to the three-language formula, mother tongue instruction, and common entrance tests.
- ➔ Delays in establishing the Higher Education Commission of India (HECI) and implementing the National Curriculum Framework for Teacher Education have also affected progress.
- ➔ Weak monitoring systems and institutional resistance continue to hinder implementation.

## Major Challenges in India's Education Sector

### ➔ Constitutional Basis:

- ♦ Article 21A guarantees the Right to Education, backed by the 86th Constitutional Amendment (2002).
- ♦ However, since education falls under the Concurrent List (Entry 25), Centre-State coordination remains weak, creating implementation gaps between policy intent and ground reality.

### ➔ Higher Education Regulation:

- ♦ The UGC is proposed to be replaced by the Higher Education Commission of India (HECI) under NEP 2020.
- ♦ This reflects a shift toward greater institutional autonomy combined with stronger accountability, a significant structural reform still awaiting full implementation.

### ➔ Gender and Social Equity:

- ♦ Dropout rates are significantly higher among girls, SC/ST students, and children of migrant workers. Targeted schemes like Kasturba Gandhi Balika Vidyalaya address this, but their outcomes remain limited. The source document only mentions "weaker backgrounds" generically, without capturing this dimension adequately.
- ♦ Girls continue to face high dropout rates. UNICEF data shows that nearly 33% of girls drop out due to domestic responsibilities.
- ♦ Tribal and economically disadvantaged children continue to face barriers in education. Students in Eklavya Model Residential Schools often struggle due to language-related challenges.

### ➔ Federalism and NEP Implementation:

- ♦ Since education is a Concurrent List subject, states must cooperate for NEP 2020 to succeed.
- ♦ However, several states have openly resisted the three-language formula, citing concerns over linguistic and cultural autonomy. This Centre-State tension is a major barrier to uniform implementation.

### ➔ India's Global Educational Standing:

- ♦ India withdrew from the PISA assessment in 2009 after poor performance and has not returned since. NEP 2020 sets a target of achieving 50% Gross Enrolment Ratio in higher education by 2035.
- ♦ These benchmarks help evaluate how far India's education system still needs to travel.

### ➔ Infrastructure Deficiencies

- ♦ Many schools in rural and remote areas still lack basic facilities.
- ♦ Government data from 2023 shows that only 47% of schools have drinking water facilities and 53% have separate toilets for girls.
- ♦ Teacher Shortage and Quality Issues
- ♦ Sanctioned teaching posts declined by 6% between 2021–22 and 2023–24.
- ♦ More than 4,500 secondary school teachers lack proper qualifications.
- ♦ Less than 25% of teachers receive professional training.

### ➔ Low Public Investment: India spends only around 3–4% of GDP on education, which is below the NEP target of 6% of GDP.

### ➔ Persistence of Rote Learning: Around 75% of Class 3 students are unable to read Grade 2-level text. Competency-based learning has not yet been widely implemented.



### ➤ Digital Divide

- ♦ Internet access is available in only 18.47% of rural schools compared to 47.29% of urban schools.
- ♦ According to UDISE+ 2023–24, only 57.2% of schools have functional computers and 53.9% have internet access.

### Examples from Other Countries

- **China** follows a highly centralized education system where students complete **12 years of schooling** (6 primary, 3 lower-secondary, 3 upper-secondary) and then take the **Gaokao**, a national college entrance exam that largely determines university admission through province-based rankings.
- **Singapore** has a structured tiered system with **6 years of primary education**, ending in the **Primary School Leaving Examination (PSLE)**, which streams students into secondary tracks.
  - ♦ After this, students take **O-Levels/N-Levels** and later move to **A-Levels**, polytechnics, or ITE. Exams are managed by the government-linked **Singapore Examinations and Assessment Board (SEAB)**, making the system centralized but less high-stakes than China.
- The **USA** has a decentralized K-12 system with state-controlled curricula and no national exam.
  - ♦ College admissions are more holistic, based on **Grade Point Average (GPA)**, Scholastic Aptitude Test (**SAT**)/American College Testing (**ACT**), essays, and extracurriculars. Unlike China and Singapore, US tests are optional and run by private nonprofit organizations.

### ➤ Paper Leaks:

- ♦ The recurring crisis of public examination paper leaks in India undermines meritocracy, violates distributive justice, and inflicts profound mental and financial trauma on millions of aspirants.
- ♦ This structural vulnerability is deeply linked to the institutional and operational limitations of the National Testing Agency (NTA):
  - ♦ **Statutory Deficit:** Unlike the constitutional UPSC, the NTA operates as a “Society” under the Societies Registration Act, 1860, leaving it with limited administrative teeth and a perceived lack of sovereign accountability.
  - ♦ **Personnel Constraints:** The agency lacks a permanent institutional cadre, relying heavily on contractual staff and external deputations, which compromises long-term security protocols and a strict “culture of secrecy”.
  - ♦ **Single-Point Failure Risk:** The “Mega-Exam” model (testing over 20 lakh candidates on a single day via pen-and-paper) creates a catastrophic risk profile where a breach at any single node collapses the national system.

- ♦ **Outsourcing Vulnerabilities:** Massive dependence on third-party private vendors for printing, transport, and center invigilating introduces numerous human touchpoints prone to manipulation by organized cheating syndicates.

### Measures Needed to Strengthen Education in India

- **Improving Infrastructure:** Greater investment is required for providing safe classrooms, drinking water, electricity, toilets, playgrounds, and digital infrastructure in schools.
- **Strengthening Teacher Training:** Teachers require systematic pre-service and continuous professional training in modern pedagogy, technology integration, and subject expertise.
- **Increasing Public Investment:** Public expenditure on education should be increased in line with the NEP target of 6% of GDP. Public-private partnerships and targeted grants can also improve quality and access.
- **Promoting Inclusive Education:** Greater support is needed for tribal and disadvantaged children through multilingual education, bridging courses, and expansion of schemes such as Eklatya Model Residential Schools.
- **Reforming Curriculum and Assessment:** Education should move “from rote to reason” by promoting critical thinking, creativity, project-based learning, and competency-based assessments through initiatives such as PARAKH.
- **Bridging the Digital Divide:**
  - ♦ Broadband connectivity must be expanded in rural areas.
  - ♦ Affordable digital devices and digital literacy programmes are necessary for both teachers and students.
- **Promoting Gender Inclusion:** Scholarships, safety measures, awareness campaigns, and targeted support are necessary for improving girls' education, especially in rural areas.
- **Enhancing Research and Innovation:** Greater investment is needed in research, innovation, and interdisciplinary collaboration among educators, policymakers, technologists, and social scientists.

### Conclusion

- India's education sector has witnessed major reforms through NEP 2020, digital learning initiatives, skill-based education, and expansion of higher education.
- However, challenges such as infrastructure gaps, teacher shortages, socio-economic inequalities, digital divide, and uneven implementation continue to affect educational outcomes.
- Strengthening governance, increasing public investment, promoting inclusive and multilingual education, and encouraging innovation and research are essential for building an equitable, flexible, and future-ready education system aligned with the goals of quality education under SDG 4.

# NFHS-6

The Ministry of Health and Family Welfare (MoHFW) has released the National Family Health Survey (NFHS)-6.

## About NFHS-6

- Conducted during **2023–24** with the **International Institute for Population Sciences (IIPS), Mumbai** as the nodal agency, the survey covered nearly **6.79 lakh households** across **715 districts**.
- The survey provides crucial evidence on **population, health, nutrition, family welfare, women's empowerment, and disease burden**, supporting policy planning and programme implementation up to the district level.

## Significance of NFHS-6

- NFHS-6 serves as one of India's most important databases for assessing demographic, health, nutrition, and social development indicators.
- It helps evaluate the effectiveness of government programmes and identify emerging developmental challenges.
- The findings highlight both India's achievements in human development and the growing burden of lifestyle-related diseases.

## Maternal, Child Health and Nutrition Outcomes

- India has recorded significant improvements in **maternal healthcare services**. Around **95.9%** of pregnant women received antenatal care (ANC), while mothers receiving ANC during the first trimester increased from **70.0% to 76.2%**.
- **Institutional deliveries** increased from **88.6% to 90.6%**, while births attended by skilled health personnel improved from **89.4% to 91.3%**, indicating stronger maternal healthcare coverage.
- Maternal nutrition also improved considerably. Women consuming **Iron-Folic Acid (IFA) supplements** for 100 days or more during pregnancy increased from **44.1% to 54.9%**, while those consuming supplements for 180 days or more rose from **26.0% to 37.8%**.
- Child healthcare indicators showed sustained progress. Full immunisation coverage among children aged **12–23 months** increased from **83.8% to 87.1%**. Around **95.6%** of children received most vaccinations through public health facilities, while coverage of at least one vaccine remained above **96%**.
- Breastfeeding practices remained strong, with **95.6%** of children below six months being breastfed during the survey period.
- Nutrition indicators among children improved substantially. **Stunting** declined from **35.5% to 29.3%**, while **severe wasting** reduced from **7.7% to 5.2%**. The prevalence of **underweight children** also declined marginally from **32.1% to 31.8%**.

- At the same time, **Caesarean section deliveries** increased sharply from **21.5% to 27.2%**, with the rate reaching **40% in urban areas**, significantly above the **WHO recommended range of 10–15%**.

## Demographic and Family Welfare Trends

- As per the NFHS-6 India's **Total Fertility Rate (TFR)** was recorded at 2.0, indicating continued progress towards population stabilisation. According to the latest Sample Registration System (**SRS**) Statistical Report 2024, India's Total Fertility Rate (**TFR**) has declined to 1.9.
- The **Contraceptive Prevalence Rate (CPR)** increased from **66.7% to 69.1%**, reflecting greater adoption of family planning measures and increasing emphasis on maternal and child well-being.
  - ♦ CPR is generally defined as the *percent of women of reproductive age (15-49 yrs) using any method of contraception* at a given point in time.
  - ♦ It is usually calculated for married women of reproductive age, but sometimes for other base population, such as all women of reproductive age at risk of pregnancy.
- These trends indicate continued demographic transition accompanied by improvements in reproductive health services and family welfare programmes.

## Non-Communicable Diseases and Lifestyle Disorders

- NFHS-6 highlights a significant rise in **obesity and diabetes**, signalling a growing burden of non-communicable diseases (NCDs) across the country.
- According to the **World Health Organization (WHO)**, obesity refers to abnormal or excessive accumulation of body fat that poses health risks and is commonly measured using **Body Mass Index (BMI)**.
- Obesity among women increased from **24% to 30.7%**, while urban women recorded a much higher prevalence of **42.8%** compared to **25.5%** in rural areas.
- Obesity among men increased from **22.9% to 27.3%**, with urban prevalence reaching **36.3%** compared to **23%** in rural areas.
- Diabetes, a chronic metabolic disorder characterised by elevated blood glucose levels due to inadequate insulin production or ineffective insulin utilisation, also showed a worrying rise.
- High blood sugar prevalence among men aged 15 years and above increased from **15.6% to 20.9%**, while among women it increased from **13.5% to 17.8%**.
- Urban populations reported higher prevalence than rural populations for both obesity and diabetes.

- The rise of obesity is particularly concerning because it increases the risk of **diabetes, cardiovascular diseases, hypertension, stroke, and certain cancers**.
- India already has more than **10 crore people living with diabetes**, according to the **ICMR-INDIAB Study**.
- The growing burden of NCDs increases healthcare expenditure, reduces workforce productivity, and may adversely affect India's **demographic dividend**.
- Childhood and adolescent obesity also increase the likelihood of lifelong health complications and adult NCDs.

### Women's Empowerment, Financial Inclusion and Social Development

- NFHS-6 records notable improvements in women's empowerment and access to resources.
- Women who had ever used the internet nearly doubled from **33.3% to 64.3%**, indicating expanding digital inclusion.
- Women operating their own bank or savings accounts increased from **78.6% to 89.0%**, reflecting greater financial independence.
- Women owning and using mobile phones increased from **53.9% to 63.6%**.
- The use of hygienic menstrual protection methods among women aged **15–24 years** increased from **77.6% to 79.2%**.
- These improvements indicate stronger participation of women in economic, digital, and social spheres.

### Expansion of Health Protection and Public Health Response

- Household coverage under **health insurance and health financing schemes** increased significantly from **41.0% to 60.2%**, improving financial protection against health-related expenses.
- The government has strengthened its response to nutrition challenges and lifestyle diseases through multiple interventions.
- The **National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD)** focuses on health promotion, behavioural change, screening, early diagnosis, treatment, referral, and follow-up care.
- The **All India Institute of Ayurveda (AIIA)** and **Ayurswasthya Yojana** support management of obesity and lifestyle-related disorders through AYUSH-based interventions.
- **POSHAN Abhiyaan** seeks to improve nutritional outcomes among children, adolescent girls, pregnant women, and lactating mothers through a convergent approach.
- The **Fit India Movement** promotes physical activity and healthier lifestyles through initiatives such as Fit India School Certification and Fit India Sundays on Cycle.
- The **Eat Right India Movement** encourages safe, healthy, and sustainable dietary practices.
- To address unhealthy food consumption, **FSSAI**, in collaboration with **ICMR-NIN**, has recommended mandatory labelling of **High Fat, Salt and Sugar (HFSS)** foods.

### Key Challenges

- Rising sedentary lifestyles, increased screen time, desk-based occupations, and declining physical activity are contributing to obesity.
- Growing consumption of ultra-processed foods rich in sugar, salt, and fat is worsening health outcomes.
- A significant number of diabetes cases remain undiagnosed until complications emerge.
- Urban areas report a higher burden of obesity and diabetes, while rural healthcare systems often remain less prepared to manage NCDs.
- Long-term treatment of obesity-related illnesses creates substantial financial burdens for both households and governments.
- India continues to face a **dual burden of malnutrition**, where persistent undernutrition exists alongside rising obesity and lifestyle-related diseases.

### Way Forward

- Greater emphasis should be placed on preventive healthcare through awareness regarding healthy diets, physical activity, and regular health check-ups.
- Screening and early diagnosis should be strengthened through primary healthcare systems and Ayushman Bharat initiatives.
- Healthier food choices should be encouraged through improved food labelling and stronger regulation of **HFSS foods**.
- Urban planning should promote active lifestyles through walking tracks, cycling lanes, and public recreational spaces.
- A **whole-of-government approach** integrating health, nutrition, education, food regulation, and urban planning is essential for addressing the growing burden of NCDs while sustaining gains in maternal and child health.

### Conclusion

- NFHS-6 reflects India's continued progress in **maternal health, child healthcare, nutrition, family welfare, financial inclusion, women's empowerment, and health protection**.
- At the same time, the survey highlights an ongoing **epidemiological transition**, where traditional concerns of undernutrition increasingly coexist with rising obesity, diabetes, and other non-communicable diseases.
- The findings underscore the need to sustain gains in reproductive and child health while strengthening preventive healthcare, lifestyle modification, and early disease management.
- Achieving this balance will be critical for protecting India's demographic dividend, improving human capital, and advancing the country's long-term public health and Sustainable Development Goals.

# DEMOGRAPHIC CHANGES

The Union Government has constituted a High-Level Committee under the chairmanship of Justice Prakash Prabhakar Navlekar to examine demographic changes arising from illegal immigration and other abnormal factors.

## Committee Mandate and Objectives

- The committee has been asked to submit its report within one year, with a provision for a six-month extension.
- The committee will undertake a comprehensive and data-driven assessment of demographic changes across India and identify regions witnessing unusual population shifts.
- It will analyse demographic changes among different religious and social communities, particularly where population trends deviate significantly from broader national patterns.
- The committee will examine factors contributing to demographic change, including **illegal cross-border migration, abnormal settlement patterns, orchestrated migration, economic opportunities, and socio-environmental factors.**
- It will recommend an institutional framework for **long-term demographic monitoring and population stabilisation.**
- The committee will suggest a permanent and time-bound mechanism for the identification, detention, and deportation of illegal immigrants. It will propose measures to strengthen border management through improved surveillance systems, better identity verification mechanisms, and enhanced inter-agency coordination.
- The committee will also recommend measures to improve cooperation between the Union and State Governments in addressing demographic challenges.

## Why Demographic Changes Matter?

### National Security and Sovereignty

- Unregulated migration across porous borders may create challenges related to infiltration, organised crime, border instability, and internal security.
- In **Sarbananda Sonowal v. Union of India (2005)**, the Supreme Court observed that large-scale illegal immigration into Assam amounted to a form of **external aggression** and highlighted the Union's responsibility under **Article 355**.
- Illegal migration routes may also be exploited by transnational networks involved in human trafficking, arms smuggling, and other unlawful activities.

### Social Stability and Community Relations

- Significant demographic changes involving religion, ethnicity, language, or migration patterns can intensify identity-based politics and social tensions.
- The ethnic violence in **Manipur** highlighted how demographic anxieties relating to land ownership, political representation, and community identity can contribute to instability.
- Changes in population composition often influence local political dynamics and social cohesion.

## Protection of Indigenous and Tribal Communities

- Tribal and indigenous communities, especially in the North-East, have expressed concerns regarding the preservation of cultural identity, land rights, and political representation.
- In several tribal regions, demographic changes are perceived as a challenge to traditional social structures and constitutional protections.
- The **Upamanyu Hazarika Commission (2015)** warned that if prevailing demographic trends continue, indigenous communities in Assam could face significant demographic pressures in the future.
- Concerns regarding land alienation remain particularly relevant in protected regions governed by special constitutional and legal safeguards.

## Pressure on Resources and Public Services

- Large-scale migration may increase pressure on housing, healthcare, education, welfare schemes, and employment opportunities.
- Several border districts have reported concerns regarding land encroachment, competition for jobs, and increased demand for public services.
- Understanding demographic trends is therefore essential for effective development planning and resource allocation.

## Electoral Integrity and Governance

- Concerns have been raised regarding the misuse of identity documents and irregular entries in electoral rolls.
- Accurate demographic assessment can help strengthen the integrity of electoral processes and improve governance outcomes.
- Measures such as electoral roll verification and demographic monitoring are often viewed as important components of institutional accountability.

## India's Demographic Transition

### Declining Fertility and Population Stabilisation

- According to NFHS-5, India's Total Fertility Rate (TFR) has declined to around 2.0, below the replacement level of 2.1.
- The Sample Registration System (SRS) reports that India's TFR has further declined to 1.9, indicating a gradual movement towards population stabilisation.
- India's birth rate declined from 21 per 1,000 population in 2014 to 18.3 per 1,000 population in 2024.
- These trends reflect rising urbanisation, increasing literacy, improved healthcare, better access to family planning, delayed marriages, and changing family preferences.



### Regional Variations

- Southern states such as Kerala and Tamil Nadu have fertility levels comparable to developed countries and are increasingly experiencing population ageing.
- States such as Bihar and Uttar Pradesh continue to record relatively higher fertility rates and are expected to contribute significantly to India's future workforce.
- The widening demographic divide between northern and southern states is likely to increase the importance of internal migration in the coming decades.

### Demographic Dividend and Emerging Challenges

- India currently enjoys a significant demographic dividend due to its large working-age population.
- The median age of India's population is around 28–29 years, substantially lower than many developed countries.
- Approximately 370–380 million people belong to the 15–29 age group, while over 65% of the population is below 35 years of age. However, the working-age population is expected to peak by 2041, while the elderly population is projected to increase sharply from around 149 million to nearly 347 million by 2050.
- Without adequate investments in education, skilling, and employment generation, the demographic dividend may not translate into long-term economic gains.

### Migration and Border-Related Challenges

- India shares a **4,096 km border with Bangladesh**, a **1,643 km border with Myanmar**, and a **3,323 km border with Pakistan**, making border management a critical governance challenge.
- The **Assam Movement (1979–1985)** emerged in response to concerns regarding illegal immigration and eventually led to the **Assam Accord**.
- Political instability following the **2021 military coup in Myanmar** increased the inflow of **Chin refugees** and **Rohingya migrants** into border states such as Manipur and Mizoram.
- Cross-border infiltration along the India–Pakistan border has long been associated with security concerns, terrorism, and militancy.
- The **Lt. Gen. S.K. Sinha Report (1998)** highlighted the security implications of demographic changes in the North-East and warned against the long-term consequences of unchecked migration.
- The **Madhukar Gupta Committee (2016)** recommended the **Comprehensive Integrated Border Management System (CIBMS)** based on advanced surveillance technologies, thermal imaging systems, sensors, and technology-driven monitoring of vulnerable border regions.

### Constitutional and Legal Framework

- **Article 355** places a constitutional duty on the Union to protect every State against external aggression and internal disturbance.

- The **Foreigners Act, 1946** empowers the government to identify, detain, and deport foreigners and places the burden of proving citizenship on the concerned individual.
- The **Citizenship Act, 1955** provides the statutory framework for acquisition and termination of citizenship, while **Section 6A** was introduced to implement provisions arising from the Assam Accord.
- The **Fifth Schedule** and **Sixth Schedule** provide safeguards for tribal communities, including protection of their land rights, culture, and autonomy.
- Special legal protections such as the **Santhal Pargana Tenancy Act, 1876** seek to prevent alienation of tribal land and preserve indigenous interests.
- In **Assam Sanmilita Mahasangha v. Union of India (2014)**, the Supreme Court directed a time-bound update of the **NRC** to identify undocumented immigrants.

### Key Challenges

- The absence of updated Census data since **2011** limits the accuracy of demographic assessment and evidence-based policymaking. Migration-related measures may raise concerns regarding discrimination, wrongful exclusion, social polarisation, and protection of human rights.
- States often adopt differing political and administrative approaches towards migration-related issues, creating implementation challenges.
- Effective management of India's extensive and porous international borders requires substantial investments in infrastructure, technology, and institutional capacity.
- Balancing national security concerns with constitutional protections and federal principles remains a complex governance challenge.

### Way Forward

- Border fencing, surveillance infrastructure, and technology-based monitoring systems should be strengthened to prevent illegal infiltration. The **2027 Census** should be conducted on schedule and supported by stronger civil registration and demographic data systems.
- Mechanisms relating to identification, detention, and deportation should follow due process and constitutional safeguards. Technology-driven systems such as **CIBMS** should be expanded across vulnerable border regions.
- Greater coordination between the Union and State Governments is required for effective demographic management. Population stabilisation efforts should focus on **women's education, healthcare access, awareness generation, and voluntary family planning measures**, while avoiding coercive approaches.
- Formal frameworks for safe and regulated internal migration should be developed to address emerging labour market requirements across different regions.

## KEY CONCEPTS

### Fertility & Mortality Indicators

These are the fundamental metrics used by the government to track population growth and health trajectories.

- **Crude Birth Rate (CBR):** The annual number of live births per 1,000 population.
- **Crude Death Rate (CDR):** The annual number of deaths per 1,000 population.
- **Total Fertility Rate (TFR):** The average number of children that would be born to a woman during her lifetime if she were to pass through her childbearing years conforming to the age-specific fertility rates of a given year.
- **Replacement-Level Fertility:** The exact TFR at which a population exactly replaces itself from one generation to the next without migration.
  - ♦ Globally, this is anchored at 2.1. India has successfully broken below this threshold, reaching a stable national TFR of 2.0 ( NFHS-6 data).
- **Infant Mortality Rate (IMR):** The number of deaths of children under one year of age per 1,000 live births in a given year.
- **Maternal Mortality Ratio (MMR):** The number of maternal deaths during pregnancy, childbirth, or within 42 days of termination of pregnancy, per 100,000 live births. (Note the denominator difference: IMR is per 1,000; MMR is per 100,000).

### Structural Composition Indicators

These indicators reflect the internal balance, equity, and future trajectory of a society's population.

- **Sex Ratio:** In India, this is defined as the number of females per 1,000 males in the population.
- **Child Sex Ratio (CSR):** The number of females per 1,000 males in the 0–6 years age group. A declining CSR is a critical focus area for social justice and gender issues (e.g., Beti Bachao Beti Padhao intervention).
- **Dependency Ratio:** The ratio of the economically dependent population (typically individuals under 15 and over 64 years of age) to the working-age population (15–64 years).
- **Population Pyramid (Age-Sex Pyramid):** A graphical illustration that shows the distribution of various age groups in a population, which forms the shape of a pyramid when a population is growing.

### The Demographic Transition and Other Concepts

- **Demographic Dividend:**
  - ♦ The economic growth potential that can result from shifts in a population's age structure, mainly when the share of the working-age population (15 to 64) is larger than the non-working-age share of the population.
  - ♦ To reap this dividend, India requires immediate policy convergence across education, skill development, health, and employment creation.
- **Demographic Window of Opportunity:**
  - ♦ A specific period in a nation's demographic evolution when the proportion of children decreases and the proportion of the elderly is not yet significant, causing the dependency ratio to hit its historical minimum.
  - ♦ India's window opened around 2005–06 and is projected to last until roughly 2055–56.
- **Epidemiological Transition:**
  - ♦ A long-term shift in the health and disease pattern of a population, whereby infectious and nutritional diseases (like tuberculosis and undernutrition) are progressively replaced by non-communicable, chronic, and degenerative lifestyle diseases (like diabetes, cardiovascular conditions, and obesity).
  - ♦ NFHS-6 highlights that India is currently living through the peak of this dual-burden transition.
- **Population Momentum:** The tendency of a population to continue growing even after replacement-level fertility (TFR of 2.1) has been achieved. This occurs because the large cohort of youth born during previous high-fertility years is currently moving into their childbearing years, ensuring a high absolute volume of births.
- **Replacement Migration:** The international migration that a country would need to offset population decline and population aging resulting from low fertility and mortality rates.
- **Active Ageing / Silver Economy:** The process of optimizing opportunities for health, participation, and security in order to enhance the quality of life as people age. The "**Silver Economy**" refers to the dedicated economic system of production, distribution, and consumption of goods and services aimed at utilizing the purchasing power of older segments of the population.
- Crucial for analyzing Southern states (like Kerala and Tamil Nadu) that are entering advanced demographic aging decades ahead of Northern states (like Bihar and Uttar Pradesh).

# GOVERNOR'S ROLE IN STATE

The 2026 Tamil Nadu Assembly elections resulted in a hung Assembly. Tamilaga Vetti Kazhagam (TVK) emerged as the single largest party with 108 seats, falling short of the 118-seat majority mark in the 234-member House.

## Hung Assembly

- A **hung Assembly** arises when no single party or pre-poll alliance secures an absolute majority in the Legislative Assembly.
- In such a situation, the Constitution does not provide an automatic mechanism for government formation, making the Governor's role crucial.

## Constitutional Setup

- Under **Article 164(1)**, the Governor appoints the **Chief Minister** and the **Council of Ministers**.
- Under **Article 163**, the Governor ordinarily acts on the advice of the Council of Ministers, except in matters where the Constitution permits discretion.
- **Article 163(2)** states that if any question arises regarding the Governor's discretionary power, his decision is final.
- Therefore, in a hung Assembly, the Governor becomes the constitutional authority responsible for ensuring the formation of a stable government while preserving **parliamentary democracy**, **collective responsibility**, and **constitutional governance**.

## Procedure of Government Formation

- The Governor first identifies the political party or alliance that appears most likely to command majority support in the House. The Governor then invites the leader of that party or alliance to form the government and fixes a time for administering the oath.
- A **pro-tem Speaker**, usually the senior-most legislator, is appointed to administer the oath to newly elected MLAs and conduct the floor test.
- The **floor test** or **trust vote** is the most important constitutional process in a hung Assembly because it determines whether the government enjoys the confidence of the House.
- The Governor's role is not to determine the majority by personal satisfaction, but to facilitate the earliest possible floor test.
- If no party is able to demonstrate majority support, the Governor may continue consultations with political parties, alliances, and independents within a reasonable time.
- If all possibilities fail, the Governor may recommend **President's Rule** under **Article 356** as the last constitutional remedy.

## Key Recommendations

- The **Sarkaria Commission (1983)** laid down a clear order of preference for inviting parties to form the government.

- ♦ It recommended that the Governor should first invite a **pre-poll alliance** with a majority because it represents a clear electoral mandate.
- ♦ If no such alliance exists, the Governor should invite the **single largest party** that can demonstrate majority support with the help of others, including independents.
- ♦ The next preference should be a **post-poll coalition** where all coalition partners join the government.
- ♦ The final option should be a **post-poll alliance** where some parties form the government and others extend outside support.
- The **Punchhi Commission (2007)** broadly endorsed the Sarkaria framework and emphasised that Governors must act with **constitutional neutrality** and not as political agents.
  - ♦ It further recommended that floor tests should be held at the earliest to avoid uncertainty and political manipulation.

## Judicial Evolution of the Floor Test Principle

- The Supreme Court has consistently strengthened the principle that legislative majority must be tested on the floor of the House.
- In **S. R. Bommai v. Union of India (1994)**, the Court held that the Governor must invite the leader who appears to command majority support, but the ultimate test of majority lies on the Assembly floor.
  - ♦ The Court clarified that constitutional legitimacy flows from legislative confidence and not from the Governor's subjective satisfaction.
- In **Rameshwar Prasad v. Union of India (2006)**, the Court warned against premature dissolution of Assemblies and held that parties must be given a fair opportunity to form the government.
- In the **Uttarakhand crisis (2016)**, the Court described the floor test as the "ultimate constitutional method" for determining majority.
- In the **Goa political crisis (2017)**, the Court allowed **Manohar Parrikar** to form the government despite Congress being the single largest party, but ordered a floor test within **48 hours**.
- In the **Karnataka political crisis (2018)**, the Court reduced the time for proving majority from **15 days to 24 hours**, emphasising transparency and urgency.
- These judgments have firmly established that the **Assembly floor**, and not the Governor's office, is the final arena of democratic legitimacy.

## Notable Concerns

- Delays in inviting parties to form the government can encourage **horse-trading**, political defections, and instability.
  - ◆ **Horse trading** refers to unethical dealings between political parties. The goal is to win over lawmakers, MPs or MLAs, from rival parties. This is done through various illegal or unethical means.
- Demanding letters of support instead of immediately ordering a floor test can prolong uncertainty and weaken democratic confidence.
- There are growing concerns that discretionary powers may be misused to favour political interests rather than constitutional principles.
- Such misuse can undermine **federal neutrality**, weaken the principle of **collective responsibility**, and distort the functioning of **parliamentary democracy**.
- The increasing judicial intervention in hung Assembly cases reflects the recurring tension between constitutional discretion and political practice.

- ◆ This raises broader questions about whether clearer statutory guidelines are needed to regulate the Governor's conduct.

## Conclusion

- In a hung Assembly, the Governor plays a critical constitutional role, but this role is that of a **constitutional facilitator** and not a **political arbiter**. The Governor's primary responsibility is to ensure the formation of a stable government while preserving constitutional morality and democratic legitimacy.
- Commission recommendations and Supreme Court judgments have made it clear that the **floor test** is the most objective and transparent mechanism for determining majority.
- It acts as an institutional safeguard against subjective discretion and protects the principles of **federalism**, **representative democracy**, and **responsible government**.
- Therefore, in India's parliamentary system, the true test of power must always take place in the **Legislative Assembly** and not in the **Raj Bhavan**.



## GOVERNOR'S ROLE IN THE REMOVAL OF A CHIEF MINISTER

### Challenging Election Integrity

- An election outcome can be contested under Section 81(1) by submitting an election petition to the High Court within 45 days of the result declaration. Section 100 of the **Representation of the People Act, 1951** covers grounds for declaring election to be void.
- Valid grounds include corrupt practices or election rule violations by officials.
- Furthermore, a writ petition can be filed if the fairness of the voting process is questioned, such as the mass deletion of names during voter roll updates, which can be treated as a fundamental rights violation.

### Governor's Role

- According to **Article 164(1)** of the Constitution, the Governor appoints the Chief Minister, and ministers remain in office "during the pleasure of the Governor."
- To stop any arbitrary use of this authority, the Governor normally acts based on the "aid and advice" of the Council of Ministers.
- **Mechanism for Removal:** If the Governor suspects that a Chief Minister has lost the majority support of the Legislative Assembly, a floor test must be held in the House.

- ◆ A floor test (also called a 'trust vote') is a tool used in legislative bodies to find out whether the government that is suspected to have lost the majority still retains the confidence of the House. This is done through a vote among the members.
- ◆ During this vote, the Chief Minister must prove they command the backing of more than half of the MLAs.
- ◆ If they fail to show this majority, they must resign.
- ◆ As a final option, if no political party can establish a stable administration, President's Rule under Article 356 can be enforced.
- **Judicial and Constitutional Provisions:**
  - ◆ In **A.G. Perarivalan v. State**, the Supreme Court confirmed that the Governor operates as a **formal, constitutional figurehead** rather than an independent decision-maker in normal affairs, generally following ministerial advice.
  - ◆ Separately, Article 172 defines the lifespan of a State Legislative Assembly, stating it lasts for five years from its initial meeting unless dissolved sooner.
  - ◆ Once this five-year timeframe concludes, the Assembly dissolves automatically to clear the path for a new government.



# NEW LABOUR CODES

The Government of India has announced the implementation of the four Labour Codes with effect from 21st November 2025 rationalising 29 existing labour laws.

## About

- The four Labour Codes include the **Code on Wages, 2019, the Industrial Relations Code, 2020, the Code on Social Security, 2020 and the Occupational Safety, Health and Working Conditions Code, 2020.**
- The key reasons behind this reform is simplifying compliance as multiplicity of laws leads to difficulty in compliance.

### Constitutional Anchor

- Labour falls under the Concurrent List (Seventh Schedule) of the Constitution.
- **Labour Force Participation Rate (LFPR), 2024:** 60.1% overall, with female LFPR at 41.7%. Total employment in 2023–24 stood at 64.33 crore.
- Nearly 90% of India's workforce is engaged in the unorganised sector.

## 1. The Code on Wages, 2019:

- Subsumes four laws (Payment of Wages, Minimum Wages, Payment of Bonus, and Equal Remuneration Acts). It prohibits paying wages below the statutory minimums set for employees across both organized and unorganized sectors.
- The Central Government will notify a regional statutory "floor wage" as a baseline that state-level minimum wages cannot drop below. It expands protections for timely wage payments and caps on deductions, while mandating overtime pay at twice the regular wage rate.

## 2. The Industrial Relations Code, 2020

- Combines three laws (Trade Unions, Industrial Employment Standing Orders, and Industrial Disputes Acts). It introduces Fixed Term Employment for direct, time-bound contracts, providing these workers with pro-rata parity in wages and statutory benefits like gratuity.
- Additionally, it raises the factory workforce threshold requiring prior government approval for layoffs, retrenchments, or closures from 100 to 300 workers.

## 3. The Code on Social Security, 2020

- Consolidates multiple existing social security laws, including the Employees' Compensation and Maternity Benefit Acts. It broadens the reach of the Employees' State Insurance Corporation (ESIC) and the Employees' Provident Fund (EPF) systems.
- Crucially, it legally defines gig workers, platform workers, and aggregators to bring them under social security coverage financed through a dedicated fund.

## 4. The Occupational Safety, Health and Working Conditions Code, 2020

- Merges 13 safety-related laws, including the Factories, Plantation Labour, and Mines Acts. It strengthens workplace welfare by requiring employers to provide free annual health examinations for workers in notified establishments.
- Its comprehensive safety rules apply uniformly to all mines, docks, and establishments engaged in hazardous or life-threatening work.

## Significance

- **Formalisation Push:** Universal minimum wage and ESIC coverage incentivise employers to formalise workforce, expanding EPF and ESIC contributor base and strengthening social security financing.
- **Manufacturing Competitiveness:** FTE and revised retrenchment thresholds improve operational flexibility, making India more competitive with Vietnam and Bangladesh for global labour-intensive manufacturing investment.
- **Gender Equity:** Equal Remuneration Act consolidation and maternity benefit retention within Code on Social Security strengthens women's workplace rights across formal and informal sectors.
- **Gig Economy Protection:** First statutory recognition of platform workers positions India ahead of most G20 economies in extending social protection to digital labour market participants.

## Challenges

- **Uneven Implementation:** Different state rules may recreate regulatory fragmentation.
- **Gig Worker Coverage Gaps:** Social security funding and aggregator contribution mechanisms remain unclear.
- **Trade Union Concerns:** Higher retrenchment thresholds may weaken job security and increase disputes.
- **Definitional Ambiguities:** Terms like fixed-term employment and gig worker require judicial clarification for uniform application.

## Way Forward

- **Mandate uniform state rules under all four codes** within a defined timeline, ensuring the reform's benefits are not diluted by 28 divergent state-level implementations.
- **Operationalise the Social Security Fund for gig workers** immediately with mandatory aggregator contributions.
- **Establish a unified Labour Management Information System** integrating all four codes' compliance reporting, reducing inspector visits and enabling data-driven enforcement.

# WOMEN AND MEN IN INDIA 2025 REPORT

Recently, the Ministry of Statistics and Programme Implementation (MoSPI) released the 27th edition of the report Women and Men in India, 2025. The report presents gender-disaggregated data across various indicators.

## Key Aspects of the Report

### Population and Health Transformation

- India's population growth has followed an **inverted U-shaped trend**, peaking during **1971–1981** and declining steadily afterward. This indicates India's movement into the **demographic dividend phase**, which may gradually shift towards population ageing.
- The **sex ratio at birth** improved from **904 (2017–19)** to **917 (2021–23)**, showing better survival of girl children. However, persistent **son preference** continues to remain a challenge.
- In **2023**, the highest sex ratio was recorded in **Arunachal Pradesh (1085)**, followed by **Nagaland (1007)** and **Goa (973)**, while the lowest was reported in **Jharkhand (899)** and **Bihar (900)**.
- India's **Total Fertility Rate (TFR)** remains at **2.0**, indicating movement towards population stabilisation, while urban fertility has declined further between **2019 and 2023**.
- The **mean age at marriage for women** has steadily increased since **2021**, showing delayed marriage and improved educational and social outcomes.
- Maternal healthcare indicators improved significantly. **95.9%** of pregnant women received **antenatal care (ANC)**, and first-trimester ANC coverage increased from **70.0% to 76.2%**.
- Institutional deliveries rose from **88.6% to 90.6%**, while births attended by skilled health personnel increased from **89.4% to 91.3%**, reflecting better maternal healthcare access.
- Maternal nutrition improved as women consuming **iron-folic acid supplements for 100 days** increased from **44.1% to 54.9%**, while those consuming them for **180 days** increased from **26.0% to 37.8%**.
- The **Maternal Mortality Ratio (MMR)** declined sharply from **254 (2004–06)** to **88 (2021–23)**, while **infant mortality rates** for both boys and girls also declined steadily between **2008 and 2023**.
- Child nutrition outcomes improved as **95.6%** of children below six months were breastfed, **stunting** declined from **35.5% to 29.3%**, **severe wasting** declined from **7.7% to 5.2%**, and **underweight prevalence** declined from **32.1% to 31.8%**.

### Emerging Health Concerns

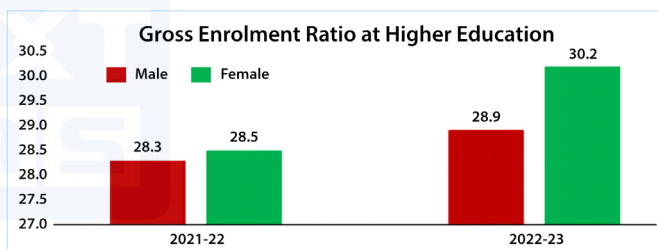
- Female sterilisation** remains the most commonly adopted family planning method, accounting for **37.9%** of usage, showing limited diversification in contraceptive choices.
- Caesarean section deliveries** increased sharply from **21.5%** to **27.2%**, while urban India recorded a much higher rate of **40%**, far above the WHO recommended range.

- Mizoram** reported the highest HIV prevalence for both men and women, while **Kerala** reported the lowest, showing regional disparities in disease burden.
- Tuberculosis** continues to remain more prevalent among men, reflecting persistent public health challenges.

### Education and Human Capital Transformation

#### Access and Parity

- Literacy rates improved for both men and women across rural and urban India, reflecting expanding educational access.
- India has achieved **gender parity** across all stages of school education from primary to higher secondary level.
- The **Gross Enrolment Ratio (GER)** in higher education improved for both genders. Female GER increased from **28.5 to 30.2**, while male GER increased from **28.3 to 28.9**.
- Dropout rates for both boys and girls declined between **2022–23 and 2024–25** under the **National Education Policy (NEP)** framework.



#### Learning and Skill Patterns

- The **Mean Years of Schooling (MYS)** for persons aged 15 years and above stands at **8.4 years**, while women record **7.4 years**, reflecting a continuing educational gap.
- Thirty out of thirty-six States and Union Territories** recorded a **Gender Parity Index (GPI) of 1.00 or above**, showing balanced school participation.
- More women are concentrated in **Arts, Science, Social Science, and Medical Science**, while men dominate **Engineering, IT, Management, and Law**, indicating early occupational segmentation.
- This shows that although access has improved, structural inequalities continue to influence educational and professional choices.

### Economic Participation, Care Economy and Leadership

#### Workforce Participation

- Women's labour participation improved significantly, especially in rural India. Rural female **Labour Force Participation Rate (LFPR)** increased from **37.5% (2022)** to **45.9% (2025)**.

- The **Worker Population Ratio (WPR)** for persons aged 15 years and above stood at **76.6% for males** and **38.8% for females**, showing a significant gender gap.
- Women remain heavily concentrated in low-productivity sectors, with **72.7% of rural female workers** engaged in agriculture, while urban women are more concentrated in manufacturing.
- **Youth unemployment** remains highest in the **15–29 years age group**, especially in urban areas.

#### Leadership and Care Burden

- Women in managerial positions increased by **102.54%** between **2017 and 2025**, compared to **73.80%** for men, showing improving leadership roles.
- However, women continue to carry a much heavier burden of unpaid care work, spending **289 minutes per day** on unpaid domestic services compared to **88 minutes by men**.
- Although male unpaid work has increased and female paid work has also risen, the **care economy remains highly gendered**, limiting women's economic mobility and productivity.

#### Political Representation and Institutional Inclusion

##### Democratic Participation

- Women constitute **13.65%** of Members of Parliament and **9.86%** of ministerial positions, showing limited representation at higher political levels.
- Women account for **49.75%** of elected Panchayat representatives, with **16 States** reporting more than **50% representation**, showing stronger local-level participation.
- The highest women's representation in Panchayati Raj Institutions was recorded in **Assam (60.1%)**, followed by **Dadra & Nagar Haveli and Daman & Diu (56.93%)**, and **Chhattisgarh (56.5%)**.
- Female voter turnout exceeded male turnout in both the **2019 and 2024 General Elections**, reflecting stronger political agency.

##### Institutional Representation

- Women remain underrepresented in formal institutions. They hold only **14.30%** of approved judicial positions, while in the **Supreme Court** they form just **3.03%** of the permanent strength.
- The **defence sector** recorded an increase in women's participation between **2020 and 2025**, showing gradual institutional expansion.
- Women's participation in household decision-making has improved significantly, with more than **90% participation** reported in **16 States and 6 Union Territories**.
- This reflects improving agency at both public and private levels, though institutional leadership gaps remain.

## Challenges

### Violence and Digital Risks

- **Crimes against women** constituted **7.18%** of total crimes in **2023**, showing continued social insecurity.
- **West Bengal** recorded the highest share at **19.24%**.
- **Cybercrime against women** increased sharply from **4,242 cases (2017)** to **19,510 cases (2023)**, reflecting growing digital vulnerability.
- The most common cybercrimes include **cyber pornography**, **cyber stalking**, and **cyber bullying**, with **Karnataka**, **Maharashtra**, and **Uttarakhand** recording the highest cases.
- A decline in **child marriage** was observed between **2015–16** and **2019–21**, indicating gradual social reform.

## Governance Response

- Women continue to face **low urban workforce participation**, dominance of informal and unpaid work, wage inequality, limited asset ownership, and underrepresentation in leadership.
- The number of suicides increased among **men, women, and transgender persons** between **2018 and 2023**, reflecting wider social and mental health pressures.
- Stronger enforcement of laws against **gender discrimination** and **sex-selective practices** remains necessary.
- Expansion of **formal employment**, **skill development**, **digital literacy**, and **entrepreneurship opportunities** is essential for sustaining women's economic empowerment.
- Institutional support systems such as **childcare services**, **social security**, and **care economy reforms** are necessary to reduce unpaid care burdens.
- Women's representation in **Parliament**, **judiciary**, **corporate leadership**, and **administration** must increase for deeper institutional equality.
- Better use of **gender-disaggregated data** is essential for designing targeted and effective public policies.

## Conclusion

- The **Women and Men in India 2025 Report** reflects India's steady progress in health, education, labour participation, and democratic inclusion of women.
- At the same time, it shows that **structural inequalities** continue in employment, unpaid care work, institutional representation, and social security.
- As India moves through a major **demographic and social transition**, women's empowerment will be central to strengthening **human capital**, improving **labour productivity**, and sustaining the gains of the **demographic dividend**.
- In constitutional terms, this directly strengthens the vision of **Articles 14, 15, 39, and 42**, making gender justice a foundational pillar of **inclusive growth**, **social equity**, and **women-led development**.

# INDIGENOUS AI IN DEFENCE

India's defence establishment is accelerating efforts to build indigenous Artificial Intelligence (AI) systems in response to changing warfare patterns visible in the Russia-Ukraine and Iran-West Asia conflicts.

## AI and the Changing Nature of Warfare

### From Conventional Warfare to Intelligent Warfare

- Warfare is increasingly shifting from **manpower-intensive combat** to **data-driven and autonomous systems**, where speed of information processing has become as important as physical strength.
- AI improves **surveillance, reconnaissance, target acquisition, and precision strikes** by integrating data from multiple sources such as drones, sensors, satellites, and intelligence networks.
- In cyber warfare, AI strengthens defence systems through **automated threat detection, anomaly identification, and rapid response mechanisms**.
- AI-based battlefield analytics improve **real-time tactical planning**, reduce decision-making delays, and increase operational efficiency.

### Global Lessons and Strategic Pressures

- In the **Russia-Ukraine conflict**, the use of drones, satellite intelligence, and AI-assisted battlefield analysis highlighted the growing role of intelligent systems in warfare.
- In the **Iran-West Asia conflict**, AI-supported military targeting and operational planning demonstrated how future wars will increasingly depend on machine intelligence.
- China's doctrine of **"Intelligentised Warfare"** is rapidly integrating AI through drone swarms, robotic combat platforms, and intelligent command systems, creating strategic pressure on India.

### AI in India's Broader Defence Modernisation

- AI is now part of a wider defence technology transformation involving **autonomous systems, directed energy weapons, hypersonic platforms, and quantum technologies**.
- **Directed Energy Weapons (DEWs)** use concentrated electromagnetic energy such as lasers and microwaves instead of conventional ammunition, increasing speed and precision.
- **Hypersonic Weapon Systems**, including **Hypersonic Glide Vehicles (HGVs)** and **Hypersonic Cruise Missiles (HCMs)**, travel at speeds above **Mach 5** and can alter trajectories mid-course, making interception difficult.
- **Quantum technologies** are being explored for military logistics optimisation, **Quantum Key Distribution (QKD)** for secure communication, and advanced sensors for detecting submarines, stealth systems, and underground bunkers.
- India's indigenous hypersonic development includes projects like **Dhvani Hypersonic Glide Vehicle**, showing that AI is being integrated into a larger military modernisation framework.

## Why Indigenous AI Matters for India

### ➤ Strategic Autonomy:

- Dependence on foreign AI systems in strategic sectors can create vulnerabilities during geopolitical tensions.
- Indigenous systems ensure **sovereign control** over critical defence infrastructure and reduce strategic dependence.

### ➤ Data Security:

- Military AI systems process highly sensitive and classified defence data.
- Dependence on foreign platforms increases risks of **data leakage, cyber espionage, and external surveillance**.

### ➤ Reducing Import Dependence:

- Domestic AI capability can reduce India's long-term strategic technology imports.
- It can also strengthen India's **deep-tech startup ecosystem** and promote indigenous innovation.

## India's Defence AI Ecosystem

### Military Platforms and Operational Integration

- The Indian Army launched **Kautilya** and **Q-Force** as indigenous AI-enabled systems in **May 2026**.
- **Kautilya** focuses on structured data generation, AI-based analytics, and **Natural Language Processing (NLP)** for battlefield intelligence.
- **Q-Force** strengthens logistics, inventory, and sustainment management across difficult terrains.
- These systems improve **battlefield awareness, operational efficiency, and decision-making speed**.
- The Army has declared **2026 as the "Year of Networking and Data Centricity"** and **2027 as the year of AI integration into operations**.
- During **Operation Sindoor**, Indian Armed Forces reportedly achieved **94% targeting accuracy** through AI-supported fusion of drones, sensors, intelligence, and weapon systems.

### Role of Indian Startups

- **SarvamAI** is developing indigenous foundational AI models focused on multilingual and specialised domains.
- **BharatGen** is working on indigenous generative AI technologies that can support military intelligence and strategic communication.

## Governance and Institutional Architecture

### Innovation Ecosystem

- The **IndiaAI Mission**, approved in **2024**, provides the broader national framework for strengthening AI infrastructure, research, and startup ecosystems.



- **Innovations for Defence Excellence (iDEX)** connects startups and MSMEs with defence needs, promoting indigenous AI, autonomous systems, and surveillance technologies.
- **ADITI (Acing Development of Innovative Technologies with iDEX)** aims to develop **30 critical deep-tech and strategic technologies**, reducing import dependence.
- The **Technology Development Fund (TDF)** supports industries, startups, MSMEs, and academia in developing indigenous defence and dual-use technologies.

#### *Institutional Framework*

- The **Defence AI Council (DAIC)** and **Defence AI Project Agency (DAIPA)** provide dedicated institutional mechanisms for defence AI integration.
- The **Centre for Artificial Intelligence and Robotics (CAIR)** under DRDO acts as India's core AI research centre for intelligent systems and cyber defence.
- Together, these institutions represent a **civil-military innovation model**, where government, research institutions, and private startups jointly build strategic technologies.

#### **Key Challenges**

- India remains dependent on foreign companies for advanced **semiconductors** and **GPUs**, creating a major **technology sovereignty gap**.
- AI development requires massive computing power, large-scale data annotation, and continuous testing, making it expensive and infrastructure-heavy.
- Limited domestic access to **high-performance computing infrastructure** and large-scale data centres slows indigenous AI growth.
- Global **technology-denial regimes** and supply chain disruptions may affect access to critical hardware needed for defence AI systems.

#### **Conclusion**

- The Indian Army's launch of AI-enabled platforms like **Kautilya** and **Q-Force** in **2026** reflects a larger shift towards **network-centric, data-centric, and intelligent warfare systems**.
- The rise of AI in global conflicts shows that future warfare will increasingly depend on **autonomous systems, real-time data fusion, predictive intelligence, and cyber resilience**.
- For India, indigenous AI is not merely a technological upgrade but a core pillar of **strategic autonomy, defence preparedness, and national security sovereignty**.
- In the larger framework of **Atmanirbhar Bharat**, building a strong **civil-military innovation ecosystem** will be essential to secure India's place in next-generation warfare and maintain long-term strategic competitiveness.

#### **AI in Modern Warfare**

- **Lieutenant General Raj Shukla (Retd.)**, former Army Commander of the **Army Training Command (ARTRAC)**, has strongly advocated the rapid integration of **Artificial Intelligence (AI)** and software-driven capabilities into India's defence system.

#### **Key Arguments**

##### ➤ **Algorithmic Warfare:**

- ◆ He argues that modern warfare has entered the era of **algorithmic warfare**, where success increasingly depends on software, data, and intelligent systems.
- ◆ According to him, advanced military platforms like **Rafale fighter jets** and **missiles** are ineffective unless supported by software systems that can accurately guide, target, and optimize their deployment.

##### ➤ **Software Over Hardware:**

- ◆ He emphasizes that defence modernization must move from a hardware-focused model to a **software-first approach**.
- ◆ Modern weapons are only as effective as the **data systems, targeting frameworks, and predictive algorithms** that support them.

##### ➤ **Dedicated Military LLMs and Data Sovereignty:**

- ◆ He supports the creation of exclusive **Large Language Models (LLMs)** for military use.
- ◆ Military and operational data is highly sensitive and cannot be integrated into civilian data streams.
- ◆ Therefore, the armed forces require dedicated and secure AI architectures to ensure **data sovereignty** and operational security.

##### ➤ **Reforming Tech Bureaucracy:**

- ◆ He argues that simply assigning a **general** or an **additional secretary** to supervise AI without technical expertise is ineffective.
- ◆ He advocates placing **domain experts, data engineers, and technical specialists** at the centre of defence technology implementation.

##### ➤ **Civil-Military Fusion:**

- ◆ During his tenure at **ARTRAC**, he consistently promoted **Civil-Military Fusion**. He argues that the military should not rely only on **Defence Public Sector Undertakings (DPSUs)** or siloed defence budgets.
- ◆ Instead, it must actively integrate innovations from India's **civilian technology sector** and **startup ecosystem** to stay ahead of its **peer competitors** in modern warfare.

# FOREST RIGHTS ACT, 2006

The Allahabad HC held that the Forest Rights Act, 2006 overrides all earlier conflicting laws and judicial orders while setting aside a District Level Committee (DLC) decision that denied forest rights to the Tharu Tribe in Uttar Pradesh.

## Governance Framework

- The **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006** was enacted to correct the **historical injustice** caused by colonial and post-colonial forest laws that alienated tribal and forest-dependent communities from their traditional lands.
- The Act recognises their rights over forest land and resources for **livelihood, habitation, culture, and survival**, while integrating them into forest conservation.

## Constitutional Basis

- Forest Rights Act (FRA) reflects the constitutional commitment to **social justice, dignity, and tribal protection**. It strengthens **Article 21**, which guarantees the right to life and livelihood.
- It aligns with **Article 46**, which directs the State to protect the educational and economic interests of Scheduled Tribes.
- It supports the spirit of the **Fifth Schedule**, which safeguards tribal land and governance systems.
- By empowering **Gram Sabhas**, it also reflects the decentralised governance principles of **PESA**.

## Key Provisions under the Act

- The Act grants **title rights** over forest land cultivated by eligible forest dwellers, up to **4 hectares per household**, securing livelihood and habitation.
- It recognises **community forest rights**, including access to collect, use, and dispose of **non-timber forest produce** such as bamboo, honey, and medicinal plants, which strengthens economic security.
- It protects **grazing, fishing, and access to water bodies**, ensuring continuity of traditional livelihood systems.
- It grants **habitat rights** to **PVTGs**, pastoral groups, and nomadic communities, preserving their cultural and settlement patterns.
- It gives communities the right to **protect, conserve, and manage forests and biodiversity**, promoting community-based conservation.
- It allows diversion of forest land for essential public needs such as health, education, and infrastructure. It protects forest dwellers from **eviction** until claims are fully verified.
- By placing **Gram Sabha** at the centre of claim verification and forest governance, FRA promotes **participatory democracy, decentralised governance, and ecological stewardship**.
- The Act explicitly states that its provisions apply **notwithstanding anything contained in any other law**, giving it overriding authority over older laws like the **Indian Forest Act, 1927** and state forest laws.

## Allahabad High Court Judgment

### Issue in the Tharu Case:

- In **2021**, the DLC rejected forest rights claims of the **Tharu community** in **Palia Kalan Tehsil, Lakhimpur** by relying on a **2000 Supreme Court interim order** prohibiting de-reservation or reclassification of forests.

### Court's Reasoning:

- The High Court held that a **later special law** prevails over earlier conflicting laws or judicial orders. Since FRA came into force in **2006**, it overrides the earlier 2000 order.
- The Court reaffirmed that **Section 4 of FRA** vests rights in forest dwellers regardless of conflicting legal provisions.
- It criticised the DLC for violating statutory protections and directed it to reconsider the claims in light of FRA.

## Implementation Gaps and Legal Contradictions

- Despite FRA's legal primacy, implementation remains weak due to **arbitrary claim rejections**, poor institutional capacity, and administrative bias.
- District Level Committees and state authorities often reject genuine claims and treat forest dwellers as encroachers.
- Judicial inconsistencies continue where courts have prioritised older state forest laws over FRA.
- In several cases, including rulings of the **Madras High Court**, forest dwellers' petitions were dismissed under the **Tamil Nadu Forest Act, 1882**, despite FRA protections. In **2022**, restrictions on cattle grazing in forests were upheld in certain cases, even though FRA explicitly recognises grazing rights.
- In **2019**, the **Supreme Court of India** initially ordered eviction of nearly **1.8 million** people whose claims were rejected, exposing serious procedural weaknesses. The order was later stayed. These contradictions show continuing tension between **rights-based governance** under FRA and the older **state-controlled conservation model**.

## Way Forward

- **Gram Sabhas** must be institutionally strengthened for fair and transparent claim verification.
- Claim processes should be made more transparent with stronger **grievance redressal mechanisms**.
- Greater legal harmonisation is needed between **forest conservation laws** and FRA provisions.
- Capacity building of officials and District Level Committees must be prioritised. Digital tools should be used for better monitoring, claim tracking, and accountability.

# INDIA'S E-WASTE MANAGEMENT

At the Paryavaran NITI Manthan, policymakers highlighted serious gaps in Extended Producer Responsibility (EPR) implementation as India is losing nearly ₹51,000 crore worth of recoverable e-waste materials.

## About E-Waste

- India generated about **6.19 million metric tonnes (MMT)** of e-waste in **2024**, making it the **third-largest e-waste generator globally**, and this is projected to rise to **14 MMT by 2030**.
- **E-waste** refers to discarded electrical and electronic products such as computers, mobile phones, circuit boards, telecom equipment, and household appliances.
- India's e-waste generation has sharply increased from **2.76 MMT in 2020** to **6.19 MMT in 2024**, showing the impact of fast technological change and shorter product life cycles.
- Around **33% of e-waste consists of metals**, including **gold, copper, iron, aluminium**, and several **critical minerals** essential for strategic industries. The total economic value of India's e-waste is estimated at **₹51,000 crore**, out of which nearly **₹30,600 crore** is technically recoverable.
- This makes e-waste not only an environmental issue but also a major issue of **resource security, strategic autonomy, and circular economy governance**.

## Key Implications

- E-waste contains hazardous substances such as **lead, mercury, cadmium**, and **brominated flame retardants**, which create severe environmental and health risks if disposed of improperly.
- Unsafe recycling practices release toxic chemicals into **soil, air, and water**, causing contamination, biodiversity loss, and health disorders.
- Poor recovery systems result in loss of valuable materials such as **lithium, cobalt, copper, and rare earth minerals**, which are important for **battery manufacturing, renewable energy systems, and electronics**.
- The failure to formally account for recycling also causes major **tax losses** and weakens industrial resource efficiency.
- Thus, poor e-waste management directly affects both **environmental sustainability** and **industrial competitiveness**.

## Challenges in India's E-Waste Governance

- **Weak enforcement** of EPR norms allows fake or non-functional recyclers to operate through fraudulent certification, weakening regulatory credibility.
- India's **formal recycling rate is only around 10%**, much lower than the global average of **22%** and countries like the **USA (56%)**.
- Nearly **90–95% of e-waste** is handled by the **informal sector**, creating a major informal-formal disconnect in waste governance.
- Informal recycling often uses unsafe methods like acid

leaching and open burning, causing serious **occupational health risks** and pollution.

- EPR implementation remains narrow because it mainly focuses on **gold, copper, iron, and aluminium**, while many other valuable materials remain outside recovery systems.
- Other issues include **low technical skills**, weak collection systems, poor access to advanced recycling technologies, and low consumer awareness.

## Institutional and Regulatory Framework

- The **E-Waste (Management) Rules, 2022** strengthened the EPR system by making producers responsible for collection and recycling of end-of-life electronic products.
- The **CPCB EPR E-Waste Portal and Trading Platform** was created for registration, tracking, monitoring, and certificate trading.
- The **Battery Waste Management Rules, 2022** introduced collection, recycling, and refurbishment targets while banning landfill disposal and incineration.
- The **National Critical Mineral Mission (NCMM)** aims to build domestic recycling capacity for critical minerals from **lithium-ion batteries, industrial scrap, and e-waste**.
- India's **first e-waste clinic in Bhopal** and the **Pan-India E-Waste Recycling Drive (2025)** show efforts to improve scientific disposal and resource recovery.

## Global Regulatory Dimension

- India is a party to the **Basel Convention (1989)**, which regulates transboundary movement and disposal of hazardous waste.
- The Convention requires **prior informed consent**, environmentally sound disposal, and return of illegal waste shipments to exporting countries.
- This places an international obligation on India to strengthen its domestic e-waste governance systems.

## Way Forward

- **GST-linked verification systems** should be introduced to improve traceability and prevent false recycling claims.
- **EPR coverage** should be expanded to include high-value and strategic materials like **lithium, cobalt, and rare earth elements**.
- Advanced technologies such as **hydrometallurgy** and **AI-based material recovery systems** should be promoted for better efficiency.
- Informal workers should be integrated into the formal system through **training, certification, and financial incentives**.
- Consumer awareness campaigns should be strengthened to improve segregation and safe disposal at source.

# 10<sup>TH</sup> INDIAN OCEAN DIALOGUE

The 10th Indian Ocean Dialogue (IOD) was held in New Delhi under the theme “Indian Ocean Region in a Transforming World”, highlighting the growing importance of maritime security amid rising geopolitical tensions in the Indian Ocean.

## About IOD

- The **Indian Ocean Dialogue (IOD)** is IORA's key **Track 1.5 platform**, created after the **2013 Perth COM meeting**, to facilitate strategic discussions among policymakers and experts.
- As **IORA Chair (2025–27)**, India is using the platform to advance its **MAHASAGAR** vision focused on maritime security, blue economy governance, and innovation.

## About IORA

- **Indian Ocean Rim Association (IORA)** is an intergovernmental organisation established on **7 March 1997**, inspired by **Nelson Mandela's** vision of regional cooperation. It was earlier known as **IORI** and later **IOR-ARC**, before taking its present form.
- Its Secretariat is located in **Ebène, Mauritius**, while the **Council of Ministers (COM)** acts as the apex decision-making body.
- It currently has **23 Member States** and **12 Dialogue Partners**:
  - ♦ Australia, Bangladesh, Comoros, France, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South Africa, Sri Lanka, Tanzania, Thailand, UAE and Yemen

## Why the Indian Ocean is Strategically Critical

- **Trade and Energy Lifeline:** Nearly **95% of India's trade by volume** and **68% by value** moves through maritime routes. More than **85% of India's crude oil imports** pass through the Indian Ocean, making it central to India's energy security.
- **Critical Maritime Chokepoints:** Strategic chokepoints such as the **Strait of Hormuz**, **Bab-el-Mandeb**, and **Malacca Strait** determine the stability of global energy and trade flows. Any disruption directly affects India's economy.
- **Blue Economy Potential:** India's **Exclusive Economic Zone (EEZ)** of nearly **2.4 million sq km** offers major opportunities in fisheries, renewable ocean energy, marine biodiversity, and ocean tourism.

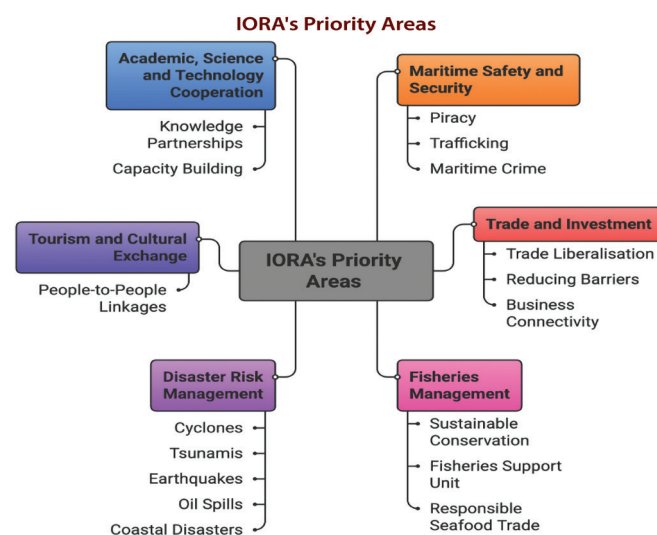
## Changing Security Landscape in the Indian Ocean

- **Geopolitical Competition:** The Indian Ocean is increasingly becoming a zone of strategic rivalry. China's expanding maritime footprint through ports and access agreements has intensified competition, while powers like the US, France, and Australia are strengthening their presence.
- **Conflict Spillovers:** Recent tensions in **West Asia**, disruptions in the **Strait of Hormuz**, and the sinking of the Iranian frigate **IRIS Dena** near Sri Lanka reflect how regional conflicts can destabilise maritime security.

- **Non-Traditional Threats:** Piracy, maritime terrorism, drug trafficking, **Illegal, Unreported and Unregulated (IUU) fishing**, and climate-induced disasters have increased the complexity of regional security.
- **Critical Infrastructure Risks:** Over **95% of global digital data** travels through undersea communication cables. Their disruption can affect defence communication, financial systems, and digital governance.

## Strategic Importance of IORA for India

- **Regional Leadership Platform:** IORA provides India a legitimate multilateral platform to project itself as a **net security provider** under **SAGAR (2015)** and **MAHASAGAR (2025)**.
- **Rules-Based Maritime Governance:** It allows India to shape regional norms on **UNCLOS**, freedom of navigation, maritime dispute resolution, and sustainable fisheries.
- **Strategic Counterbalance to China:** Since China is only a **Dialogue Partner** and not a Member State, India enjoys greater strategic influence within IORA.
- **Blue Economy Governance:** IORA strengthens India's ability to create partnerships for sustainable ocean resource management and regional economic diversification.
- **Disaster Diplomacy and Soft Power:** Through IORA's disaster management and tourism cooperation frameworks, India can institutionalise its role as a first responder and strengthen civilisational outreach.



## India's Maritime Security and Governance Architecture

- **Strategic Vision:** India's **SAGAR** doctrine focuses on maritime security, anti-piracy, and cooperative security,



while **MAHASAGAR** broadens this to include growth and development.

#### ➤ **Maritime Domain Awareness (MDA):**

- ♦ The **Information Fusion Centre–Indian Ocean Region (IFC-IOR)** enables real-time information sharing and improves operational coordination.
- ♦ This strengthens collective surveillance and early threat detection.

➤ **Operational Cooperation:** Exercises such as **MILAN**, **Dosti**, and **AIKEYME** improve interoperability and trust among partner countries. These exercises support coordinated responses to regional threats.

➤ **Regional Diplomacy:** India actively engages through **IORA**, **IPOI**, **BIMSTEC**, **IONS**, and the **Quad** for structured cooperation. This builds institutional depth in the broader Indo-Pacific framework.

➤ **Island Strategy:** The **Andaman and Nicobar Command (ANC)** serves as India's forward maritime base for surveillance and control over the approaches to the **Malacca Strait**.

➤ **Absence of Military Coordination:** Unlike the Quad or IONS, IORA has no joint naval mechanism for coordinated security responses.

### Way Forward

➤ **Strengthen Maritime Domain Awareness** by expanding satellite surveillance, IFC-IOR, and real-time intelligence-sharing systems.

➤ **Institutionalise Blue Economy Governance** through stronger standards on fisheries, marine pollution, and sustainable ocean resource use.

➤ **Deepen Cooperation on Non-Traditional Threats** such as piracy, cyber threats, climate disasters, and trafficking.

➤ **Enhance Institutional Capacity** through greater budgetary support and stronger governance mechanisms.

➤ **Build Maritime Human Capital** through regional academic and technical partnerships.

➤ **Diversify Energy Sources** to reduce excessive dependence on conflict-prone West Asia.

### Challenges Limiting IORA's Effectiveness

➤ **Institutional Weakness:** IORA mainly functions through voluntary commitments and consensus, limiting enforcement capacity.

➤ **Fragmented Regionalism:** Overlap with platforms like **BIMSTEC**, **ASEAN**, **Quad**, and **IONS** dilutes strategic cohesion.

➤ **Developmental Asymmetry:** Unequal economic capacities among members create uneven benefits and priorities.

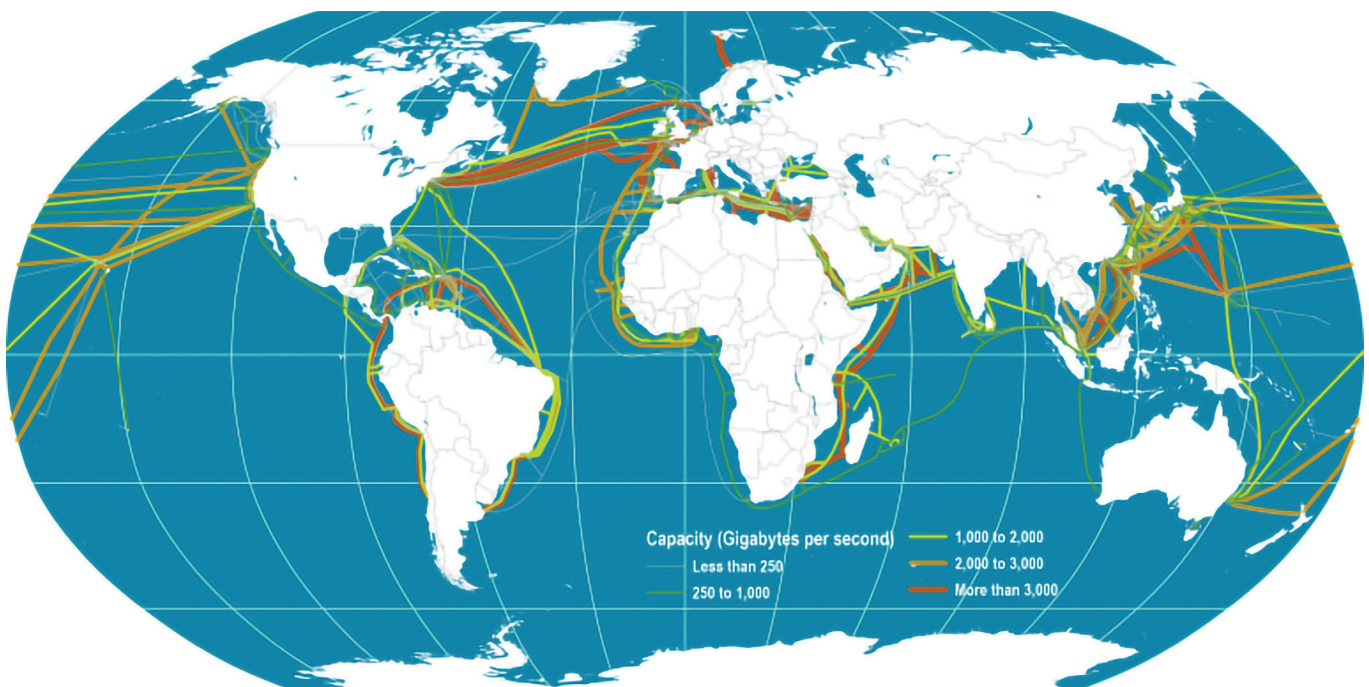
➤ **Limited Security Mandate:** IORA excludes bilateral disputes, reducing its ability to address major strategic conflicts.

### Conclusion

➤ The **Indian Ocean** has moved beyond being a simple trade corridor and has become a central arena of global strategic competition, maritime governance, and energy security.

➤ For India, **IORA** is the most important regional platform to integrate **security cooperation, blue economy governance, disaster response, and rules-based maritime order**.

➤ As the current Chair, India has a strategic opportunity to shape a more stable, inclusive, and rules-based maritime architecture, making the Indian Ocean central to its wider **Indo-Pacific vision** and long-term regional leadership.



# INDIA-VIETNAM

During the recent State Visit of the Vietnamese President to India, both countries elevated their bilateral relationship to an Enhanced Comprehensive Strategic Partnership.

## Key Outcomes of Recent Visit

- The visit coincided with the **10th anniversary of the Comprehensive Strategic Partnership (2016)** and reaffirmed Vietnam's importance in India's **Act East Policy** and **SAGAR/MAHASAGAR vision**.
- Both countries agreed to increase **bilateral trade** from the current **USD 16 billion** to **USD 25 billion by 2030**, reflecting deeper economic engagement.
- India and Vietnam signed **13 agreements** covering **rare earth cooperation, digital payments, cultural exchange, manuscript preservation, healthcare, auditing, and urban governance**.
- India secured market access for **grapes and pomegranates**, while Vietnam secured access for **durian and pomelo**, expanding agricultural trade. A major agreement was signed between **IREL (India)** and Vietnam's **ITRRE** for cooperation in **rare earth exploration and processing**.
- Cooperation was strengthened in **cross-border digital payments** through an agreement between **NPCI International** and **NAPAS**, along with central bank cooperation for financial innovation.
- Both sides renewed their **Cultural Exchange Programme (2026–30)** and expanded academic cooperation through **ICCR Chairs of Indian Studies** in Vietnam.
- Vietnam formally joined India's **Indo-Pacific Oceans Initiative (IPOI)**, strengthening maritime and Indo-Pacific cooperation.

## Significance

- The elevation of ties reflects the growing importance of India-Vietnam relations in the wider **Indo-Pacific strategic framework**.
- It strengthens India's role in **ASEAN** and supports its broader **Act East Policy** objectives.
- The partnership contributes to **regional stability, supply chain diversification, and rules-based maritime governance**.
- It also helps both countries reduce dependence on external powers in strategic sectors like defence and critical minerals.

## Historical Background

- India and Vietnam share ancient civilisational ties through **Buddhism, Hindu cultural influence in the Champa civilisation**, and old maritime trade links.
  - ♦ **For example:** Rulers adopted Hinduism (predominantly Shaivism) and Sanskrit became the court language. Ancient merchants, artists, and monks traveled across the sea from India's eastern coast (particularly Kalinga/modern-day Odisha) to Vietnamese ports.
- Diplomatic relations were formally established in **1972**. Vietnam supported India's anti-colonial and non-aligned positions, while India supported Vietnam's reconstruction after the war.

- **Bilateral ties evolved progressively:** Strategic Partnership (2007), Comprehensive Strategic Partnership (2016) and Enhanced Comprehensive Strategic Partnership (2026).
- Vietnam was the **first ASEAN country** with which India established a Strategic Partnership.

## Geopolitical and Indo-Pacific Cooperation

- India and Vietnam share a common vision of a **free, open, inclusive, and rules-based Indo-Pacific**.
- Both countries reaffirmed their commitment to **UNCLOS 1982**, freedom of navigation, peaceful dispute resolution, and non-militarisation in the **South China Sea**.
- The joint statement indirectly reflected concerns regarding **China's assertive posture**, emphasising self-restraint and adherence to international law. Vietnam's strategic location in the **South China Sea**, through which a major share of India's trade passes, makes it a vital geopolitical partner.
- Vietnam acts as an important bridge for India's engagement with **ASEAN Centrality** and East Asian regional architecture.

## Defence Cooperation

- Defence remains one of the strongest pillars of the bilateral partnership. Cooperation includes **joint military exercises, naval port calls, hydrography cooperation, air force engagements, and search and rescue operations**.
- The bilateral peacekeeping exercise **VINBAX** has become an important symbol of growing military cooperation.
- India has provided **defence credit lines** and transferred **INS Kirpan** to Vietnam.
- During the visit, India offered **Maintenance, Repair, and Overhaul (MRO)** support for Vietnam's **Su-30 fighter aircraft** and **Kilo-class submarines**.
- Both sides also agreed to expand **defence industry collaboration, co-production, and joint research**.

## Geo-economic Cooperation

- Bilateral trade has doubled over the last decade, showing increasing economic integration.
- India's strengths lie in **pharmaceuticals, IT services, agriculture, and digital public infrastructure**, while Vietnam has emerged as a major manufacturing hub in **electronics and machinery**.
- Both countries agreed to accelerate the review of the **ASEAN-India Trade in Goods Agreement (AITIGA)** to strengthen supply chain resilience.
- Vietnam's rise under the **China-Plus-One strategy** creates opportunities for Indian industries to integrate into global value chains.

- Rare earth cooperation is strategically significant as both countries seek to reduce dependence on external supply monopolies.

### Energy Cooperation

- Cooperation in **rare earth minerals** is important for clean energy technologies, defence electronics, and advanced manufacturing.
- India's **ONGC Videsh Limited (OVL)** continues to maintain strategic investments in Vietnam's oil and gas sector, contributing to India's energy security. Both countries have recognised the importance of resilient supply chains in the context of global energy transition and technological competition.
- The partnership in critical minerals can support future cooperation in renewable energy and advanced technology sectors.

### People-to-People Relations

- India and Vietnam continue to strengthen civilisational ties through **Buddhist diplomacy**, academic exchanges, and tourism. The new **Cultural Exchange Programme (2026–30)** aims to deepen cultural cooperation.
- Agreements for digitisation and preservation of **Cham manuscripts of Indian origin** reflect the historical depth of the relationship.
- The establishment of **ICCR Chairs of Indian Studies** in Vietnamese universities will further strengthen academic and intellectual exchange. India's restoration work at the **UNESCO World Heritage site of My Son** reflects strong cultural cooperation.

### Challenges

- **China factor** remains a major strategic challenge, requiring careful balancing by both countries.
- Vietnam's **Four Noes Policy** limits the scope for deeper military alliances and interoperability.
- Trade potential remains underutilised because of **connectivity gaps** and logistical constraints.
- Direct shipping routes and air connectivity remain inadequate.
- Defence projects under India's Lines of Credit have progressed slowly due to implementation delays.
- ASEAN's cautious geopolitical approach often limits overt strategic positioning. Supply chains in critical sectors still remain partly dependent on China.

### Way Forward

- Both countries should accelerate **defence co-production** in missiles, naval systems, radars, and surveillance technologies.
- Direct **maritime and air connectivity** must be improved to reduce trade costs and increase economic efficiency.
- Cooperation in **rare earths, semiconductors, and electronics manufacturing** should be expanded to strengthen supply chain resilience.

- Maritime cooperation should be deepened through **white-shipping agreements**, joint patrols, and intelligence sharing.
- Cultural diplomacy should be strengthened through Buddhist tourism, educational partnerships, and people-to-people exchanges.
- India should deepen its engagement with ASEAN institutions such as the **East Asia Summit** and **ADMM+** to strengthen regional strategic presence.

### India–Vietnam Relations

#### Historical Background:

- ♦ Deep civilisational ties through Buddhism, Champa civilisation, and ancient maritime trade.
- ♦ Full diplomatic relations established on **7 January 1972**.
- ♦ India supported Vietnam's post-war reconstruction; Vietnam backed India's anti-colonial and NAM positions.
- ♦ **Partnership milestones:**
  - ♦ **2007:** Strategic Partnership
  - ♦ **2016:** Comprehensive Strategic Partnership
  - ♦ **2026:** Enhanced Comprehensive Strategic Partnership
- ♦ Celebrated **50 years of diplomatic relations** in 2022.

#### Economic Relations

- **Bilateral trade:** USD 16.4 billion (2025–26).
- **Key sectors:** engineering goods, pharmaceuticals, electronics, textiles, agriculture, and rare earths.
- Reviewing ASEAN-India Trade in Goods Agreement (AITIGA).
- Opportunities under the **China-Plus-One Strategy**.

#### Defence Cooperation

- Guided by the **2009 MoU** and **2022 Joint Vision Statement towards 2030**.
- India gifted **INS Kirpan (2023)**.
- Cooperation includes military exercises, naval visits, hydrography, and MRO support.

#### Science, Technology, Space & Energy

- IT cooperation through MoU and Cyber Policy Dialogue.
- Collaboration in space, atomic energy, and satellite tracking facilities.
- **ONGC Videsh Ltd.** active in Vietnam's oil and gas sector.

#### Cultural & People-to-People Ties

- Around 8,000 Indians reside in Vietnam.
- Cultural cooperation through Swami Vivekananda Cultural Centre.
- India supports preservation of Cham heritage and restoration of My Son UNESCO Site.
- International Day of Yoga celebrated across Vietnam.

# FALL IN RESERVOIR LEVELS

The Central Water Commission (CWC) has reported a sharp decline in water storage across India's major reservoirs, with levels falling below 40% of total capacity.

## Hydrological Stress and Current Water Scenario

### Reservoir and river basin stress

- The CWC, which monitors **166 reservoirs** and **20 river basins**, has observed widespread depletion in water levels.
- Water storage declined from **71.08 billion cubic metres (BCM)** on **30 April 2026** to **63.23 BCM** by **14 May 2026**, indicating a fall of nearly **8 BCM in just two weeks**.
- **Thirteen major reservoirs** have fallen below **50% of their normal storage levels**.
- Several reservoirs have reached critically low levels, and the **Chandan Dam in Bihar** has completely dried up.
- Most of India's river basins are operating between **30% and 60% capacity**, with only a few above this range.
- **Southern India** has witnessed the steepest decline, where **36 reservoirs** are below **40% capacity**.

### Groundwater and per capita water availability

- India extracts nearly **251 BCM of groundwater annually**, accounting for around **one-fourth of global groundwater extraction**. According to the **CGWB Annual Ground Water Report 2024**, the national average groundwater extraction stage stands at **60.4%**.
- Per capita water availability has fallen sharply from around **5,000 cubic metres in 1950** to **1,486 cubic metres in 2021**, reflecting rising demand and declining availability.
- Studies show that **11 of India's 15 major river basins** are approaching severe water stress.

### Central Water Commission (CWC)

- **About:** The CWC operates as India's leading technical body for water resources under the **Ministry of Jal Shakti**, with its headquarters in **New Delhi**.
- **Key Functions:** It designs and coordinates plans for managing floods, irrigation networks, drinking water supply, navigation, and hydroelectric power.
  - ♦ It handles the investigation, construction, and execution of various water infrastructure projects.
- **Organizational Structure:**
  - ♦ The commission is led by a **Chairman**, who holds the rank of an Ex-Officio Secretary to the Government of India.
  - ♦ Its operations are split into three dedicated wings: Designs & Research (D&R), River Management (RM), and Water Planning & Projects (WP&P).
  - ♦ The National Water Academy in Pune functions under it to train engineers from both central and state government departments.

### Water Scarcity in India

- India supports **18% of the world's population** but possesses only **4% of global freshwater resources**.
- Around **60 crore people** face high to extreme water stress.
- The **World Bank** classifies India among the most water-stressed countries globally. If current trends continue, several parts of India may face severe water scarcity by **2040**.

## Structural Causes of India's Water Crisis

### Over-extraction of groundwater

- Groundwater is being extracted much faster than natural recharge rates. Out of **6,762 groundwater assessment units**, **730 units (10.8%)** are categorised as **over-exploited**.
- States such as **Punjab, Haryana, and Rajasthan** have extraction rates far above sustainable levels. This has made groundwater depletion one of the most critical structural causes of water stress.

### Agricultural distortion and cropping imbalance

- Agricultural policies continue to encourage water-intensive crops such as **rice, wheat, and sugarcane** through **MSP** and procurement support. These crops are often cultivated in ecologically unsuitable and semi-arid regions.
- Nearly **87% of India's groundwater extraction** is used for agriculture. This creates a major imbalance between food production and water sustainability. By exporting such crops, India also exports **virtual water**, worsening domestic scarcity.

### Climate variability and heat stress

- Rising temperatures accelerate evaporation from reservoirs, rivers, and soil. The increasing frequency of **heatwaves, erratic monsoons, droughts, and extreme rainfall** has disrupted natural recharge cycles.
- The possibility of a **Super El Niño** may further intensify rainfall disruption and drought risks.

### Pollution and declining water quality

- Rapid urbanisation and industrialisation have increased contamination of rivers, lakes, and groundwater. The **CPCB** has identified **311 polluted river stretches** across India.
- Excessive use of fertilisers and pesticides has led to eutrophication and nitrate contamination.
- New pollutants such as **microplastics** and pharmaceutical residues have further worsened water quality.

### Siltation, encroachment and ecosystem degradation

- Reservoir capacity continues to decline due to **siltation** caused by soil erosion. Deforestation, mining, and overgrazing in catchment areas increase sediment inflow.



- Urban encroachment on lakes, wetlands, and feeder channels has reduced natural storage capacity. For example, **Bengaluru** has lost nearly **79% of its water bodies** over four decades.

#### **Governance Failures and Institutional Fragmentation**

- Water governance in India remains fragmented because water is primarily a **State subject (Entry 17, State List)**.
- The Union regulates inter-state rivers under **Entry 56 of the Union List**, while **Article 262** governs inter-state water disputes. This division often creates coordination gaps.
- Water policy remains largely **engineering-centric**, focusing on dams and canals instead of ecological sustainability and demand management. Weak data systems and poor municipal planning further reduce efficiency.

#### **Emerging Industrial Demand**

- Rapid growth in sectors like **ethanol blending, data centres, AI infrastructure, and semiconductor manufacturing** has increased freshwater demand.
- Indian data centres alone may consume nearly **358 billion litres annually by 2030**, creating competition between industrial and public water needs.

### **Economic, Social and Ecological Consequences**

#### **Economic and Food Security Risks**

- Water shortages directly affect crop yields and food production. This increases food inflation and supply chain instability.
- **NITI Aayog** estimates that water scarcity could reduce India's GDP by **6% by 2050**. Industrial production and energy generation may also suffer due to inadequate water supply.

#### **Public Health Burden**

- Unsafe water causes over **30 million water-borne disease cases** annually. India's death rate from unsafe water is around **35 per 100,000 people**, much higher than the global average.
- Groundwater contamination by **arsenic** and other heavy metals has become a major public health challenge.

#### **Urban vulnerability**

- Cities such as **Delhi** face declining treatment capacity because of low river flows and pollution.
- **Bengaluru's 2024 water crisis** showed how groundwater depletion and encroached lakes can collapse urban supply systems. Many urban utilities lose up to **40% of water** due to leakages and poor infrastructure.

#### **Social Inequality and Gender Burden**

- Water scarcity increases the burden on women and girls, who often spend hours collecting water. This leads to school absenteeism and higher dropout rates among girls.

#### **Ecological damage**

- Shrinking wetlands, polluted rivers, and over-extracted aquifers damage biodiversity.
- Over-extraction can also cause **land subsidence**, threatening infrastructure and ecosystem stability.

### **Reform Priorities for Water Security**

- **Demand-side Agricultural Reform:** Crop diversification must be promoted by shifting from rice and sugarcane to **millets, pulses, and oilseeds** in water-stressed areas. Agricultural incentives must align with agro-climatic realities.
- **Water-use Efficiency:** Precision irrigation through **drip and sprinkler systems** should be expanded rapidly. Efficient irrigation can reduce pressure on groundwater.
- **Circular Water Economy:** Urban wastewater should be treated and reused for industrial and non-potable purposes. Recycling can reduce dependence on freshwater sources.
- **Urban Water Resilience:** Cities must improve storage capacity, enforce rainwater harvesting, and reduce pipeline leakages. Restoration of lakes and wetlands should be prioritised.
- **Community-based Governance:** Local institutions like **Pani Samitis** should be empowered for water budgeting and groundwater management. Decentralised governance improves accountability and sustainability.
- **Technology-driven Management:** Use of **IoT sensors, AI-based leakage detection, GIS mapping, and smart metering** should be scaled up for evidence-based planning.
- **Industrial Regulation:** Water-intensive industries should adopt **Zero Liquid Discharge (ZLD)** and improve water recycling to reduce freshwater dependence.

### **Government Initiatives & Efforts**

#### **Water Budgeting Framework for Climate-Resilient Blocks (2025)**

- Jal Shakti Abhiyan (JSA)
- Atal Bhujal Yojana
- Jal Jeevan Mission (JJM)
- National Water Mission (NWM)
- Catch the Rain Campaign
- Aquifer Mapping and Management Programme (NAQUIM)
- Participatory Water Governance
- Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)
- AMRUT Mission
- Varuni Web Application

### **Conclusion**

- India's water crisis has evolved into a structural developmental challenge, not merely a seasonal shortage.
- Declining reservoir levels, groundwater depletion, climate change, and rising industrial demand are intensifying stress on water resources. The crisis stems largely from mismanagement, policy distortions, and fragmented governance, rather than absolute water scarcity.
- India must adopt a sustainability-driven water governance model emphasizing efficiency, recycling, ecological restoration, and community participation. Long-term water security is vital for food security, public health, economic growth, and environmental sustainability.

# SUPREME COURT JUDGES

The President of India promulgated the Supreme Court (Number of Judges) Amendment Ordinance, 2026 to increase the sanctioned strength of judges in the Supreme Court from 33 to 37, excluding the Chief Justice of India (CJI).

## About the Ordinance

- As per the ordinance, the total strength of the Supreme Court, including the CJI, will increase from **34 to 38 judges**.
- The ordinance amends **Section 2 of the Supreme Court (Number of Judges) Act, 1956** and was issued under **Article 123** of the Constitution after approval by the Union Cabinet.

## Constitutional Provisions

### Article 124(1)

- Article 124(1) empowers Parliament to determine and increase the number of judges in the Supreme Court.
- The Constitution originally provided for a Chief Justice of India and not more than seven judges, allowing future expansion according to judicial needs.

### Article 123

- Article 123 empowers the President to promulgate ordinances when Parliament is not in session and immediate legislative action is necessary.
- Ordinances have the same force and effect as laws passed by Parliament.
- They are temporary executive-legislative instruments meant for urgent situations and not routine governance.

## Features of Ordinance-Making Power

- An ordinance must be placed before both Houses of Parliament after reassembly.
- It ceases to operate if not approved within six weeks of Parliament reconvening.
- It may also lapse if both Houses disapprove it or if it is withdrawn earlier by the President.
- The Union Cabinet is the real executive authority behind the ordinance-making process.

## Judicial Position on Ordinances

- The Supreme Court has held that ordinances are subject to **judicial review** in cases such as **R.C. Cooper v. Union of India (1970)**, **A.K. Roy v. Union of India (1982)**, and **Krishna Kumar Singh v. State of Bihar (2017)**.
- In **D.C. Wadhwa v. State of Bihar (1987)**, the Court criticised repeated re-promulgation of ordinances and termed it a misuse of constitutional power.

## Evolution of Supreme Court Strength

- The **Supreme Court (Number of Judges) Act, 1956** initially fixed the strength at **10 judges**, excluding the CJI.
- The strength was increased to **13 judges** in 1960 and **17**

judges in 1977.

- Subsequent amendments further expanded the strength, which was last increased to **33 judges** excluding the CJI through the **2019 amendment**.

## Need to Increase the Strength of the Supreme Court

### Rising Pendency

- Pendency in the Supreme Court has crossed **92,000–93,000 cases**, making the judge-to-case ratio unsustainable.
- Increasing appeals, Special Leave Petitions (SLPs), constitutional disputes, PILs, commercial litigation, and service matters have expanded the Court's workload.
- Post-pandemic growth in e-filing has further increased case inflow.

### Need for Faster Justice Delivery

- Judicial delays weaken the **rule of law**, affect enforcement of **Fundamental Rights**, and reduce public trust in institutions.
- Increasing the number of judges aims to:**
  - improve disposal rates,
  - reduce delays,
  - enable more Constitution Benches and specialised benches,
  - and improve citizens' access to timely justice.

## Complexity of Modern Governance

- The Supreme Court increasingly deals with:**
  - federal disputes,
  - electoral matters,
  - digital privacy issues,
  - environmental and climate litigation,
  - and economic and regulatory disputes.
- Expanding judicial capacity is necessary to address these complex governance challenges.

## Vacancies and Retirements

- Existing vacancies reduce the effective working strength of the Court.
- Several retirements scheduled in 2026 may further strain judicial capacity if timely appointments are not made.

## Law Commission and Judicial Recommendations

- The need for increasing judicial strength has been highlighted in the **120th and 245th Law Commission Reports**.
- The Supreme Court in **All India Judges Association v. Union of India** also recommended improving the judge-to-population ratio.

## Concerns

- **Increasing Judges Alone is Insufficient:** Merely increasing the number of judges may not fully solve pendency problems without broader institutional reforms.
- **Structural Constraints:** Limited courtroom infrastructure, shortage of staff, and administrative weaknesses continue to affect judicial efficiency.
- **Case Management Problems:** Frequent adjournments and procedural delays significantly contribute to case backlog.
- **Centralisation of Appeals:** The large number of appeals and SLPs reaching the Supreme Court diverts attention from its core constitutional role.

## Other Judicial Reforms Needed

- **Strengthening the Entire Judicial Pyramid:** High Courts and subordinate courts must also be strengthened to address pendency comprehensively.
- **Filling Vacancies:** Judicial vacancies in High Courts and subordinate courts should be filled promptly through better coordination between the judiciary and government.
- **All India Judicial Service:** Establishing an All India Judicial Service under Article 312 can improve recruitment quality and uniformity in the lower judiciary.
- **Limiting Routine Appeals:** The Supreme Court should increasingly focus on constitutional and nationally significant issues instead of functioning primarily as a regular appellate court.
- **Strengthening ADR Mechanisms:** Greater use of mediation, arbitration, and Lok Adalats can reduce litigation burden.
- **Technology and Infrastructure:** Expansion of courtrooms, digital infrastructure, AI-assisted case management, e-courts, virtual hearings, and scientific case allocation systems is necessary.
- **Permanent Constitution Benches:** Separate permanent Constitution Benches can ensure quicker resolution of major constitutional matters.

## Conclusion

- Increasing the sanctioned strength of the Supreme Court is an important institutional response to India's growing judicial pendency crisis.
- While the expansion may improve disposal capacity and access to justice, long-term judicial efficiency depends upon broader reforms in infrastructure, case management, technology adoption, and strengthening of the entire judicial system.

## High Court Judges

### Appointment of Judges

- Under **Article 217**, High Court judges are appointed by the **President** after consultation with the **CJI**, the **Governor**, and the concerned **Chief Justice of the High Court**.
- The proposal begins with the **Chief Justice of the High Court** in consultation with the two senior-most judges.
- It moves through the **Chief Minister, Governor, Union Law Minister**, and finally the **Supreme Court Collegium** for the final recommendation. As a policy, High Court **Chief Justices** are usually appointed from **outside their home State**.
- Under **Article 224A**, a retired judge of the same High Court or any other High Court may be appointed as an **ad-hoc judge** with prior consent of the President.

### Tenure and Vacancy

- A High Court judge holds office till the age of **62 years**.
- Any dispute regarding age is decided by the **President** after consultation with the **CJI**, and that decision is final.
- A judge may resign by submitting a written resignation to the **President**. Removal is possible only by the **President** after a **Parliamentary recommendation** following strict constitutional procedure.
- A judge vacates office if elevated to the **Supreme Court** or transferred to another High Court.

### Judicial Strength

- Under **Article 216**, every High Court consists of a **Chief Justice** and such number of other judges as the **President** may consider necessary from time to time.
- Thus, the constitutional power to determine and increase the sanctioned strength of a High Court lies with the **President of India**.
- In practice, the **Central Government** reviews the sanctioned strength periodically through a **Triennial Review** (once every three years).
- This review is based on a data-driven assessment of the average **institution of new cases** and the average **disposal rate per judge** in that High Court during the preceding **5 years**.
- The process involves consultation with the **High Court Collegium, Chief Justice of India (CJI), Supreme Court Collegium, Governor, and Chief Minister**.
- The opinions of the State executive are important because the State bears expenses related to **court infrastructure, administrative costs, and judicial salaries**, but they do not have any constitutional veto. Final approval is processed by the **Union Ministry of Law and Justice**, and the **Department of Justice** issues the official notification.

# INDIA-SOUTH KOREA

The recent State Visit of the President of South Korea to India and the subsequent Indian Defence Minister's visit to Seoul marked a major advancement in bilateral ties.

## Key Outcomes of the Recent Visit

- India and South Korea agreed to deepen their **Special Strategic Partnership** and expand cooperation in strategic sectors.
- Both countries set an ambitious bilateral trade target of **USD 50 billion by 2030**, up from nearly **USD 27 billion**.
- They agreed to fast-track the **upgradation of CEPA** to improve trade efficiency and reduce barriers.
- A new **Economic Security Dialogue** was launched to coordinate on **critical technologies, supply chain resilience, and strategic industries**.
- South Korea formally joined India's **Indo-Pacific Oceans Initiative (IPOI)**, reflecting growing maritime alignment.
- **Both sides signed around 15 MoUs covering:** Rare earth cooperation, Digital payments, Defence technology, Shipbuilding, Urban governance and Cultural exchange.
- The **India-Korea Digital Bridge** was launched for cooperation in **AI, semiconductors, and digital innovation**.
- A new framework for **shipbuilding, maritime logistics, and shipping cooperation** was also signed.
- South Korea joined the **International Solar Alliance (ISA)**.
- India offered **Maintenance, Repair and Overhaul (MRO)** support for South Korean-origin defence platforms.
- Both countries reaffirmed commitment to **UNCLOS 1982**, freedom of navigation, and peaceful dispute resolution.

## Significance of India-South Korea Relations

- South Korea is one of India's most important **technology and manufacturing partners** in East Asia.
- The partnership strengthens India's **Act East Policy** and South Korea's **Global Pivotal State (GPS)** strategy.
- It supports India's effort to diversify strategic dependence beyond China in **electronics, semiconductors, critical minerals and defence manufacturing**.
- South Korea's strength in **advanced manufacturing, AI, EVs, and shipbuilding** complements India's large market and labour advantage.
- The partnership contributes to a **free, open, and rules-based Indo-Pacific**. It also strengthens India's role in building a broader **middle-power coalition** in Asia.

## Historical Background

- India and South Korea share ancient cultural links through the story of **Queen Heo Hwang-ok (Suriratna)** from Ayodhya, recorded in the Korean text **Samguk Yusa**.

- During the **Korean War (1950–53)**, India played a major humanitarian and diplomatic role by sending the **60th Parachute Field Ambulance** and chairing the **Neutral Nations Repatriation Commission**.
- Formal diplomatic relations were established in **1973**, after consular ties in **1962**.
- Relations were upgraded to a **Strategic Partnership in 2010** and a **Special Strategic Partnership in 2015**.
- The relationship has gradually evolved from cultural and economic engagement to strategic and technological cooperation.

## Geopolitical Cooperation

- India and South Korea share a common vision for a **free, open, inclusive, and rules-based Indo-Pacific**.
- Both countries support, **Freedom of navigation, Peaceful settlement of disputes, Respect for international law and UNCLOS-based maritime governance**.
- South Korea's joining of **IPOI** reflects stronger strategic convergence in maritime affairs.
- The partnership gains importance amid rising tensions in **South China Sea, Taiwan Strait** and broader East Asian maritime space.
- Both countries support a **multipolar Asia** and stronger regional institutions. This alignment helps maintain balance against aggressive unilateral actions in the region.

## Defence Cooperation

- Defence cooperation has become one of the strongest pillars of the relationship.
- During the recent visit, both countries agreed to expand cooperation in:
  - ♦ cyber defence
  - ♦ military training
  - ♦ joint exercises
  - ♦ UN peacekeeping
  - ♦ defence industrial collaboration
- The flagship defence project remains the **K9 Vajra-T artillery system**, jointly produced in India by **L&T and Hanwha Defense** under **Make in India**.
- Defence ties are increasingly moving from **buyer-seller relations to joint production and co-development**.
- The **DRDO-Seoul National University agreement (2025)** on **high-power microwave systems** reflects growing cooperation in advanced defence technologies.



- South Korea's expertise in **submarines, propulsion systems, and naval technologies** opens new areas of collaboration.
- The proposed **KIND-X innovation ecosystem** aims to integrate defence startups and advanced military technologies.

### Economic and Technology Cooperation

- The **Comprehensive Economic Partnership Agreement (CEPA)**, operational since **2010**, remains the foundation of bilateral economic ties.
- Bilateral trade has nearly doubled over the last decade and crossed **USD 27 billion**.
- The new target of **USD 50 billion by 2030** reflects growing economic ambition.
- South Korea is India's **13th largest FDI investor**, with investments exceeding **USD 6.9 billion** since 2000.
- Major Korean companies like **Samsung, Hyundai, LG, Kia, and POSCO** have major industrial footprints in India.
- Cooperation is expanding into strategic sectors such as **Semiconductors, Artificial Intelligence, Digital payments, Rare earths, Shipbuilding and Electronics manufacturing**.
- The **India-Korea Digital Bridge** aims to integrate digital ecosystems and support innovation.
- The rare earth agreement is strategically important because it reduces dependence on concentrated global suppliers.
- The partnership increasingly follows a **"chips to ships"** model, covering both high technology and heavy industry.

### Energy and Critical Minerals Cooperation

- South Korea joining the **International Solar Alliance (ISA)** marks a major step in climate cooperation.
- Both countries agreed to cooperate on **renewable energy, green hydrogen, clean mobility** and **sustainable industrial transition**.
- Cooperation in **critical minerals and rare earths** is important for **electric vehicles battery technologies, defence electronics and clean energy infrastructure**.
- Joint work in these sectors will improve strategic autonomy and industrial resilience.
- Green industrial partnerships are expected to support both energy security and climate commitments.

### People-to-People Relations

- Civilisational ties remain an important pillar of the partnership.
- The legacy of **Queen Suriratna** continues to symbolise early India-Korea connectivity.
- **Rabindranath Tagore's poem "Lamp of the East"** holds deep emotional value in Korean memory.
- Cultural exchanges are supported through:
  - ◆ Cultural Exchange Programme (2018)
  - ◆ Audio-Visual Co-production Agreement (2015)
- The **Swami Vivekananda Cultural Centre in Seoul** promotes Indian culture.

- The **Mumbai Korea Centre** supports Korean cultural outreach in India.
- Around **18,000 Indians** currently live in South Korea, including professionals, students, and researchers.
- Growing popularity of **K-pop and Korean cinema** has improved people-to-people engagement.

### Challenges

- India faces a persistent **trade deficit** with South Korea.
- Indian exports continue to face **non-tariff barriers**, especially in pharmaceuticals and agriculture.
- The CEPA review has moved slowly despite repeated commitments. Defence cooperation faces bureaucratic delays and slower execution.
- Technology transfer in strategic sectors remains limited.
- Connectivity and logistics costs remain high. Talent mobility is constrained by language and regulatory barriers.

### Way Forward

- Accelerate **CEPA 2.0** to improve market access and balance trade.
- Expand defence cooperation into **submarines, missile systems, naval platforms and AI-enabled defence systems**.
- Build stronger semiconductor partnerships under India's domestic manufacturing push.
- Fast-track rare earth supply chain cooperation.
- Improve maritime cooperation through **Maritime Domain Awareness (MDA)** and naval coordination.
- Strengthen research partnerships in advanced technologies.
- Increase academic exchanges and mutual recognition of professional qualifications.
- Promote local currency settlements to reduce external vulnerabilities. Expand green industrial cooperation in clean energy technologies.

### Conclusion

- India-South Korea relations have entered a more advanced strategic phase, moving beyond traditional trade into **technology security, defence industrial cooperation, supply chain resilience, and Indo-Pacific stability**.
- The partnership reflects the rise of **functional strategic coalitions among democratic middle powers** in an increasingly uncertain geopolitical environment.
- For India, South Korea is not merely an economic partner but a critical pillar in its larger strategy of **strategic autonomy, technological self-reliance, and regional balancing**.
- For both countries, the success of this partnership will depend on faster implementation, deeper trust, and stronger institutional coordination.
- If sustained effectively, this relationship can become one of the most consequential strategic partnerships in the Indo-Pacific.

# DRUG MENACE

At a national anti-drug conference, the Union Home Minister called for a uniform global legal framework, stronger intelligence-sharing mechanisms, and coordinated action against drug trafficking and narco-terrorism.

## Changing Nature of India's Drug Crisis

- India's drug problem has expanded from a public health issue into a wider challenge involving **national security, organised crime, and social stability**.
- According to the **AIIMS–MoSJE Report (2019)**, more than **3.1 crore people** were found using **cannabis** and approximately 2.26 crore used **opioids** while around **1.18 crore** used **sedatives** without prescription.
- Updated estimates for **2026** indicate that nearly **10.7 crore people** in India are affected by substance abuse, showing the increasing scale of addiction.
- Over **16 crore people** consumed alcohol, out of which nearly **5.7 crore** required medical intervention.
- The character of drug abuse is changing rapidly, with growing use of **synthetic drugs** such as **methamphetamine, mephedrone, cocaine, and synthetic cannabinoids**, especially in urban areas.
- **Inhalant abuse** has emerged as a serious concern among children and adolescents, reflecting early exposure and rising vulnerability among younger age groups.

### Inhalant Abuse

*Inhalant abuse refers to the intentional breathing in or inhaling of fumes, vapors, or gases from common household, industrial, or medical products to achieve a rapid, mind-altering high.*

- **Volatile Solvents:** Liquids evaporating at room temperature, including nail polish remover, paint thinners, whiteners, markers, glue, gasoline, and contact cleaners.
  - **Aerosols:** Household sprays like spray paint, deodorants, hairsprays, and fabric protectors.
  - **Gases:** Medical or commercial gases, such as nitrous oxide, butane, and propane.
  - **Nitrites:** Muscle-relaxing chemical compounds sold as poppers or room odorizers.
- Drug trafficking methods have also evolved:
    - ♦ The use of the **Darknet, encrypted messaging platforms, and cryptocurrency-based payments** has made drug transactions more anonymous and harder to track.
    - ♦ This shows that India is facing not just a quantitative rise in drug use, but also a qualitative shift toward more dangerous and technologically enabled narcotics networks.

## Structural Drivers of the Drug Menace

- India's geographical location makes it highly vulnerable. It lies between the **Golden Crescent (Afghanistan–Iran–Pakistan)** and the **Golden Triangle (Myanmar–Laos–Thailand)**, which are among the world's biggest drug-producing regions.
- This creates a **transit and destination vulnerability**, especially in border states such as **Punjab, Manipur, Assam, Mizoram, and Jammu & Kashmir**.
- The rise of **drone-based smuggling** and porous land borders has made drug movement easier and faster.
- **Unemployment, poverty, and economic insecurity** have made many youth vulnerable to drug abuse, especially in areas facing agrarian distress or lack of opportunities.
- **Urbanisation and changing lifestyles** have also contributed to greater consumption of designer and recreational drugs.
- Psychological factors such as **peer pressure, academic stress, workplace stress, and emotional isolation** often act as entry points into addiction.
- The weakening of traditional family structures and community support systems has reduced social protection against substance abuse.
- Weak regulation of certain **pharmaceutical substances** such as **Tramadol, Codeine, and Alprazolam** has increased their misuse.
- The glamorisation of drug use in some sections of entertainment and social media has further normalised substance abuse.

## Human Capital, Social and Security Consequences

- Drug addiction creates a major **public health burden** by increasing mental illnesses such as **depression, anxiety, psychosis, and behavioural disorders**.
- Long-term substance abuse damages vital organs such as the **heart, liver, kidneys, and brain**, increasing treatment costs and reducing life quality.
- Injecting drug users are highly vulnerable to **HIV/AIDS** and **Hepatitis C**, creating serious infectious disease concerns.
- Drug abuse weakens **human capital formation** by increasing school dropouts, reducing employability, and lowering labour productivity.
- Since a large share of users belong to the **15–35 years age group**, addiction directly threatens India's **demographic dividend**.
- Families affected by addiction often face **financial distress**, social stigma, domestic violence, and long-term emotional trauma.

- Drug abuse also contributes to social breakdown by increasing **crime, alienation, and community instability**.
- At the national level, drug trafficking has become linked with **terror financing, insurgency, money laundering, and arms smuggling**.
- In border regions, narcotics are increasingly used as instruments of **hybrid warfare** to destabilise internal security.
- This has transformed the drug menace into a serious **national security challenge**, not merely a social problem.

### Institutional Architecture and Enforcement Response

- India's main legal framework is the **Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985**, which regulates the production, possession, sale, and transport of narcotic substances and provides strict penalties.
- The **Narcotics Control Bureau (NCB)**, established in **1986**, serves as the apex enforcement agency for anti-drug operations and coordinates with central and state authorities.
- The NCB has significantly expanded its capacity. Its regional offices increased from **3 to 7**, zonal offices from **13 to 30**, and staff strength rose to **1,496**, along with specialised **Nar-K9 units** for detection.
- To improve coordination, the government established the **Narco-Coordination Centre (NCORD)** in **2016**, later strengthened in **2019**, with a four-tier mechanism at the **national, executive, state, and district levels**.
- NCORD improves intelligence-sharing, operational coordination, and policy convergence among different agencies.
- Supporting systems such as the **MANAS Helpline (1933)**, **NIDAAN Portal**, and **Mission SPANDAN** aim to strengthen community participation and addiction support.
- The **DarkNet Monitoring Cell** under the NCB tracks online drug trafficking and digital drug markets.
- The government has launched a **National Anti-Drug Campaign (2026–2029)** based on three pillars:
  - ◆ **Supply reduction** through stricter enforcement.
  - ◆ **Demand reduction** through awareness and prevention.
  - ◆ **Harm reduction** through treatment and rehabilitation.
- Between **2014 and 2025**, around **1.11 crore kg of drugs** worth nearly **₹1.71 lakh crore** were seized, showing stronger enforcement capacity.

### Global Cooperation and Reform Priorities

- Drug trafficking today is transnational and highly networked. National action alone is insufficient.
- India has called for a **uniform global anti-drug legal framework**, stronger extradition systems, and real-time intelligence-sharing.
- Institutions like the **United Nations Office on Drugs and Crime (UNODC)** and the **International Narcotics Control Board (INCB)** play an important role in regulating global anti-drug cooperation.
- India must strengthen **border surveillance** through advanced technologies, including drones, sensors, and AI-enabled monitoring.
- Greater regulation of pharmaceutical supply chains and digital platforms is needed to prevent misuse.
- Rehabilitation infrastructure must be expanded, especially for youth and vulnerable communities.
- School and college-based awareness programmes should be scaled up to reduce early exposure.
- Civil society, families, and community institutions must be integrated into anti-drug prevention efforts.
- Regional cooperation with neighbouring countries is essential to dismantle trafficking routes originating from the **Golden Crescent** and **Golden Triangle**.
- Skill development and employment generation should be prioritised to address socio-economic vulnerabilities that push youth toward addiction.

### Conclusion

- India's drug crisis has evolved into a complex challenge involving **public health, social stability, economic productivity, and national security**.
- The rise of synthetic drugs, digital trafficking, and narco-terrorism has made the challenge deeper and more difficult to control.
- If left unchecked, it can severely damage India's **demographic dividend** by weakening the health, productivity, and future of its youth.
- A balanced approach combining **strict enforcement, rehabilitation, preventive awareness, and international cooperation** is essential.
- Achieving a **Nasha Mukta Bharat** will require treating drug abuse not only as a criminal issue, but as a larger challenge of **human security, social resilience, and global governance**.

# INDIA-NORDIC SUMMIT

Recently, the Prime Minister of India participated in the Third India-Nordic Summit in Oslo and paid an official visit to the Netherlands, Norway and Sweden.

## Background

- India and the Nordic countries launched a multidimensional partnership during the First India-Nordic Summit in 2018 focused on innovation, green energy, clean technology, and sustainable development.
  - ♦ The relationship has since expanded significantly, with strong growth in trade, investment, and technology cooperation.
- India's relations with the Nordic countries have strengthened through growing economic cooperation, R&D partnerships, and people-to-people exchanges.
- Nordic countries also show interest in key Indian initiatives like Make in India, Digital India, Start-up India, and Clean Ganga. They are building a forward-looking strategic partnership focused on green growth, clean technology, innovation, and sustainable development.

## Nordic Countries

- Nordic countries refer to a geopolitical and cultural region in Northern Europe and the North Atlantic. It comprises **Denmark, Finland, Iceland, Norway and Sweden.**
- The five Nordic nations boast a combined GDP exceeding \$1.9 trillion, and they lead global benchmarks in renewable energy and sustainable ocean governance.

## Present Status

- **Denmark:** India and Denmark have strong economic and people-to-people ties.
  - ♦ **Economic:** Bilateral trade in 2025 stood at USD 2.05 billion in goods (India exports: USD 1.06 billion; imports: USD 0.98 billion) and USD 4.25 billion in services (exports: USD 1.9 billion; imports: USD 2.3 billion).
  - ♦ Indian investments in Denmark are about USD 560 million, while Danish FDI into India has reached USD 1.413 billion (till 2024), with around 40 Indian and 200 Danish companies operating across key sectors.
  - ♦ **Cultural and social ties** are strong, supported by the 2022 Cultural Exchange Programme, Yoga celebrations across Danish cities, and diaspora engagement. In 2026, both countries further discussed expanding mobility and people-to-people exchanges.
- **Finland:** India and Finland share growing economic, cultural, and people-to-people ties.
  - ♦ **Economic:** Bilateral trade in goods stood at USD 1.017 billion (2024–25), with India exporting USD 356.37 million and importing USD 660.70 million.
- ♦ Trade in services reached USD 1.9 billion (2025). Investment flows are strong, with Indian investments in Finland exceeding USD 2 billion and Finnish investments in India reaching USD 4 billion, supported by over 100 Finnish companies in India.
- ♦ **Cultural and educational** links are expanding, with yoga centres, arts, and festivals, along with the Embassy's "Terve-Namaste" student engagement series.
- ♦ The Indian community in Finland is around 33,000, including about 2,400 students, and contributes significantly to the IT and innovation sectors. Tourism is also rising, supported by e-visas and direct flights between Helsinki and New Delhi.
- **Iceland:** The volume of bilateral trade with Iceland was USD 77.06 million in 2024-25.
  - ♦ India's exports to Iceland were valued at USD 66.01 million and imports at USD 11.05 million in the same year.
  - ♦ Indian culture especially in yoga, classical music, dance, paintings, films and food is popular in Iceland. There are around 600 Indian nationals in Iceland.
  - ♦ In 2026, India and Iceland reviewed cooperation and emphasised strengthening people-to-people contacts, expanding cultural and tourism exchanges and enhancing cooperation in Arctic research.
- **Norway:** India and Norway established **diplomatic relations in 1947** and India and the European Free Trade Association (EFTA) which includes Norway, Switzerland, Iceland and Liechtenstein, signed a Trade and Economic Partnership Agreement (TEPA) in 2024.
  - ♦ **Economic:** Bilateral trade between India and Norway was USD 1.05 billion in 2024-25.
    - ♦ India exported goods worth US\$ 630 million and imported goods worth US\$ 420 million in the same period.
    - ♦ Trade in services has been around USD 1 billion.
    - ♦ In addition, FDI inflows from Norway during April 2000 to September 2025 was USD 764 million.
  - ♦ **Arctic/Polar:** India set up its first permanent research station 'Himadri' in the **Arctic in 2008 at Svalbard, Norway.**
    - ♦ India has also been an Observer State in the Arctic Council since 2013.
  - ♦ **Diaspora:** India and Norway share close people-to-people ties through an Indian community of around 30,000 people.
    - ♦ Events like Turbandagen and Oslo Colour Festival reflect the growing influence of Indian culture and soft power in Norway.



- ♦ **Multilateral Cooperation:** Norway has been supporting India's perusal to become a permanent member of a reformed UN Security Council.
- **Sweden:** India and Sweden established diplomatic relations in **1948** and Sweden hosted the first **India–Nordic Summit in 2018**
- ♦ **Economic:** Bilateral trade between the two countries reached nearly USD 7.75 billion in 2025.
  - ♦ The cumulative FDI equity inflows from Sweden from April 2000 to December 2024 was USD 2.596 billion.
  - ♦ Indian cultural traditions like Indian classical music and dance, Yoga, Ayurveda, Indian festivals and cinema, are widely appreciated in Sweden.
- ♦ **Sustainability Cooperation:** India and Sweden jointly launched the **Leadership Group for Industry Transition (LeadIT)** at the UN Climate Action Summit in **2019**.
- ♦ **Indian Diaspora:** The Indian diaspora in Sweden is currently estimated at approximately **90,000**, which includes around **66,400** Indian nationals and many of them are **highly skilled professionals in the IT, fintech, and life sciences sectors**.

### Significance of the Nordic Region for India

- **The "Innovation-Scale" Synergy:** The Nordic countries are global leaders in innovation, digital technologies, and sustainability. According to the World Intellectual Property Organization (WIPO), Sweden, Finland, and Denmark rank among the top ten most innovative economies worldwide.
  - ♦ They have capital, intellectual property (IP), and advanced R&D capabilities. Meanwhile, India offers a massive data pool, a large demographic scale, and a booming market, resulting in a perfectly complementary partnership.
- **Arctic-Indo-Pacific Interlinkage:** Melting Arctic ice is opening up new maritime shipping routes and revealing access to critical minerals, which expands global geopolitics.
  - ♦ India holds Observer status in the Arctic Council and sees the Nordic nations as vital partners for polar research (such as India's Himadri station in Svalbard, Norway), climate monitoring, and protecting its strategic interests in the far north.
- **Defense Industrial Base Expansion:** Nordic defense companies can now access 100% Foreign Direct Investment (FDI) within the Indian Defence Industrial Corridors, specifically in the Uttar Pradesh and Tamil Nadu nodes.
  - ♦ This collaboration supports India's Atmanirbhar Bharat (self-reliant India) initiative in defense manufacturing.
- **Pioneering the Circular Economy:** The Nordic blueprint for a circular economy, bioeconomy, and plastic waste management (which aligns with UNEA Resolution 5/14) serves as a scalable model for India's Mission LIFE (Lifestyle for Environment).
- **Global Supply Chain Resilience:** This partnership is essential for linking the NB8 (Nordic-Baltic Eight) region with the India-Middle East-Europe Economic Corridor (IMEC), offering an

alternative trade pathway to China's Belt and Road Initiative (BRI).

### India-Netherlands

- **Diplomatic relations:** India and the Netherlands established diplomatic relations in 1947.
- **Economic Cooperation:** India and the Netherlands formalized the **Joint Trade & Investment Committee (JTIC) in 2025**, strengthening bilateral trade, two-way investment cooperation, and collaboration in technology, MSMEs, and emerging sectors.
  - ♦ **The Netherlands is the 4th largest investor** in India with an FDI inflow of **US\$ 54.94 billion (2000- 2025)**.
  - ♦ **Bilateral trade** between India-Netherlands reached at **US\$ 16.75 billion** in FY26 (till November 2025).
- **Technology Cooperation:** They cooperate in semiconductors, artificial intelligence, quantum technologies, cybersecurity, maritime security, green hydrogen, and renewable energy.
- **Cultural Cooperation:** They signed an MoU in 2025 for cooperation in the development of the **National Maritime Heritage Complex (NMHC) at Lothal, Gujarat**.
- **Diaspora:** The Netherlands is home to the largest number of Indian origin people in mainland Europe, including around **200,000 members** of the **Surinami-Hindustani community**.
- **Concerns in relations:** The Netherlands and several European Union countries were concerned about developments in India relating to
  - ♦ Press freedom, Rights of minorities, especially Muslims and smaller communities, Democratic values and rule of law.
  - ♦ **Insuya Hemani Case:** The prolonged delay in resolving the custody dispute has emerged as a sensitive diplomatic issue between India and the Netherlands.
  - ♦ The case has raised concerns in the Netherlands regarding **international child custody enforcement** and legal cooperation with India.

### Major Highlights of the Summit (Oslo, 2026)

- **Green Technology and Innovation Strategic Partnership :** India and the Nordic countries agreed to a Green Technology and Innovation Strategic Partnership focused on clean energy, green hydrogen, digital innovation, and climate action.
  - ♦ The initiative promotes sustainable growth, improved governance, green jobs, better resource and water management, and stronger research, education, and trade collaboration, supporting climate goals and energy security.
- **Agreements to leverage India EFTA TEPA:** The India EFTA TEPA will help to improve market access, reduce trade barriers, encourage trade and investment flows and integrate value chains.

## Outcomes of Recent Visits

| Netherlands                                                                                                                                                                                                                                                                                                                                                                                                                              | Norway                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Sweden                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>➤ India and the Netherlands upgraded ties to a <b>Strategic Partnership</b>, focusing on semiconductors, defence, technology, and education.</li> <li>➤ They also enhanced defence cooperation, launched a semiconductor talent “brain bridge” between Dutch and Indian institutes, and strengthened cultural ties through the return of Chola-era copper plates by Leiden University.</li> </ul> | <ul style="list-style-type: none"> <li>➤ India and Norway formally declared the upgrade of bilateral ties to a <b>Green Strategic Partnership</b> to ensure increased collaboration in sectors ranging from Clean Energy to Climate Resilience, Blue economy to green shipping.</li> <li>➤ <b>Norway</b> formally joined India's <b>Indo-Pacific Oceans Initiative (IPOI) framework</b> (launched 2019), which promotes a free, open, and rules-based Indo-Pacific.</li> <li>➤ India and Norway will jointly promote India's Digital Public Infrastructure (Aadhaar-UPI-CoWIN stack) in the Global South.</li> <li>➤ Norway reaffirmed its support for India's permanent membership in a reformed UN Security Council.</li> </ul> | <ul style="list-style-type: none"> <li>➤ India and Sweden upgraded relations to a Strategic Partnership centered on democracy, innovation, and sustainability, with cooperation in security, economy, emerging technologies, health, resilience, and environmental sustainability.</li> <li>➤ They adopted the Joint <b>Action Plan 2026–2030</b> to implement their upgraded partnership, setting a roadmap for cooperation in political, economic, technological, security, climate, and people-to-people areas.</li> <li>➤ India and Sweden agreed to develop the <b>India–Sweden Technology and Artificial Intelligence Corridor (SITAC)</b> and establish an SME and Start-up Platform to promote innovation, technology collaboration, and entrepreneurship.</li> </ul> |

- ♦ The FTA, along with a strong alliance with the Nordic countries, will support employment creation, innovation and sustainable development.
- **Initiatives in Climate Action:** Climate change cooperation focuses on mitigation, helping address environmental challenges while creating green jobs, boosting trade and investment, and supporting long-term sustainable economic growth.
- **Cooperation in the Arctic:**
  - ♦ India's Arctic cooperation under its Arctic policy focuses on polar research and climate studies to support environmental protection and sustainability.
  - ♦ It is important for understanding and protecting climate systems, including monsoons, agriculture, and ecological balance, ensuring long-term environmental stability.
- **Research Collaboration in STEM Areas:**
  - ♦ STEM research collaboration will strengthen R&D, academic cooperation, and technology transfer, create new jobs, and improve research quality.
  - ♦ Focus on next-generation technologies like 6G will further boost the digital economy and digital infrastructure.
- **Blue Economy:**
  - ♦ Blue economy cooperation promotes the sustainable use of ocean resources, supporting economic growth, job creation, trade, and climate resilience.
  - ♦ It also strengthens maritime connectivity and security, contributing to a stable and secure Indo-Pacific region.
- **Mobility of Talent:** Research and education collaboration will give Indian students and researchers global exposure, improve research quality and output, and strengthen skills, innovation, start-ups, and economic growth.
- **Collaboration in Defence Production:**
  - ♦ Developing Defence Industrial Collaboration by allowing 100% FDI in the Indian Defence Industrial Sector will help in technology transfer, research and innovation, will boost domestic defence production, create more employment, increase exports and efficiency of defence production.
  - ♦ Moreover, it will help to strengthen defence preparedness. Summarise short.

## Way Ahead

- India and the Nordic countries have upgraded ties through the Green Technology and Innovation Strategic Partnership.
- Cooperation covers energy, climate action, trade, digital innovation, blue economy, STEM, and defence, supported by India–European Free Trade Association (EFTA) TEPA.
- Strong emphasis on clean energy, innovation, and sustainable development drives economic and green transition goals.
- India should deepen ties with the Netherlands, Norway, and Sweden in trade, technology, defence, maritime affairs, and climate action.
- Enhanced political dialogue, academic exchange, and people-to-people ties will strengthen long-term strategic cooperation.
- Soft power engagement further supports stronger economic, cultural, and strategic relations across Europe and the Arctic region.

# UCC IN ASSAM

The Assam Legislative Assembly has passed the Uniform Civil Code (UCC) Assam Bill, 2026, making Assam the first state in Northeast India and the third state in the country, after Uttarakhand and Gujarat, to adopt such legislation.

## What is Uniform Civil Code (UCC)?

- A **Uniform Civil Code (UCC)** refers to a common set of civil laws applicable to all citizens irrespective of religion in matters such as **marriage, divorce, inheritance, succession, adoption, maintenance, alimony, and child custody**.
- It seeks to replace religion-based personal laws with a uniform legal framework.
- The objective is to ensure equal treatment of citizens in civil matters while promoting legal uniformity.

## Constitutional Basis

- **Article 44**, contained in **Part IV** of the Constitution, directs the State to endeavour to secure a Uniform Civil Code throughout the territory of India.
- Part IV contains the **Directive Principles of State Policy (DPSPs)**, which are non-justiciable but fundamental to governance.
- The debate on UCC involves balancing **Article 44** with **Articles 25–28**, which guarantee freedom of religion and religious practices.

## UCC in India

- **Goa** remains the only state that has continuously followed a common civil code through the **Portuguese Civil Code of 1867**, under which people of different religions are governed by broadly similar laws relating to marriage, divorce, and succession.
- The **Goa, Daman and Diu Administration Act, 1962** allowed the continuation of this framework after Goa became part of India.
- In **2024, Uttarakhand** became the first state after Independence to enact a Uniform Civil Code.
- With the passage of the **Assam UCC Bill, 2026**, Assam has become the third state to adopt such legislation.

## Key Provisions of the Assam UCC Bill, 2026

- The Bill mandates **monogamy** for all persons covered under its provisions and prohibits **polygamy and bigamy**. Violations may attract punishment under the **Bharatiya Nyaya Sanhita (BNS), 2023**, including imprisonment.
- Existing polygamous marriages solemnised before the enforcement of the law will continue to remain legally valid.
- The Bill fixes the minimum age of marriage at **21 years for men** and **18 years for women**.
- Registration of all marriages and divorces is made compulsory, and a marriage memorandum must be submitted within **60 days**. Failure to register may attract penalties and fines.

- The Bill introduces a legal framework for **live-in relationships** and requires their registration within **one month**. Failure to comply may attract penalties.
- Children born from registered live-in relationships will be treated as legitimate.
- Partners deserted in live-in relationships are entitled to claim maintenance.
- The Bill standardises grounds for divorce, including **cruelty, desertion, and mutual consent**, and penalises unlawful dissolution of marriage and illegal conditions imposed before remarriage.
- It establishes **gender-equal inheritance rights** for spouses, children, and parents and creates a uniform succession framework irrespective of religion.
- **Testamentary succession** through written wills is recognised.
- The Bill prescribes punishment for **child marriages**, marriages conducted without valid consent, and marriages involving force, coercion, concealment, fraud, or misrepresentation.
- The legislation repeals the **Assam Compulsory Registration of Muslim Marriages and Divorces Act, 2024**, replacing it with a common framework.
- **Scheduled Tribes (STs)** residing in Assam are exempted from the Bill in order to preserve customary practices and constitutional safeguards.

## Significance of Tribal Exemption

- The Constitution provides special protections to tribal communities through provisions such as the **Sixth Schedule**, which grants autonomy to tribal areas in Assam including **Bodoland, Karbi Anglong, and Dima Hasao**.
- Similar protections are available under **Article 371A** for Nagaland and **Article 371G** for Mizoram.
- Tribal communities are often governed by distinct customary laws relating to marriage, inheritance, succession, and land ownership.
- Exempting tribal communities seeks to preserve their socio-cultural identity while implementing broader civil law reforms.

## Present Personal Law System in India

- India presently follows a system in which different religious communities are governed by separate personal laws.
- **Hindus, Sikhs, Jains, and Buddhists** are governed by laws such as the **Hindu Marriage Act, 1955** and the **Hindu Succession Act, 1956**.

- Muslims are governed by the **Muslim Personal Law (Shariat) Application Act, 1937**.
- Christians and Parsis are governed by separate laws relating to marriage and divorce.
- The UCC seeks to replace this system of differentiated personal laws with a common legal framework.

### Arguments in Favour of UCC

- A common civil framework can promote **uniformity in governance** and simplify the administration of justice.
- UCC is viewed as a step towards **gender justice** because personal laws often contain provisions that affect women differently in matters such as marriage, divorce, inheritance, and maintenance.
- Supporters argue that a common code strengthens **secularism** by ensuring equal treatment of all citizens irrespective of religion. It is seen as a means of promoting **national integration** and fostering a common civic identity.
- A uniform framework can reduce legal inconsistencies arising from multiple personal law systems.
- Provisions relating to live-in relationships, maintenance, and legitimacy of children provide legal protection to vulnerable individuals.
- The Supreme Court has repeatedly highlighted the desirability of a UCC in several judgments.

### Important Judicial Pronouncements

- In **Mohd. Ahmed Khan v. Shah Bano Begum (1985)**, the Supreme Court observed that Article 44 had remained unimplemented and emphasised the importance of a Uniform Civil Code.
- In **Sarla Mudgal v. Union of India (1995)**, the Court highlighted the need for a UCC to prevent misuse of personal laws.
- In **John Vallamattom v. Union of India (2003)**, the Court reiterated the importance of moving towards a common civil framework.
- In **Shayara Bano v. Union of India (2017)**, the Court declared triple talaq unconstitutional and stressed the need for reforms in personal laws.
- In **Jose Paulo Coutinho v. Maria Luiza Valentina Pereira (2019)**, the Court described Goa as a successful example of a Uniform Civil Code and called for wider implementation.

### Arguments Against UCC

- Critics argue that a UCC may interfere with **religious freedom** protected under **Articles 25 and 26** of the Constitution.
- Concerns have been raised that a common code may not adequately reflect the customs and traditions of all communities.

- Some minority groups fear that the framework may indirectly reflect the practices of the majority community rather than a truly neutral code.
- Mandatory registration requirements for live-in relationships have raised concerns regarding the **right to privacy** under **Article 21**, particularly in light of the **Puttaswamy judgment (2017)**.
- Implementation may be challenging because of India's social, cultural, and religious diversity.
- The **Law Commission of India** has previously observed that a UCC was neither necessary nor desirable at the present stage.
- Some scholars argue that blanket exemptions for tribal communities may create uneven legal standards and leave certain gender-related issues within customary systems unaddressed.

### Way Forward

- Broad consultations with different sections of society are necessary to ensure inclusiveness, transparency, and public acceptance.
- Personal law reforms should be guided by constitutional principles of **justice, equality, and dignity**.
- Existing personal laws may be progressively codified and reformed to remove discriminatory provisions.
- Any UCC framework must carefully balance **Article 44** with the constitutional protections available under **Articles 25–28**.
- Provisions relating to live-in relationships should be implemented in a manner that respects individual autonomy and privacy.
- Tribal reforms should proceed through engagement with local communities so that cultural identity is preserved while promoting gender justice.
- Strengthening institutional mechanisms and studying experiences from states such as **Goa, Uttarakhand, and Assam** can help develop a broader consensus.

### Conclusion

- The Assam UCC Bill, 2026 represents a significant development in India's continuing debate on a Uniform Civil Code.
- The legislation seeks to promote **gender equality, legal uniformity, and social reform**, while recognising the need to protect tribal customs through constitutional safeguards.
- The larger challenge lies in balancing the constitutional goal of **uniform civil laws** with India's commitment to **religious freedom, cultural diversity, and pluralism**, ensuring that reform proceeds through consensus and constitutional values.



# SELF-HELP GROUPS

The Ministry of Rural Development has launched a nationwide roadmap for SHE-MARTs (Self Help Entrepreneurs–Marketing Avenues for Rural Transformation).

## About SHE-MARTs

- Announced in the **Union Budget 2026-27**, SHE-MARTs aim to strengthen women-led rural enterprises, improve market access, and increase rural incomes.
- SHE-MARTs are decentralised, women-led marketing and enterprise ecosystems that provide **market access, branding support, aggregation facilities, and retail opportunities** for products manufactured by SHGs and women producer collectives.
- The initiative seeks to transform rural women from livelihood seekers into **entrepreneurs and market leaders** through community-owned retail outlets operating under SHG federations.

## What are Self-Help Groups (SHGs)?

- SHGs are voluntary associations generally comprising **10–20 members** from similar socio-economic backgrounds who come together for savings, credit, livelihood activities, and collective empowerment.
- They function on the principles of **mutual trust, collective responsibility, regular savings, and democratic participation**.

## Role of SHGs in Women Empowerment

- **Financial & Economic:** Boost inclusion (savings, credit, insurance, digital banking via Bank Sakhis), reduce moneylender dependence, cut poverty, and foster rural development.
- **Entrepreneurship:** Drive skill development, livelihoods, and market linkages via institutions like MAVIM.
- **Political & Social:** Increase participation in Gram Sabhas and local governance (SEWA leadership), raise awareness of health, education, and legal rights, and fight social evils (child marriage, dowry, alcoholism).
- **Autonomy:** Enhance literacy, digital skills, girls' education, and household decision-making, boosting female confidence and autonomy.

## Government Initiatives Supporting Women SHGs

- **DAY-NRLM** promotes SHGs, women's collectives, and rural livelihoods through financial and institutional support. It has mobilised over **10.05 crore women into 90.90 lakh SHGs**.
- The **Lakshpati Didi Initiative** seeks to transform SHG women into successful entrepreneurs through skill development, enterprise creation, financial inclusion, and sustainable income generation, with the objective of enabling annual earnings of at least **₹1 lakh**.
- The **Namo Drone Didi Scheme** aims to provide drones to

**15,000 selected women SHGs** for offering rental services to farmers, while training women as drone pilots.

- The **SHG-Bank Linkage Programme (SHG-BLP)** launched by **NABARD in 1992** played a transformative role in expanding women-led SHGs and improving access to formal credit.
- Platforms such as **SARAS Mela** provide marketing opportunities and wider visibility for SHG products.

## Success Stories

- **Kudumbashree (Kerala)** is one of the world's largest women's community networks working towards poverty eradication and women empowerment.
- **Mission Shakti (Odisha)** has successfully promoted women-led enterprises and extensive SHG networks across the State.
- **Jeevika (Bihar)** has significantly improved livelihoods and financial inclusion among rural women.
- **Bibi Fathima Swa Sahaya Sangha (Karnataka)** supports more than **5,000 farmers across 30 villages** through millet-based multi-cropping, seed banks, and solar-powered processing facilities.

## Challenges faced by SHGs

- Many SHGs continue to face difficulties in **branding, packaging, transportation, and market integration**, limiting their commercial growth.
- Limited **financial and digital literacy** affects enterprise management and adoption of modern business practices.
- Dependence on subsidies and government support often restricts the development of sustainable business models.
- **Patriarchal attitudes, mobility restrictions, and social barriers** continue to affect women's participation and leadership.
- Many SHGs require stronger **managerial, accounting, technical, and organisational capacities**.
- Delays in credit disbursement and limited access to larger financing options constrain enterprise expansion.

## Way Forward

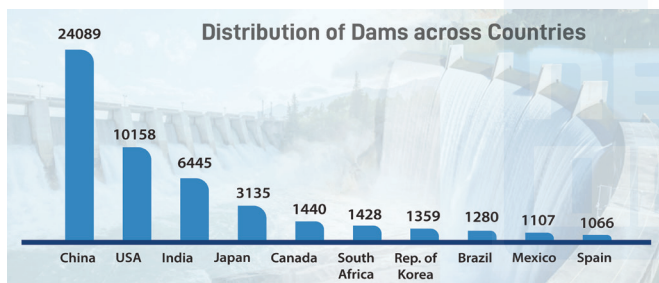
- Affordable and timely institutional credit should be ensured for women entrepreneurs associated with SHGs.
- SHGs should be linked with **e-commerce platforms, retail chains, and export markets** to strengthen market access.
- Greater adoption of **digital payments, online marketing, and technology-driven business systems** should be encouraged.
- Capacity building in financial literacy, enterprise management, and technical skills should be strengthened.
- Collaboration among **government agencies, private sector organisations, NGOs, and financial institutions** should be expanded to support women-led enterprises.

# DAM SAFETY FRAMEWORK IN INDIA

Dams have greatly supported agriculture, industry, and overall socio-economic development in India over the decades.

## Status of Dams In India

- India manages one of the largest dam portfolios globally, and ranks **third in the world**.
- According to the **Central Water Commission (CWC)**, Ministry of Jal Shakti, under the National Register of Specified Dams (2025):
  - ◆ **6,545 operational specified dams** are currently in India.
  - ◆ 83 specified dams are under construction.
- The **gross water storage capacity** of these dams is **about 330 billion cubic metres**.
- The **Kallanai (Grand Anicut) in Tamil Nadu** is India's oldest dam that has functioned for nearly 2,000 years, showcasing enduring engineering and maintenance.
- **Maharashtra has the highest number of specified dams**, followed by Madhya Pradesh, Gujarat, Chhattisgarh, Rajasthan, Karnataka and Odisha.



## Importance of Dams

- **Irrigation:** Store water and supply it for agricultural activities, and help increase crop production and support food security.
- **Hydroelectric Power Generation:** Generate renewable and clean electricity from flowing water, and reduce dependence on fossil fuels.
- **Water Supply:** Provide drinking water for urban and rural populations, and supply water for industrial and domestic use.
- **Flood Control:** Regulate river flow and reduce the impact of floods, and protect lives, property, and agricultural land.
- **Drought Management:** Store water during rainy seasons for use during dry periods, and enhance water availability in drought-prone regions.
- **Navigation:** Maintain water levels in rivers, facilitating inland water transport.
- **Recreation and Tourism:** Create reservoirs that support boating, fishing, and tourism activities, and generate local employment and revenue.
- **Groundwater Recharge:** Help replenish groundwater levels through seepage and controlled releases.
- **Economic Development:** Support agriculture, industries, fisheries, and regional development, and contribute to employment generation and economic growth.
- **Environmental Benefits:** Reservoirs can support fisheries and certain aquatic ecosystems when properly managed.

## Challenges and Issues with Indian Dams

- **Ageing Dam Infrastructure:** According to the **National Register of Large Dams (CWC)**, more than 80% of India's dams are **over 25 years old**, about **234 dams are over 100 years old**, and several dams are approaching or have exceeded their originally intended design life.
  - ◆ Ageing increases risks of structural deterioration, seepage, gate malfunction, and safety concerns.
- **Dam Safety and Risk of Failure:** The **Dam Safety Act, 2021** was enacted to strengthen surveillance, inspection, operation, and maintenance of dams.
  - ◆ The need for a dedicated law highlights concerns regarding structural safety, inadequate maintenance, extreme weather events, and emergency preparedness.
- **Sedimentation of Reservoirs:** Reservoirs gradually lose storage capacity due to accumulation of silt. Many reservoirs have experienced significant loss of live storage capacity over time.
  - ◆ It impacts reduced irrigation potential, lower hydropower generation, and reduced flood moderation capacity.
- **Climate Change and Extreme Rainfall:** Increasing frequency of extreme rainfall events puts pressure on dam operations.
  - ◆ Sudden inflows may require large emergency releases, increasing downstream flood risk.
  - ◆ It impacts higher flood vulnerability, and greater stress on ageing infrastructure.
- **Rehabilitation and Maintenance Backlog:** Many old dams require structural strengthening, spillway modernization, instrumentation upgrades, and gate replacement.
- **Displacement and Social Concerns:** Large dams often involve land acquisition, resettlement and rehabilitation (R&R) issues, and loss of livelihoods for affected communities.
  - ◆ It impacts long-term socio-economic challenges for displaced populations.
- **Environmental Concerns:** Dams alter natural river flows. They can affect aquatic biodiversity, fish migration, wetlands and downstream ecosystems.
  - ◆ It impacts ecological imbalance in river basins.



### Related Initiatives & Efforts

- **Dam Safety Act, 2021:** It is India's first comprehensive law for dam safety. It provides a legal framework for surveillance and inspection of dams; operation and maintenance standards; and emergency action plans and risk management. It applies to all specified dams across the country.
- **National Dam Safety Authority (NDSA):** It was established under the Dam Safety Act, 2021. It aims to implement dam safety policies, resolve technical issues among states, monitor and supervise dam safety standards, and provide technical guidance to dam owners.
- **National Committee on Dam Safety (NCDS):** It is an apex body for dam safety policy and regulations. It recommends safety standards, inspection procedures, and risk assessment frameworks.
- **Dam Rehabilitation and Improvement Project (DRIP):** It aims to improve structural safety, strengthen dam management practices, enhance operational efficiency, and upgrade spillways, gates, and monitoring systems. It covers hundreds of dams across multiple states.
- **National Register of Specified Dams (NRSD):** It maintains a national database of dams, and provides information on dam ownership, age, location, safety status, and technical characteristics.
- **Regular Dam Safety Inspections:** Periodic inspections conducted by State Dam Safety Organisations (SDSOs), National Dam Safety Authority (NDSA), and Central Water Commission (CWC). It aims to detect structural weaknesses, and ensure compliance with safety standards.
- **Emergency Action Plans (EAPs):** Preparation of emergency response plans for dams. It includes early warning systems, flood management protocols, and disaster preparedness measures. It aims to minimize loss of life and property during emergencies.
- **Reservoir Sedimentation Studies:** It is conducted by the CWC to assess loss of reservoir storage due to siltation, and to help formulate desiltation and reservoir management strategies.
- **Capacity Building & Training:** Regular training programmes for dam engineers, operators, and safety officials with focus on modern dam engineering and risk management practices.
- **Use of Modern Monitoring Technologies:** Adoption of instrumentation systems, remote monitoring, hydrological forecasting tools, and digital data management systems to improve real-time dam safety monitoring and decision-making.
- **Digital Initiatives:** Digital platforms such as DHARMA, along with instrumentation and Early Warning Systems, are strengthening real-time monitoring and data-driven dam safety management.

### Way Forward

- **Accelerate Structural Modernization:** Scale up initiatives like the Dam Rehabilitation and Improvement Project (DRIP) to urgently address the maintenance backlog of the 80%+ aging infrastructure, prioritizing spillway upgrades, gate replacements, and structural strengthening.
- **Strengthen Institutional Coordination:** Ensure seamless implementation of the Dam Safety Act, 2021, by fostering robust coordination between the NDSA and SDSOs for rigorous, time-bound periodic inspections.
- **Enhance Tech-Driven Climate Resilience:** Deploy advanced digital platforms like DHARMA, real-time hydrological forecasting tools, and robust Early Warning Systems (EWS) to proactively manage sudden inflows from climate-induced extreme rainfall.
- **Systematic Sedimentation Management:** Conduct regular CWC led siltation studies and formulate targeted desiltation strategies to recover lost live storage capacity, ensuring prolonged irrigation and hydropower potential.
- **Balance Eco-Social Concerns:** Develop comprehensive Resettlement and Rehabilitation (R&R) frameworks to safeguard displaced communities, alongside maintaining mandated environmental flows to protect downstream riverine ecosystems and biodiversity.

### Conclusion

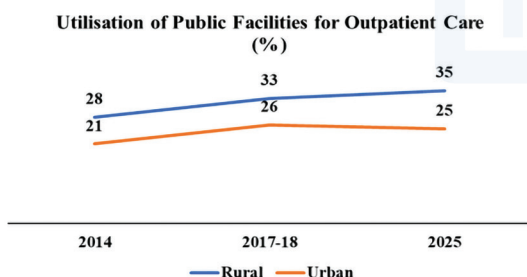
- Dams serve as the lifelines of India's socio-economic fabric, underpinning critical sectors like food security, clean energy generation, and flood moderation for centuries, as epitomized by enduring marvels like the Kallanai Dam.
- As India manages the world's third-largest dam portfolio, the compounding challenges of structural aging and climate vulnerability necessitate a paradigm shift from conventional reactive maintenance to a proactive, risk-based safety culture.
- The effective, pan-India enforcement of the Dam Safety Act, 2021, combined with modern instrumentation and digital monitoring, remains vital to securing these massive public assets, ensuring long-term water safety and sustainable national development.

## RISE IN HEALTHCARE ACCESS IN INDIA

The 80th Round Survey on Household Social Consumption: Health by the National Statistical Office (NSO) provides a major post-pandemic assessment of India's healthcare system during the expansion of Ayushman Bharat-PMJAY and other public health initiatives.

### Key Findings of the Survey

- ➔ **Out-of-Pocket Expenditure (OOPE)** for outpatient treatment in public facilities was almost negligible, showing the growing availability of free essential services. More than 50% of patients in government hospitals spent less than ₹1,100 on treatment.
- ➔ Although the mean OOPE increased, the median OOPE per hospitalisation declined to about ₹11,285, indicating relatively affordable care in the public sector while private-sector costs remain high, especially for diagnostics.
- ➔ The **Proportion of Population Reporting Ailments (PPRA)** nearly doubled, reflecting better awareness and reporting behaviour. Rural PPRA rose from 6.8% to 12.2%, while urban PPRA increased from 9.1% to 14.9%.
- ➔ Institutional deliveries improved significantly, reaching 95.6% in rural areas and 97.8% in urban areas.



- ➔ Government-funded health insurance coverage expanded sharply after PMJAY. Rural coverage increased from **12.9% to 45.5%**, while urban coverage rose from **8.9% to 31.8%**.
- ➔ However, hospitalisation rates have still **not returned to 2014 levels**, showing that insurance coverage alone does not always guarantee access to quality healthcare.
- ➔ The survey also noted a transition from infectious diseases towards a growing burden of **non-communicable diseases (NCDs)**.

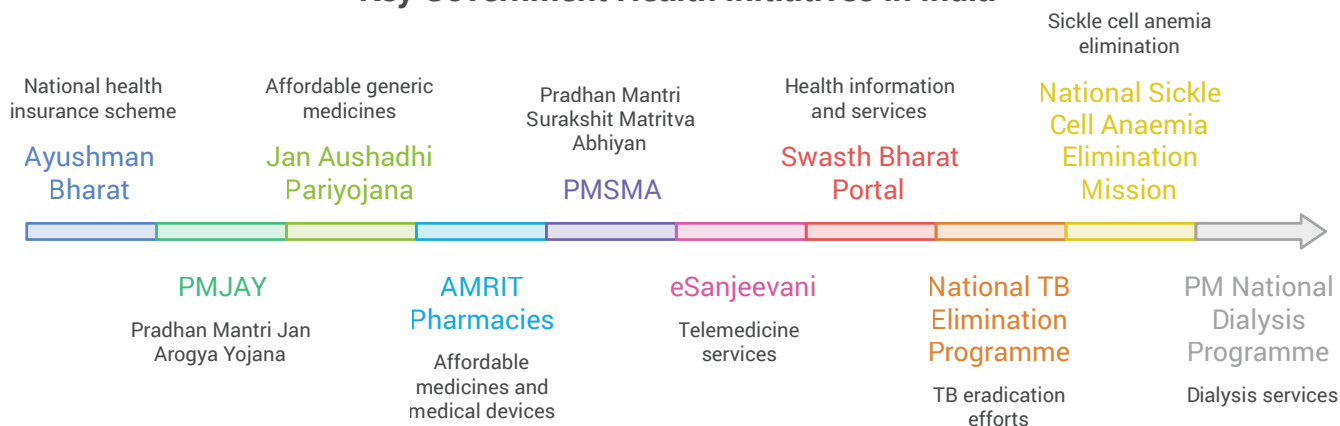
### Major Challenges

- ➔ India continues to face shortages of **doctors, nurses, paramedics, diagnostics, and healthcare infrastructure**, particularly in rural areas. The doctor-population ratio remains around 0.7 per 1,000 people, below the WHO benchmark.
- ➔ The Ayushman Bharat network remains underfunded, especially for chronic disease management where private healthcare dominates.
- ➔ **Coverage Inequality:** Poor households may have nominal insurance but limited practical access, while middle-class families continue to face catastrophic medical expenditure.

### Way Ahead

- ➔ Health sector reforms need to strengthen the capacity of government-run hospitals so they can offer high-quality, advanced medical treatment (tertiary care) that rivals private facilities.
- ➔ Upgrading public hospitals ensures that patients are shielded from financially devastating medical debts that cause poverty, while paving the way for accessible healthcare for almost everyone.

## Key Government Health Initiatives in India





## SIKKIM: INDIA'S FIRST PAPERLESS JUDICIARY STATE

Chief Justice of India Surya Kant declared Sikkim as India's first fully paperless judiciary state.

### About

- It marks the transition to a fully digitised judicial ecosystem where processes such as **e-filing, case management, court records, orders, and judgments** are handled electronically without physical paperwork.
- Features include **digital case tracking, electronic records, automated workflows, e-orders, and virtual hearings**, making courts faster, more transparent, and citizen-friendly.
- The initiative aims to improve **efficiency, accessibility, and inclusive justice delivery**, especially in remote areas, while reducing case delays and speeding up disposal.
- It also promotes **eco-friendly and cost-effective governance** by reducing paper usage and aligns with the vision of **Viksit Bharat 2047**.

### High Courts in India

- High Courts were first established in **1862** at **Calcutta, Bombay, and Madras**.
- India currently has **25 High Courts**, governed under **Articles 214–231** of the Constitution.

## CHANGES TO CITIZENSHIP RULES, 2026

The Union Ministry of Home Affairs notified the **Citizenship (Amendment) Rules, 2026**, introducing major digital reforms in the **Overseas Citizen of India (OCI)** framework and stricter rules regarding dual passports for minors.

### Key Changes

- A new provision under the **Citizenship Rules, 2009** states that a **minor holding an Indian passport** cannot simultaneously possess the passport of another country, aiming to prevent misuse of dual citizenship arrangements.
- Applications for **OCI registration under Section 7A**, along with renunciation and cancellation processes, will now be conducted entirely through an **online system**, eliminating duplicate physical submissions.
- The rules introduce **electronic OCI (e-OCI)**, creating a more **paperless digital identity framework**, under which eligible individuals may receive either a physical OCI card or an electronic registration.
- OCI applicants must now provide consent for **biometric data collection** for integration with the **Fast Track Immigration Programme (FTIP)**.
- A **centralised electronic registry** of OCI holders will be maintained in digital form.

- Renunciation and cancellation procedures under **Rules 34 and 35** have also been shifted online, with provisions for appeals and compliance requirements.
- Individuals renouncing OCI status must surrender their physical OCI card to the nearest Indian Mission, Post, or FRRO office.

### About the OCI Scheme

- The OCI scheme was introduced through the **Citizenship (Amendment) Act, 2005** under the **Citizenship Act, 1955**.
- OCI registration is available to foreign citizens who were Indian citizens on or after **26 January 1950**, belonged to territories that became part of India after **15 August 1947**, or were eligible for Indian citizenship at that time.
- Eligibility also extends to their children, grandchildren, great-grandchildren, minor children with at least one Indian parent, and spouses of Indian citizens or OCI holders after a minimum **two-year registered marriage**.
- Persons connected to **Pakistan or Bangladesh** through parents, grandparents, or great-grandparents are not eligible.

### Benefits of OCI

- OCI cardholders receive a **lifelong multiple-entry visa** to India and enjoy parity with **NRIs in economic, financial, and educational matters**, though they **do not possess voting rights**.

## FUGITIVE ECONOMIC OFFENDERS (FEOS)

The Enforcement Directorate (ED) has officially designated **21 individuals** as **Fugitive Economic Offenders (FEOs)** to tackle high-value financial evasion.

### Definition of an FEO

- Fugitives are accused or convicted criminals who intentionally flee their home country's legal jurisdiction to **evade arrest, prosecution, or punishment**.
- Bringing them back requires formal international extradition.
- Under the **Fugitive Economic Offenders Act, 2018**, an individual is declared an FEO if an Indian court has issued an arrest warrant against them for a specified financial crime involving **₹100 crore or more**.

### Key Features of the Fugitive Economic Offenders Act

- **Asset Seizure:** The law allows authorities to seize and confiscate the offender's properties both within India and internationally, including proxy (benami) assets or properties they indirectly control.
- **Ban on Civil Claims:** Certified FEOs lose their right to start or defend any civil lawsuits within Indian courts.
- **Dedicated Adjudication:** Cases are tried through designated Special Courts set up under the **Prevention of Money Laundering Act, 2002**.

### Enforcement Directorate (ED)

- Founded in 1956 as an 'Enforcement Unit' under the **Department of Economic Affairs** to handle exchange control violations under **FERA 1947**, it was renamed the **Enforcement Directorate in 1957** and shifted to the Department of Revenue.
- It is a **specialized, multi-disciplinary** agency tasked with probing money laundering and foreign exchange breaches.
- It holds the statutory mandate to enforce three key legislations:
  - ♦ The Prevention of Money Laundering Act (PMLA) 2002,
  - ♦ The Foreign Exchange Management Act (FEMA) 1999,
  - ♦ The Fugitive Economic Offenders Act (FEOA) 2018.

## TRANSGENDER PERSONS (PROTECTION OF RIGHTS) AMENDMENT ACT, 2026

The Supreme Court of India has flagged deep constitutional concerns regarding the Transgender Persons (Protection of Rights) Amendment Act, 2026. The petitions challenge the law for forcing a regressive shift from a rights-based model to a strict regulatory framework.

### Evolution of the Legal Framework

- **NALSA Judgment (2014):** Confirmed the "third gender" and anchored the right to self-identification under Article 21 (Dignity and Life) without medical gatekeeping.
- **Transgender Persons Act (2019):** Safeguarded self-perceived identity, banned discrimination, and introduced verification through the District Magistrate (DM).
- **Amendment Act (2026):** Deleted explicit statutory self-identity rights and made State Medical Board evaluation a mandatory condition for legal recognition.

### Constitutional Issues

- **Autonomy vs. Biological Essentialism:** Forcing clinical evaluation reintroduces medical gatekeeping, directly striking down bodily autonomy.
- **Targeting Welfare vs. Systemic Exclusion:** While the government fears the "misuse" of welfare quotas, critics argue this threat is vastly overstated compared to the resulting real-world exclusion.
- **Stigma and Wrongful Classification:** Grouping coercive trafficking victims alongside transgender identities under strict criminal categories creates arbitrary classification, violating Article 14 (Equality).
- **Healthcare Disruption:** Mandatory surgical reporting to authorities risks creating a surveillance network, halting vital gender-affirming medical therapies due to fear.

### Way Ahead

- A balanced model must combine self-determination with protective affidavits.

- True legal equity requires institutional sensitization of administrative and medical boards, separation of identity from trafficking offenses, and total alignment with original NALSA human rights values.

## MODEL CODE OF CONDUCT (MCC)

A recent broadcast by Prime Minister Modi has restarted the debate over whether the Model Code of Conduct is strong enough to stop politicians from using state property and public funds for election campaigns.

### About

- Created by the Election Commission of India (ECI), the MCC is a set of rules that regulate political parties and candidates during elections.
- Its goal is to keep voting ethical, free, and fair while giving everyone an equal chance.

### Evolution

- The MCC began as a small draft by the Kerala government in 1960. The ECI turned it into a uniform national policy in 1968 and expanded its reach in 1974.
- It gained real strength and public trust after 1991, when it was enforced strictly under Chief Election Commissioner T. N. Seshan.

### Legal and Constitutional Basis

- The MCC is a moral guideline rather than a passed law, but it gets its core authority from Article 324 of the Constitution, which gives the ECI power to manage elections.
- To punish specific violations, the ECI can link MCC rules to existing laws like the Bharatiya Nyaya Sanhita (BNS), 2023, Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023 and the Representation of the People Act 1951.

### Judicial Rulings

- In the **Mohinder Singh Gill (1978)** case, the Supreme Court confirmed that Article 324 gives the ECI wide-ranging authority to protect the voting process.
- Later, in **Harbans Singh Jalal (1997)**, the Punjab and Haryana High Court clarified that the MCC becomes active the exact day the election dates are officially announced.

## FORCIBLE ACID INGESTION

The Supreme Court has extended the definition of 'acid attack victims' under the Rights of Persons with Disabilities Act, 2016 to include individuals who were forced to swallow acid.

### Key Provisions

- Previously, the 2016 law only recognized victims of acid-throwing. This new inclusion will apply retrospectively from the Act's inception in 2016, allowing survivors of forced acid ingestion to claim all statutory disability benefits.

- **Scope of Injury:** The Court ordered that the definition must include individuals administered acid who have suffered internal injuries, even without any visible outward disfigurement.
- **Policy Directive:** Acknowledging that survivors face extensive, continuous medical treatment, the Court suggested creating a comprehensive policy framework to ensure their long-term protection.

## PUBLIC INTEREST LITIGATION (PIL)

A Supreme Court judge noted that PIL has recently degenerated into 'private,' 'publicity,' 'political,' or even 'paisa' (monetary) interest litigation.

### What is a PIL?

- A PIL is a petition filed to protect and enforce the welfare of the general public.
- Developed by the judiciary after the Emergency to make social justice accessible to everyday citizens.
- PILs are not explicitly written in the Constitution but emerged through judicial innovation.
- Any citizen or organization can file one under Article 32 (Supreme Court) or Article 226 (High Courts), provided they prove the issue serves the larger public instead of a private group.
- Crucially, a PIL can only be filed against central, state, or municipal governments, never against private individuals.

### Landmark Judgments

- **Hussainara Khatoun v. State of Bihar:** The first reported PIL, exposing the horrific conditions of undertrial prisoners.
- **Vishaka v. State of Rajasthan:** Addressed workplace sexual harassment, leading to the landmark 1997 Vishaka Guidelines.
- **M.C. Mehta v. Union of India:** Tackled environmental degradation in the Ganges basin, forcing actions against water and air pollution.
- **Parmanand Katara v. Union of India:** Ruled that all public and private doctors must give immediate medical aid to road accident victims without waiting for police clearance.

### Significance

- PILs hold public authorities accountable, expand legal interpretations, and highlight structural problems related to human rights, consumer welfare, and the environment.
- They give marginalized groups a voice and boost civic awareness through public debates and media coverage.

### Concerns

- PILs heavily strain an already overburdened court system with **frivolous cases**, wasting time of the judiciary.
- They are frequently abused by individuals chasing personal vendettas or private agendas.

- Furthermore, poor execution of court rulings weakens their impact, and excessive intervention risks judicial overreach by stepping into the executive and legislative domains.

## RASHTRIYA BAL SWASTHYA KARYAKRAM (RBSK) 2.0 GUIDELINES

The Ministry of Health and Family Welfare launched the updated RBSK 2.0 Guidelines during the National Summit on Good Practices and Innovations in Public Healthcare Service Delivery.

### About

- RBSK aims to uplift children's overall quality of life by providing comprehensive healthcare from birth to 18 years.
- It screens for 32 common conditions categorized under the "4Ds": Defects at birth, Diseases, Deficiencies, and Developmental delays.
- The initiative ensures early identification, free medical management, and tertiary-level surgeries, followed by dedicated early intervention and care at the district level.

### Key Enhancements in RBSK 2.0

- **Expanded 4Ds Framework:** The updated model reinforces the classic 4Ds while integrating modern health threats such as behavioral issues, mental health conditions, and Non-Communicable Diseases (NCDs).
- **Holistic Strategy:** It shifts focus toward a complete care continuum i.e. preventative, promotive, and curative. It prioritizes overall well-being and development over mere survival.
- **Screening Delivery:** Mobile Health Teams will directly visit schools and Anganwadi Centres to check for developmental anomalies, mental health problems, and NCD risk factors, ensuring universal reach.
- **Digitalization:** It introduces digital health cards, live tracking databases, and unified software platforms to increase transparency, operational efficiency, and data-driven planning.
- **Inter-Ministerial Convergence:** The guidelines mandate seamless coordination among the health, education, and women and child development sectors to synchronize tracking, community awareness, and follow-up treatments.

## PREVENTION OF INSULTS TO NATIONAL HONOUR ACT, 1971

The Union Cabinet has approved an amendment to The Prevention of Insults to National Honour Act, 1971. The goal is to make insulting or blocking the singing of the National Song, Vande Mataram, a punishable offense.

### Present Situation

- Currently, the Act only penalizes insults to the **National Anthem, the National Flag, and the Indian Constitution** with up to three years in prison, a fine, or both.

## About Vande Mataram

- Composed in Sanskrit by **Bankim Chandra Chatterjee**, the song first appeared in his 1882 novel **Anandamath**, which was set during the Sanyasi Rebellion and the 1769–73 Bengal famine.
- Rabindranath Tagore gave it national prominence by singing it at the 1896 Indian National Congress session.
- It became a civil resistance anthem during the 1905 Swadeshi Movement and was first used as a political slogan on August 7, 1905.
- On January 24, 1950, it was officially adopted as India's National Song.

## Legal and Constitutional Status

- Article 51A(a) outlines the Fundamental Duties, ordering citizens to respect the Constitution, its ideals, the National Flag, and the National Anthem.
- However, **Vande Mataram** lacks explicit constitutional protection. Its official status comes from Constituent Assembly resolutions rather than enforceable constitutional text.

## KARNATAKA'S NEW GIG WORKER GRIEVANCE SYSTEM

Karnataka has launched India's first specialized grievance system for platform-based gig workers.

### Background

- Following its **Platform-Based Gig Workers (Social Security and Welfare) Act, 2025**, Karnataka became the first state to issue official enforcement rules.
- The Rules ensure structured legal recourse for workers outside the traditional economy.

### The Grievance System

- Workers can formally log complaints regarding pay, working conditions, or platform-specific disputes through the **Integrated Public Grievance Redressal System (IPGRS)**.
- **Resolution Framework:** Every aggregator platform must set up an Internal Dispute Resolution Committee (IDRC). Complaints from the IPGRS route automatically to the platform's IDRC, which must try to resolve issues within 15 working days and issue a final order within 45 days under government oversight. Decisions can be appealed to the Karnataka Gig Workers Welfare Board within 30 days.
- **Platform Mandates:** Under the 2025 Act, aggregators must maintain this internal committee and pay a mandatory 1% welfare contribution (subject to a cap).
- **Gig Economy Data:** A gig worker earns from flexible setups outside traditional employer-employee relationships. India's gig workforce stood at roughly 12 million in 2024–25 and is projected to hit 23.5 million by 2029–30.

- **Broader Policies:** Central support includes the Code on Social Security (2020), e-Shram Portal, and Ayushman Bharat health insurance. At the state level, Rajasthan passed a registration and welfare act in 2023, preceding Karnataka's 2025 law.

## ARTICLE 26(B) AND EXCOMMUNICATION

The issue relates to whether the power of a religious community to excommunicate members is protected under Article 26(b) of the Constitution.

### About Article 26

- Article 26 provides every religious denomination the freedom to manage its religious affairs, subject to **public order, morality, and health**.

### Essential Religious Practices Doctrine

- The doctrine distinguishes between essential religious practices and secular activities linked to religion. Only practices considered fundamental to a religion receive constitutional protection.

#### Examples:

- **Triple Talaq:** The Supreme Court in *Shayara Bano v. Union of India* invalidated instant triple talaq (talaq-e-biddat), ruling that it violated women's fundamental rights to equality and non-discrimination.
- **Loudspeakers for Azaan:** High Courts have established that while the Azaan is an essential part of religion, using loudspeakers or sound amplification mechanisms is a non-essential practice subject to national noise regulation laws.
- **Santhara:** The Rajasthan High Court in *Nikhil Soni v. State of Rajasthan* (2015) declared this traditional Jain fasting ritual unconstitutional, holding that it was not an essential religious practice.
- **Carrying Kirpans (Sikhism):** Explicitly protected under Article 25 of the Constitution, which expressly recognizes the wearing and carrying of a kirpan as a core component of professing the Sikh faith.
- **Priestly Rituals (Hinduism):** In *Seshammal v. State of Tamil Nadu* (1972), the Supreme Court protected daily religious rites and offerings prescribed by the Agamas (sacred texts) as essential, while clarifying that the hereditary appointment of priests remains a secular, administrative matter.

### It grants the right:

- ♦ to establish and maintain religious and charitable institutions;
- ♦ to manage affairs in matters of religion;
- ♦ to own and acquire property;
- ♦ to administer such property according to law.

### Issue of Excommunication

- Excommunication refers to expelling a person from a religious community and denying community rights and participation.



- Supporters of the practice argued that it is necessary to maintain religious discipline and preserve the identity of the denomination.
- Opponents argued that it violates individual dignity, equality, and freedom, and is against the spirit of religion.

### Judicial and Legal Developments

- A Supreme Court Constitution Bench in 1962 held that the power to excommunicate was part of managing religious affairs and protected under Article 26(b).
- Later, laws against social boycott and excommunication were introduced to protect individuals from social ostracisation.
- The constitutional validity of excommunication as a religious practice has now been referred to a larger Bench.

## ONE CASE ONE DATA' AND 'SU SAHAY' INITIATIVES

The Supreme Court recently launched the 'One Case One Data' initiative and the 'Su Sahay' AI chatbot to improve digital judicial services.

### One Case One Data Initiative

- It is a major digital initiative to connect **taluka courts, district courts, High Courts, and the Supreme Court** through a unified database system.
- The initiative aims to create an interconnected digital judicial information system for better **case management and data integration**.

### 'Su Sahay' Chatbot

- 'Su Sahay' is an **Artificial Intelligence (AI)-powered chatbot** integrated with the Supreme Court website.
- It helps litigants access justice and court-related services more easily.
- The chatbot was developed by the **National Informatics Centre (NIC)** in collaboration with the **Supreme Court Registry**.

## FORUM OF REGULATORS (FOR)

The Forum of Regulators (FOR) recently held its 100th meeting at Bharat Mandapam, marking 21 years since its establishment.

### About FOR

- FOR is a **statutory platform** created under **Section 166(2) of the Electricity Act, 2003**.
- It was established on **16 February 2005** to improve coordination and regulatory practices in the **power sector**.

### Composition

- It includes the **Chairperson of the Central Electricity Regulatory Commission (CERC)** and Chairpersons of all **State Electricity Regulatory Commissions (SERCs)**.
- The **CERC Chairperson** acts as the head of the Forum.

- The **Secretary of CERC** serves as the ex-officio Secretary of FOR. Its headquarters is located in **New Delhi**.

### Key Functions

- Collects and analyses data related to **tariff orders** and regulatory decisions. Monitors **subsidy accounting** and subsidy payments to distribution companies.
- Tracks compliance with **Renewable Purchase Obligations (RPOs)**.
- Promotes harmonisation of regulations across the power sector. Facilitates coordination, information sharing, and research among regulatory bodies.
- Protects **consumer interests** while promoting efficiency, economy, and competition.
- Conducts studies, capacity-building programmes, and prepares reports on power sector issues.

## NATIONAL PANCHAYAT AWARDS 2025

The Ministry of Panchayati Raj announced the National Panchayat Awards 2025 to recognise outstanding Panchayats for inclusive, participatory, and sustainable rural development. Kawrthah North Village Council in Mizoram secured the top national rank under the "Clean and Green Panchayat" category.

### About the Awards

- The awards are given annually under the **Incentivization of Panchayats (IoP) Scheme**, a component of the **Rashtriya Gram Swaraj Abhiyan (RGSA)**.
- They aim to improve **local governance, service delivery, community participation, and Sustainable Development Goal (SDG) achievement**.
- In **2023**, the awards framework was revamped and aligned with the **nine themes of Localization of Sustainable Development Goals (LSDGs)** for more transparent and data-driven assessment.

### Categories

- **Deen Dayal Upadhyay Panchayat Satat Vikas Puraskar:**
  - ◆ Recognises Gram Panchayats for performance in themes such as poverty reduction, health, water sufficiency, sanitation, women-friendly governance, and social justice.
  - ◆ Awards are based on **Panchayat Advancement Index (PAI) 2.0** scores.
- **Nanaji Deshmukh Sarvottam Panchayat Satat Vikas Puraskar:** Recognises the best-performing Panchayats at the **district, block, and gram levels**.

### Key Highlights

- A total of **42 Panchayats** were selected across both award categories.
- **Karnataka** secured the highest number of awards with **6 Panchayats**, followed by **Andhra Pradesh** and **Odisha** with **5 awards each**.

- Prize money varies across categories and levels, with awards including amounts such as ₹25 lakh, ₹50 lakh, ₹75 lakh, and ₹1 crore.

### Significance

- The awards strengthen Panchayats' role in achieving SDGs and advancing the vision of **Viksit Bharat@2047**.

## SEHAT MISSION

The Union Ministers for Health and Family Welfare and Agriculture and Farmers' Welfare recently launched the SEHAT Mission in Delhi.

### About SEHAT Mission

- SEHAT stands for **Science Excellence for Health through Agricultural Transformation**.
- It is a **national mission-mode programme** aimed at linking agriculture, nutrition, and public health.
- The mission seeks to convert agricultural innovations into better health outcomes for people in India.
- It is a joint initiative of the **Indian Council of Agricultural Research (ICAR)** and the **Indian Council of Medical Research (ICMR)**.

### Objective

- The mission aims to build a framework for **"Healthy Food, Healthy Farms and a Healthy India."**
- It focuses on nutrition, preventive healthcare, non-communicable diseases, farmer welfare, and the **One Health** approach.
- It also aims to support evidence-based and data-driven policymaking.

### Priority Areas

- Development of **biofortified and nutrient-rich crop varieties** to reduce malnutrition.
- Promotion of **integrated farming systems** for dietary diversification, higher farm income, and resilience.
- Addressing **occupational health risks** faced by agricultural workers.
- Promotion of **functional foods** and nutritionally superior crops for prevention and management of **non-communicable diseases**.
- Strengthening **One Health preparedness** through integrated surveillance, diagnostics, and research at the **human-animal-environment interface**.

## RIGHT TO SPEEDY TRIAL

The Supreme Court recently held that the Right to Speedy Trial is not only a constitutional guarantee under Article 21 but also a human right. The observation came while hearing a criminal case pending for nearly 35 years.

### About the Right

- The Right to Speedy Trial ensures that criminal cases are decided without unnecessary delay. It is considered part of the **Right to Life and Personal Liberty under Article 21**.
- It protects individuals from prolonged detention, mental stress, social stigma, and unfair treatment.

### Judicial Evolution

- **Hussainara Khatoon v. State of Bihar (1979)**: The Supreme Court first recognised speedy trial as a fundamental right and highlighted the plight of undertrial prisoners.
- **A.R. Antulay v. R.S. Nayak (1992)**: The Court laid down principles to identify violations caused by unreasonable delays, including systemic inadequacies.
- **Maneka Gandhi v. Union of India**: The Court held that legal procedures must be fair, just, and reasonable.

### Recent Examples of Long-Pending Cases

- **33-Year-Old Attempted Murder Trial (Bihar)**: In a case from a 1992 neighborhood clash in Vaishali district four out of five co-accused passed away due to old age over the 33-year trial. The sole surviving defendant, Deep Rai, aged 85 was convicted in June 2026.
- **Property Owners' Association v. State of Maharashtra**: A landmark constitutional matter that remained stuck in the Supreme Court for over 32 years before a nine-judge bench finally resolved it in late 2024. The long-standing dispute challenged a 1986 amendment regarding state power over dilapidated private structures.
- **State of Assam v. Union of India**: One of the Supreme Court's oldest active constitutional disputes. This case has been pending for over 30 years and centers on citizenship issues, cross-border migration, and the legality of Section 6A of the Citizenship Act.
- **Mass Undertrial Incarcerations**: Beyond major benches, ordinary citizens regularly face 6 to 8 years of detention without witness examinations even beginning, violating Article 21's guarantee of a speedy trial.

### Need for Speedy Trial

- Protects fundamental rights and ensures fair justice. Prevents weakening of evidence and witness memory over time.
- Reduces unnecessary detention of undertrials, especially poor and marginalised persons.
- Helps reduce mental stress and social stigma. Improves judicial efficiency and reduces pendency.

### Causes of Delay

- Shortage of judges and poor infrastructure.
- Frequent adjournments and procedural delays. Slow investigations, forensic reports, and prosecution processes.
- Large backlog of pending cases.

## Measures for Faster Justice

- **Plea Bargaining** for minor offences.
- **Lok Adalats, Mediation, Conciliation, and Nyaya Panchayats** for quicker dispute resolution.
- **Compounding of offences** under Section 320 of CrPC for minor criminal cases.

## CBSE THREE-LANGUAGE FORMULA

The CBSE has made the study of a third language mandatory from Class 9 starting July 2026. Schools are implementing the three-language formula under the National Education Policy (NEP) 2020 and the National Curriculum Framework for School Education (NCFSE) 2023.

### About the Three-Language Formula

- Students must study **three languages**, with at least **two Indian languages**.
- The policy applies to both government and private schools.
- States and schools can choose languages with flexibility, and no language is officially imposed.
- The formula was first recommended by the **Kothari Commission (1964–66)** and introduced in **NEP 1968**.

### NEP 2020 Changes

- NEP 2020 retained the formula but gave greater flexibility compared to earlier policies.
- Students generally study their **regional language, English**, and another Indian language.
  - ◆ Some schools have replaced foreign languages such as **French and German** with **Sanskrit and regional Indian languages**.
- Foreign languages may continue as optional or hobby subjects but cannot replace the Indian language requirement.

### Objectives

- Promote **multilingualism** and cognitive development.
- Preserve and encourage **Indian languages**.
- Strengthen **national integration** and cultural understanding.
- Maintain **global exposure** through English and optional foreign languages.

### Challenges

- Concerns in some southern states about indirect promotion of Hindi.
- Shortage of trained language teachers and lack of textbooks.
- Difficulty for students already studying foreign languages or frequently relocating.

### Latest CBSE Directions

- The third language will be assessed internally without a Class 10 board examination.
- Schools may use online classes, shared teachers, or retired teachers to address shortages.

## CENTRAL BUREAU OF INVESTIGATION (CBI)

The Appointments Committee of the Cabinet (ACC) recently approved a one-year extension for the Director of the Central Bureau of Investigation.

### About CBI

- The CBI is India's premier investigating police agency.
- It functions under the **Ministry of Personnel, Pension and Public Grievances**.

### History and Establishment

- The origin of the CBI traces back to **World War II**, when the colonial government created a mechanism to investigate corruption in the **War and Supply Department**.
- Special Police Establishment (SPE) was set up in 1941, and later the Delhi Special Police Establishment (DSPE) Act, 1946 was enacted. The CBI was formally established in **1963** through a resolution of the **Ministry of Home Affairs**.
  - ◆ Its creation was recommended by the **Santhanam Committee on Prevention of Corruption**.

### Functions

- Investigates serious crimes related to:
  - ◆ Corruption
  - ◆ Economic offences
  - ◆ Fraud, cheating, and embezzlement
  - ◆ Crimes affecting national security and inter-state interests
  - ◆ Social crimes such as hoarding, black marketing, and profiteering
- It is also India's nodal agency for Interpol coordination.

### Jurisdiction

- The CBI derives its investigative powers from the **DSPE Act, 1946**.
- Under **Section 2**, its jurisdiction originally extends only to **Union Territories**.
- Under **Section 5**, the Central Government can extend its powers to States.
- Under **Section 6**, such extension requires the **consent of the concerned State Government**.

### General Consent for the CBI

- **The Rule:** Under Section 6 of the DSPE Act, 1946, states give the CBI either case-specific or general consent.
- **General Consent:** States normally grant general consent to let the CBI seamlessly investigate corruption cases against central government workers within their borders.
- **How It Works:** This acts as consent by default, allowing the CBI to start investigations immediately without asking every time.
- **Without It:** If a state withdraws general consent, the CBI must officially apply to the state government for approval before taking any action in an individual case.

## RTI ACT DOES NOT APPLY TO BCCI

The Central Information Commission (CIC) has held that the Board of Control for Cricket in India (BCCI) is not a "public authority" under the Right to Information (RTI) Act, 2005. The decision reverses the CIC's 2018 order, which had earlier treated BCCI as a public authority.

### Why BCCI Was Excluded from RTI

- The BCCI functions as an **autonomous private body** and is not directly or indirectly financed by the government. It is registered under the **Tamil Nadu Societies Registration Act, 1975**.
  - ◆ In India Supreme Court decides whether the BCCI is considered a "State" under Art. 12 of the Indian Constitution.
- It was not created by the Constitution, Parliament, State Legislature, or a government notification.
- The government does not appoint its office-bearers or exercise administrative control over its functioning. Its operations are primarily funded through **market-based revenues**, such as media rights, sponsorships, and cricket-related activities.
- The CIC clarified that **tax exemptions or statutory concessions do not amount to "substantial financing"**, which is necessary for classification as a public authority under **Section 2(h) of the RTI Act**.

### Judicial Basis

- **Zee Telefilms v. Union of India (2005)**: Held that BCCI is not 'State' under **Article 12**.
- **Thalappalam Service Cooperative Bank v. State of Kerala (2013)**: Indirect benefits or limited government support do not make an entity a public authority.
- **Dalco Engineering v. Satish Prabhakar Padhye (2010)**: Substantial government control or financing is necessary for statutory accountability.
- **BCCI v. Cricket Association of Bihar (2016)**: Directed governance reforms but did not declare BCCI a public authority.
- Recommendations of the **Justice Lodha Committee (2015)** and the **Law Commission's 275th Report (2018)** were considered advisory in nature.

### Central Information Commission (CIC)

- A **statutory body** established under the **RTI Act, 2005**.
- It is the highest appellate authority for RTI-related matters.
- It consists of the **Chief Information Commissioner (CIC)** and **Information Commissioners (ICs)**.
- Members are appointed by the **President of India**.

### BCCI

- The Board of Control for Cricket in India (BCCI) was established in 1928.
- India played its first Test match in 1932.
- The Ranji Trophy was introduced in 1934, named after K.S. Ranjitsinhji.

### Right to Information (RTI) Act, 2005

- Enables citizens to access information held by **public authorities**.
- Upholds the spirit of **Article 19(1)(a)** of the Constitution.
- Applies to government bodies and entities covered under **Section 2(h)**.
- Certain information relating to **sovereignty, security, strategic interests, and foreign relations** is exempt from disclosure.
- Exempt information may still be disclosed if **public interest outweighs the potential harm**.

## EUTHANASIA FOR RABID AND DANGEROUS STRAY DOGS

The Supreme Court has permitted legally permissible measures, including euthanasia, for rabid, incurably ill, terminally injured, or demonstrably dangerous stray dogs. The decision aims to protect human life, public safety, and public health.

### Key Directions of the Supreme Court

- The Court held that the **State has a constitutional duty** to protect citizens from stray dog attacks and rabies threats.
- It upheld its earlier directions prohibiting **feeding stray dogs on public streets**. Local authorities must identify and allocate designated feeding areas.
- Stray dogs must be removed from **schools, hospitals, markets, public utilities, and other high-footfall areas**.
- Every **State and Union Territory** must establish at least **one fully functional Animal Birth Control (ABC) Centre in each district** with veterinary staff, surgical facilities, and necessary infrastructure.
- States must ensure adequate availability of **anti-rabies vaccines and immunoglobulin** in government health facilities.
- The **NHAI** has been directed to create a mechanism for the safe handling and relocation of stray cattle and animals from highways and expressways.
- Officers implementing these directions will receive protection from criminal proceedings unless there is evidence of malice or serious misuse of authority.
- The Court noted long-standing failures by local bodies to effectively implement **ABC Rules** since 2001.

### Constitutional and Legal Basis

- **Article 21**: Protects the right to life and personal safety.
- **Article 19(1)(d)**: Guarantees freedom of movement, which may be affected by uncontrolled stray dog populations.
- **Article 51A(g)**: Imposes a duty on citizens to show compassion towards living creatures.
- **Prevention of Cruelty to Animals Act, 1960**: Permits humane treatment of animals while preventing unnecessary cruelty.

### Animal Birth Control (ABC) Rules, 2023

- Issued under the **Prevention of Cruelty to Animals Act, 1960**.



- Emphasise **sterilisation** and **anti-rabies vaccination** as the primary methods of stray dog population control.
- Sterilised dogs are generally released back into the same locality.
- **Indiscriminate killing or relocation is not permitted.**
- **Euthanasia** is allowed only for **rabid, terminally ill, fatally injured, or legally identified dangerous dogs.**

## UNLAWFUL ACTIVITIES (PREVENTION) ACT

Delhi Police has suggested a larger SC Bench to review the Unlawful Activities (Prevention) Act (UAPA) bail curbs.

### About

- An earlier judgment by SC held that "bail is the rule and jail is an exception" even in prosecutions under the UAPA. Section 43D(5) of the UAPA imposes stringent restrictions on bail.
- A court has to conclude whether the allegation against the accused appears to be prima facie true while deciding bail.

### Unlawful Activities (Prevention) Act (UAPA)

- UAPA is India's primary anti-terrorism law aimed at preventing unlawful activities, and terrorist activities that threaten the sovereignty and integrity of India.
- UAPA was **enacted in 1967** by the Parliament of India.
- The Central Government **can designate organizations as terrorist organizations.**
- Accused can be detained for a longer period without filing chargesheet up to 180 days in certain cases. Cases are often investigated by the **National Investigation Agency.**

## AYUSH ANUDAN PORTAL

The Ministry of Ayush launched the Ayush Anudan Portal at Kartavya Bhawan, New Delhi. The portal has been developed under the Ayush Grid Initiative.

### About

- It is a **centralized digital platform** for managing grants under various **Central Sector Schemes** of the Ministry of Ayush.
- It enables **online submission, processing, evaluation, approval, monitoring, and tracking** of funding proposals.
- It supports **paperless governance, Ease of Doing Business, and Ease of Living.**
- It aims to improve **transparency, efficiency, and accountability** in grant management.

### Key Features

- **NGO Darpan Integration:** Enables faster and more reliable verification of applicant organisations.
- **Scheme-wise Application Management:** Applications are processed according to the requirements of individual schemes.

- **Real-Time Tracking:** Applicants can track the status of proposals online.
- **User-Friendly Digital Interface:** Replaces manual and paper-based procedures.

### Ayush Grid Initiative

- It is a comprehensive Information Technology backbone for the Ayush sector. It was conceptualised by the Ministry of Ayush in 2018 under the Digital India Programme.
- It aims to create an **integrated, transparent, secure, and citizen-centric** digital ecosystem for Ayush.
- It supports the vision of '**Healthy Food, Healthy Farms and a Healthy India.**'
- **Coverage Areas:**
  - ◆ Health Services
  - ◆ Education
  - ◆ Research
  - ◆ Drug Administration
  - ◆ Medicinal Plants
  - ◆ Ministry of Ayush Oversight
  - ◆ Capacity Building and Media Outreach

## JUDGES (INQUIRY) ACT, 1968

The Judges Inquiry Committee, which looked into accusations against Justice Yashwant Varma, has handed over its findings to the Lok Sabha Speaker. This document was submitted to fulfill the formal legal demands outlined by the Judges (Inquiry) Act, 1968.

### Judges (Inquiry) Act, 1968

- The Constitution dictates that removing a judge requires a direct order from the President, which can only happen after a removal motion is successfully cleared by both Houses of Parliament.
- The exact procedure for this investigative process is mapped out in the **Judges (Inquiry) Act, 1968.**

### Removal Proceedings

- A removal motion signed by 100 members (in case of Lok Sabha) or 50 members (in case of Rajya Sabha) is to be given to the Speaker/Chairman.
- If the motion is admitted, then a three-member committee to investigate into the charges is constituted.
- If the committee finds the judge to be guilty of the charges (misbehaviour or incapacity), the House in which the motion was introduced, can take up the consideration of the motion.
- **Special majority:** Majority of total membership of the House & majority of not less than two thirds members present and voting.
- Once, the House in which removal motion was introduced passes it with special majority, it goes to the second House which also has to pass it with a special majority.

- ➔ After the motion is passed, an address is presented to the President for removal of the judge. The President then passes an order removing the judge.
- ➔ The Act serves as the official legal blueprint for unseating sitting Judges of the Supreme Court and various state High Courts.

### Grounds of Removal

- ➔ **Proved Misbehaviour:** Professional misconduct, actions that cross the line of judicial ethics, or any behavior that harms the public reputation of the legal system.
- ➔ **Incapacity:** Any physical or mental limitation that leaves a judge unable to properly perform the official duties of their position.

## PROPOSED AMENDMENTS TO THE NATIONAL ANTI-DOPING ACT, 2022

The Ministry of Youth Affairs and Sports has proposed amendments to the National Anti-Doping Act, 2022 to curb organised doping activities and the illegal supply of prohibited substances.

### About Doping

- ➔ **Doping** refers to the use of prohibited substances or methods by athletes to gain an unfair competitive advantage.
- ➔ The global anti-doping framework is governed by the **World Anti-Doping Agency (WADA)**, established in 1999.
- ➔ The **WADA Prohibited List** includes substances such as **anabolic steroids, EPO, stimulants, diuretics, human growth hormones, and masking agents**.
- ➔ According to the **WADA 2024 Report**, India reported the highest number of **Anti-Doping Rule Violations (ADRVs)** for three consecutive years.

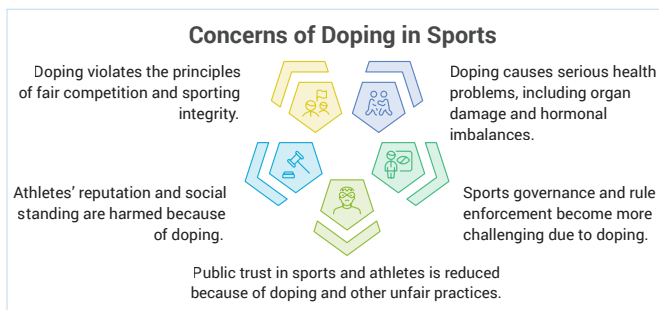
### National Anti-Doping Act, 2022

- ➔ The Act was enacted to establish the **National Anti-Doping Agency (NADA)** and regulate anti-doping activities in line with international standards.
- ➔ The proposed amendments are aligned with India's commitments under the **UNESCO International Convention Against Doping in Sport**.

### Key Proposed Amendments

- ➔ The proposed amendments **criminalise organised doping networks** involved in doping activities.
- ➔ The amendments **provide punishment for trafficking, supply, and distribution of prohibited substances**.
- ➔ **Coaches, trainers, doctors, and other support personnel** may face legal action if they knowingly administer banned substances.
- ➔ These amendments prescribe stricter punishment for supplying prohibited substances to athletes below 18 years of age.

- ➔ **Organised syndicates** involved in promoting or profiting from doping activities may face criminal liability.
- ➔ The proposed amendments **penalise the sale of unlabelled or mislabelled prohibited substances and advertisements promoting doping**.
- ➔ **Athletes with valid Therapeutic Use Exemptions (TUEs)** are provided safeguards under the proposed framework.
- ➔ **Bona fide medical practitioners** acting in emergency situations are also provided protection.



### Reasons for Doping in India

- ➔ **Poor regulation of supplements** allows contaminated and substandard products to reach athletes.
- ➔ **Many athletes and support staff** are unaware of substances prohibited under the WADA list.
- ➔ **Socio-economic pressure** encourages some athletes to seek unfair advantages for sporting success and related benefits.
- ➔ **Institutional and testing infrastructure gaps** have weakened anti-doping enforcement.

### Anti-Doping Measures in India

- ➔ **NADA** serves as the nodal agency for anti-doping testing, investigations, awareness programmes, and rule implementation.
- ➔ **NDTL** conducts scientific analysis of athlete samples.
- ➔ The **NIDAMS Portal** digitises anti-doping planning, testing, and sample collection processes.
- ➔ The **PEADS programme** promotes education and awareness regarding doping in sports.
- ➔ The **Know Your Medicine (KYM) App** helps athletes identify medicines containing prohibited substances.
- ➔ **NADA conducts in-competition and out-of-competition testing** at competitions and training centres.

### Significance of the Amendments

- ➔ The proposed amendments enhance India's credibility in international sports and strengthen sports governance and sporting integrity by shifting the focus from individual athletes to organised doping networks.
- ➔ The Amendments protect vulnerable athletes from exploitation.

## BHAVYA SCHEME

The Department for Promotion of Industry and Internal Trade (DPIIT) has released the operational guidelines for implementing the BHAVYA Scheme.

### About the Scheme

- **BHAVYA (Bharat Audyogik Vikas Yojana)** is a **Central Sector Scheme** for developing investment-ready, world-class industrial parks across India.
- It supports the objectives of Make in India, PM Gati Shakti, and India's vision of becoming a globally competitive manufacturing hub.
- The scheme aims to strengthen the manufacturing ecosystem through integrated industrial infrastructure.

### Key Features

- The scheme has a total financial outlay of about ₹33,660 crore. It aims to develop 100 industrial parks between 2026-27 and 2031-32.
- In the first phase, up to 50 industrial parks will be selected through a challenge-based competitive process.
- Industrial parks ranging from 100 to 1,000 acres will be developed. It covers both greenfield and eligible brownfield industrial parks.
- The minimum land requirement is 100 acres for non-hilly States and 25 acres for hilly States, Northeastern States, Union Territories, and smaller States.

### Infrastructure Focus

- The scheme will create plug-and-play industrial ecosystems.
- It will provide multimodal logistics, reliable utilities, worker-support facilities, digital governance systems, and sustainable infrastructure.

### Implementation and Monitoring

- Projects will be implemented through **Special Purpose Vehicles (SPVs)** incorporated under the Companies Act, 2013.
- The **National Industrial Corridor Development Corporation (NICDC)** will act as the **Project Management Agency (PMA)**.
- The scheme provides for GIS-based monitoring, periodic reporting, audits, and oversight by a **National Level Steering Committee**.

### Significance

- The scheme is expected to attract manufacturing investment, strengthen supply chains, generate employment, and improve India's integration with global value chains.

## JEEVAN APP AND SHATAYU DASHBOARD

The Ministry of Social Justice and Empowerment has launched the JEEVAN App and the SHATAYU Geriatric Caregiver Dashboard to strengthen support and care services for senior citizens.

### JEEVAN App

- **JEEVAN (Joint Elderly Empowerment and Virtual Assistance Network)** is a mobile application designed as a **single-window support platform** for senior citizens.
- The app aims to improve access to welfare services and assistance for the elderly. It provides information on **Central and State Government schemes**, welfare programmes, pension benefits, and healthcare entitlements.
- The platform has a **user-friendly design** with simplified navigation and accessibility features suited to elderly users.
- It offers **emergency assistance** and details of **senior citizen homes** and care facilities.

### SHATAYU Dashboard

- **SHATAYU (Senior Holistic Care Assistance and Training for Your Utility)** is a centralized dashboard for strengthening elderly caregiving services. It aims to improve the **safety, welfare, healthcare access, dignity, and social inclusion** of senior citizens.
- It provides information on the availability of **geriatric caregivers** at the district and state levels.
- The dashboard tracks the **training, certification, and skill development** of caregivers. It maintains a directory of **verified caregivers and service providers** to ensure reliable services. It also helps identify areas with shortages of trained caregivers.

### Significance

- The initiatives use **digital technology** to support India's growing elderly population.
- They help create a more **organized, accessible, and accountable elderly care ecosystem**.
- They also promote better planning and delivery of caregiving services across the country.

## PRADHAN MANTRI FORMALISATION OF MICRO FOOD PROCESSING ENTERPRISES (PMFME) SCHEME

Bihar secured the first position in the country for implementing the PMFME Scheme during 2024-25.

### About the Scheme

- The **PMFME Scheme** was launched on **29 June 2020** by the **Ministry of Food Processing Industries** under the **Aatmanirbhar Bharat Abhiyan**.
- It is a **Centrally Sponsored Scheme** aimed at supporting and formalising the **unorganised micro food processing sector**.
- The scheme seeks to improve access to **credit, technology, common infrastructure, branding, marketing, training, and technical support**.
- The scheme also promotes the **One District One Product (ODOP)** approach to achieve economies of scale and better market linkages.

## Coverage and Funding

- The scheme has an outlay of **₹10,000 crore**.
- It was approved for **2020-21 to 2024-25** and has been extended till **September 2026**.
- The scheme aims to support **2 lakh micro food processing enterprises** through **credit-linked assistance**.
- Expenditure is shared in a **60:40 ratio** between the Centre and States, **90:10** for Northeastern and Himalayan States, **60:40** for UTs with legislatures, and **100% Central funding** for other UTs.

## Financial Assistance

- **Individual micro enterprises** receive a **35% credit-linked subsidy** with a maximum limit of **₹10 lakh**.
- Beneficiaries contribute at least **10%** of the project cost, while the remaining amount is provided through loans.
- **SHGs** receive seed capital support of **₹4 lakh per SHG**.
- **FPOs, SHGs, Cooperatives, and Government agencies** can receive a **35% credit-linked capital subsidy** up to **₹3 crore** for common infrastructure.
- Groups can receive a **grant of up to 50%** for branding and marketing activities. The scheme also provides **skill training and handholding support**.

## Achievements

- The scheme has identified **137 unique products** across **726 districts** in **35 States and Union Territories**.
- A total of **1,96,270 micro enterprises** have been supported under the credit-linked subsidy component.
- More than **40% of beneficiaries are women entrepreneurs**.
- Under branding and marketing support, **32 proposals** and **40 ODOP brands** have been approved.
- These initiatives have led to the launch of **more than 200 food products** and benefited **1,164 micro enterprises**.

## NATIONAL SPORTS GOVERNANCE RULES, 2026

The Union Government has notified the **National Sports Governance (National Sports Board) Rules, 2026** and the **National Sports Governance (National Sports Tribunal) Rules, 2026** under the **National Sports Governance Act, 2025**.

### National Sports Board (NSB)

- The **National Sports Board** will consist of a **Chairperson** and **two Members**.
- They will be appointed by the Central Government from a panel recommended by the **Search-cum-Selection Committee**.
- The Board will function as the central authority for granting recognition to **National Sports Bodies**. It will ensure compliance with **governance, financial, and ethical standards**.
- Only recognised sports bodies will be eligible to receive **Central Government funding**.

### National Sports Tribunal (NST)

- The **National Sports Tribunal** will act as a dedicated body for adjudicating sports-related disputes.
- The Tribunal will reduce reliance on civil courts and provide **independent, speedy, effective, and cost-efficient dispute resolution**.
- The Tribunal will consist of a **Chairperson** and **two Members**.
- The Chairperson must be a sitting or former **Supreme Court Judge** or a **Chief Justice of a High Court**.
- Tribunal members will have a **fixed five-year term**.
- The Tribunal will have powers similar to those of a **civil court**.
- Appeals against its decisions will lie before the **Supreme Court**, unless international rules require appeal to the **Court of Arbitration for Sport (CAS), Switzerland**.

### Digital Governance

- The Rules provide a **dedicated online portal** for filing disputes, submitting documents, issuing notices, conducting virtual hearings, publishing orders, and maintaining records.

### Key Provisions of the National Sports Governance Act, 2025

- The Act provides a statutory framework for the recognition and regulation of sports bodies.
- It provides for **National Olympic Committee, National Paralympic Committee, and National and Regional Sports Federations**.
- Every national sports body must establish a **Code of Ethics** and a **grievance redressal mechanism**.
- Every national sports body will have a **General Body** and an **Executive Committee** of up to **15 members**, including at least **two outstanding sportspersons** and **four women**.
- Every national sports body will have a **President, Secretary General, and Treasurer**.
- No person can hold these positions for more than **three consecutive terms**.
- The Central Government will establish a **national panel of electoral officers** to oversee elections of national sports bodies.
- The Central Government may exempt a sports body from provisions of the Act in the **public interest** for promotion of a sport.

### Significance

- The Act provides a **statutory framework** for sports governance.
- The Act promotes **transparency, accountability, and professional administration**.
- The Act strengthens **athlete representation and welfare**.
- The Act improves **dispute resolution and regulatory oversight**.
- The Act aligns Indian sports governance with **international standards** and supports India's global sporting ambitions.



## COMPLETE JUSTICE

Recently, the Supreme Court held that safe travel on highways and protection from road accidents are part of the Right to Life under Article 21. The Court exercised its powers under Article 142 to ensure complete justice.

### Complete Justice Doctrine

- The *Complete Justice Doctrine* gives the Supreme Court of India a special, ultimate power under **Article 142** of the Constitution. It allows the Court to pass any order or decision needed to make sure a case is settled with absolute fairness.
- Orders passed under Article 142 are enforceable throughout India.
- It acts as a **constitutional safety valve** when existing laws do not provide an adequate remedy.
- The power is **inherent and residuary**, arising directly from the Constitution and not from any ordinary law.
- The Supreme Court can issue directions, guidelines, or orders to protect **constitutional values, public interest, human rights, and fundamental rights**.
- It strengthens the Court's role as the **guardian of the Constitution** and the final interpreter of law.

### Important Judicial Observations

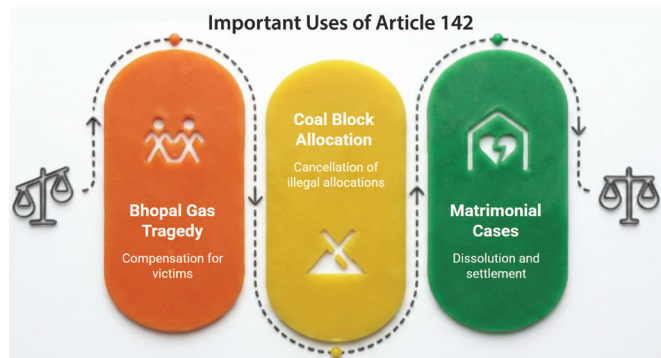
- In **Delhi Judicial Service Association v. State of Gujarat (1991)**, the Court held that statutory restrictions cannot limit its powers under Article 142.
- In **Canara Bank v. Debasis Das (2003)**, the Court emphasized that substantive justice and fairness must prevail when legal procedures fall short.
- In **Anil Kumar Jain v. Maya Jain (2009)**, the Court clarified that **High Courts do not possess powers equivalent to Article 142**.
- In **Hitesh Bhatnagar v. Deepa Bhatnagar (2011)**, the Court held that Article 142 must be exercised with great caution.

### Highway Safety Judgment

- The Court took **suo motu cognisance** of two road accidents in 2025 that caused 34 deaths.
- The Court declared that maintaining safe and motorable roads is a **constitutional obligation of the State** under Article 21.
- The Court noted that **National Highways constitute only 2% of the road network but account for over 35% of road fatalities**.
- The judgment supports efforts to reduce road accidents through the **4Es Framework—Education, Engineering, Enforcement, and Emergency Medical Services**.

### Concerns

- Critics argue that Article 142 may affect the **separation of powers**.
- Critics also view its frequent use as a form of **judicial overreach**.
- Supporters argue that it enables the Court to protect rights when existing laws are inadequate.



## SPECIAL INTENSIVE REVISION (SIR) OF ELECTORAL ROLLS

The Supreme Court upheld the legal validity of the Special Intensive Revision (SIR) being conducted by the Election Commission of India (ECI). The Court held that the exercise is intended to ensure free and fair elections by maintaining accurate and reliable electoral rolls.

### About SIR

- SIR is a large-scale revision of electoral rolls conducted by the ECI under its constitutional and statutory powers.
- The ECI undertakes such revisions to maintain the integrity and accuracy of voter lists.
- The **2025 SIR** was initiated due to:
  - ◆ **Demographic changes** caused by rapid urbanisation and migration since the last intensive revision in 2003.
  - ◆ The need to ensure that **only Indian citizens** are included in electoral rolls as required under **Article 326**.

### Legal and Constitutional Basis

- **Article 324(1)** gives the ECI the power of superintendence, direction, and control over elections.
- **Section 21(3) of the Representation of the People Act, 1950** empowers the ECI to order a special revision of electoral rolls at any time.
- **Section 16 of the Act** disqualifies non-citizens from being enrolled as voters.
- The **Registration of Electors Rules, 1960** prescribe procedures for enrolment and revision. In **ADR v. ECI (2025)**, the Supreme Court affirmed the ECI's power to conduct SIR.

### Key Observations of the Supreme Court

- The Court held that SIR satisfies the principle of **proportionality**:
  - ◆ It serves the legitimate purpose of maintaining a credible electoral process.
  - ◆ It uses structured verification through enumeration and scrutiny.
  - ◆ It is proportionate to the scale of the problem.
- The ECI can examine issues related to citizenship only for electoral eligibility.

- The exercise does **not determine citizenship** under the **Citizenship Act, 1955**.
- Any citizenship dispute must be referred to the competent authority under the Citizenship Act.
- If a person is ultimately found to be a citizen, their name must be restored to the electoral roll.

## INTERNATIONAL LABOUR DAY

May 1 is observed globally as **International Labour Day** or **Workers' Day** to recognise the contribution of workers and highlight the continuing struggle for labour rights and fair working conditions.

### About

- The day also draws attention to emerging labour challenges such as **informalisation, gig work, automation, and social security gaps**, which are reshaping labour governance across the world.
- International Labour Day, also known as **May Day**, is celebrated annually on **May 1**, though in some countries it is observed on the **first Monday of May**.
- It commemorates the struggles of workers for **better working conditions, fair wages, and labour rights**.

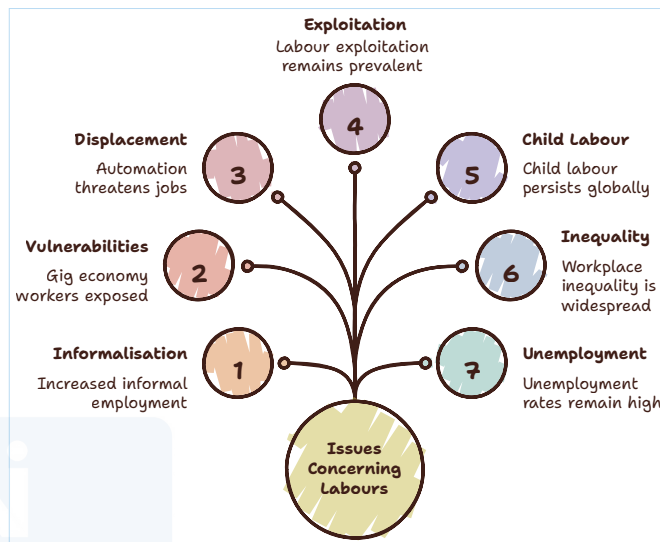
### Evolution

- Its origin traces back to the labour movement in the **United States** during the late nineteenth century.
- On **May 1, 1886**, workers in Chicago launched a large-scale strike demanding an **eight-hour workday**.
  - ♦ The movement culminated in the **Haymarket Affair (May 4, 1886)**, where violence broke out after a bomb explosion, resulting in several deaths.
- In **1889**, the **Second International** meeting in Paris formally declared May 1 as the **international day of workers' solidarity**.

### International Labour Organisation (ILO)

- The institutionalisation of labour rights at the global level gained momentum with the establishment of the ILO in **1919** under the **Treaty of Versailles** after the First World War.
- The ILO became the first specialised agency of the **United Nations** in **1946**. India has been a founding member of the ILO since **1919**, even before Independence.
- The ILO currently has **187 member states** and is headquartered in **Geneva, Switzerland**.
- It remains the only **tripartite UN agency**, bringing together governments, employers, and workers.
- The ILO formulates labour standards and promotes **decent work, labour welfare, and social justice** globally.

- Though the movement began in the US, both the **United States and Canada** observe Labour Day on the first Monday of September. Today, over **80 countries**, including **India, China, and Cuba**, observe International Labour Day.
- In India, the first Labour Day celebration was organised in **Chennai in 1923** by the **Labour Kisan Party of Hindustan**.



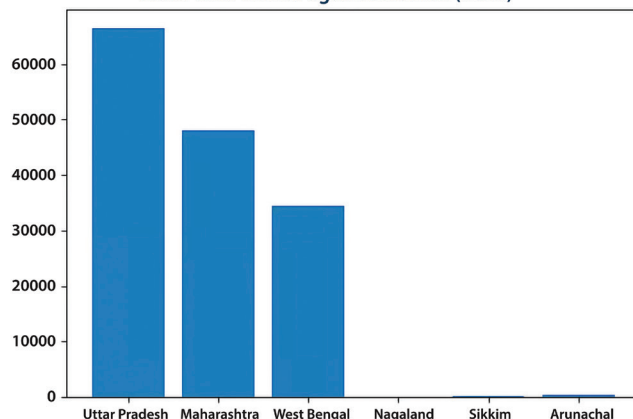
## CRIME IN INDIA 2024 REPORT

The **National Crime Records Bureau (NCRB)** data shows that **13,396 crimes against women** and **7,662 crimes against children** were officially registered in Delhi in 2024.

### Key Statistics

- India's total crime rate dropped by 6% compared to 2023. However, cybercrime cases jumped by over 17%.
- Drug overdose fatalities surged by 50%, with Tamil Nadu recording the highest number of deaths.
- Economic offenses also grew by 4.6%, totaling over 2.14 lakh cases.

State-wise Crimes against Women (2024)



### National Crime Records Bureau (NCRB)

- It is a government agency responsible for **collecting, analyzing, and publishing crime and criminal data in the country.**
- It was established in **1986** on the recommendation of the **Task Force of the National Police Commission (1977–1981)** and the MHA Group of Experts on Crime Records (1985).
- It functions under the **Ministry of Home Affairs.**
- **Important NCRB Reports:**
  - ◆ Crime in India.
  - ◆ Accidental Deaths & Suicides in India (ADSI).
  - ◆ Prison Statistics India.
- **Specialized Tools:** CyTrain (training portal for cybercrime investigation); Cri-MAC (Crime Multi-Agency Centre- facilitates inter-agency coordination).

- Crimes against women decreased by 1.5% (falling to 64.6 per lakh people from 66.2).
- Conversely, crimes against children climbed by 5.9%, driven mostly by kidnapping (40%) and sexual offenses (36.9%).
- Among India's 19 metropolitan cities, Delhi recorded the highest number of crimes targeting senior citizens and women.
- The capital also led the nation in thefts, accounting for nearly 30% of all national cases.

### DELHI CRIME DATA

#### Highest number of crimes against senior citizens

- The number of crimes against senior citizens was the highest in Delhi among all UTs and metro cities in 2024, according to a latest NCRB report.

#### A slight year-on-year dip in suchcases

|      |       |
|------|-------|
| 2023 | 1,361 |
| 2024 | 1,267 |

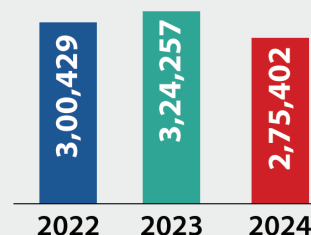
#### Tops in crime against women

-  Crime against women in Delhi re-mained the highest among 19 major cities, with **13,396** cases registered in 2024 alone, according to the NCRB report.
- Number of suchcrimes per 1 lakh women in Delhi in 2024 was at **176.8**. Overall crimes against women in city in 2024 saw 0.22% rise from 2023.

#### Tops in overall crime rate

- Capital also tops among all metropolitan cities in terms of overall crime rate.
- It, however, saw a 15% dip in 2024, when compared to 2023, and 8.8% against 2022.

#### CASE REGISTERED



#### Prisons most overcrowded

- 19,512 inmates against capacity of 10,026 prisoners.
- Occupancy rate stands at 194.6% as of December 31, 2024
- 17,178 prisoners are undertrials nearly 9 in 10, or 88%

#### 'Theft capital'

- Delhi dominated theft statistics, with nearly three-fourths of all such cases registered in 19 major metro cities.
- With 1,80,973 theft cases in 2024, Delhi also topped the list of cities across India with nearly 30% of all such offences.

#### Reports most kidnapping and murder cases

- Even as Delhi records marginal dip in murder cases in 2024, among UTs, the city recorded the highest number of such cases in absolute terms. The murder rate stood at 2.3 per lakh population in 2024-higher than the national average of 1.9.
- Kidnapping and abduction cases in the Capital were also the highest among metro cities, with 5,580 cases in 2024-accounting for nearly 35% of all such cases across the metros.



# INTERNATIONAL RELATIONS

## ELECTION OF UN SECRETARY-GENERAL

The selection process for the next UN Secretary-General is underway, with the new leader set to take office in January 2027 after António Guterres completes his term at the end of 2026.

### Secretary-General as the UN

- Designated under Article 97 of the UN Charter as the chief administrative officer, the Secretary-General executes mandates from the UN's principal organs.
- Article 99 grants them an independent political voice to alert the Security Council to threats against global peace.
- The Secretary-General is the **UN's Chief Administrative Officer**, who oversees the work of the UN Secretariat and fulfills any other functions entrusted by the **organisation's principal organs**.
- The Secretary-General also has the mandate **to bring to the Security Council's attention any issue that threatens global peace and security**.
- He is often described as the **world's 'chief diplomat'**, speaking as the world's conscience on issues, ranging from the arms race in space and climate change to persistent inequality.
- **Elections:**
  - ♦ Secretary-General is appointed by the **General Assembly on the recommendation of the Security Council**.
  - ♦ This means that the **Permanent Members of the Security Council** - China, France, Russia, the U.K., and the U.S. have a significant say in who gets elected.
- While the term of a Secretary-General is technically "discretionary," incumbents have, since 1981, voluntarily **limited themselves to two terms**.
- By custom, the **post rotates among five regions of the world:** Africa, Asia, Eastern Europe, Western Europe, and Latin America and the Caribbean.

## EU-MERCOSUR TRADE DEAL

The EU and MERCOSUR signed a major trade agreement in January 2026, provisionally in force from May 1, 2026, creating one of the world's largest free trade areas covering about 700 million people, despite some internal EU challenges.

### Key Provisions

- **Tariff Elimination:** MERCOSUR will eliminate tariffs on 91% of EU goods (slashing high duties on cars, machinery, and pharmaceuticals).
- The EU will lift tariffs on 92% of MERCOSUR goods.

## MERCOSUR

- **Establishment:** Formed in 1991 for the free movement of goods, capital, and people; has operated as a customs union since 1995.
- **Members:** Argentina, Brazil, Paraguay, and Uruguay. Venezuela was suspended in 2017.
- **Expansion:** Bolivia delivered its instrument of ratification in July 2024 and has until 2028 to fully absorb the bloc's regulatory framework.

- **Agriculture and Protections:** The deal facilitates rapid tariff cuts on EU wine, olive oil, and spirits while protecting 344 EU geographical indications. It establishes limited import quotas on sensitive MERCOSUR exports like beef and poultry to protect European markets.

### Geopolitical Perspectives

- **Supporters:** Countries like Germany, Spain view the deal as a critical cushion against external trade shocks (such as U.S. tariffs) and a strategic means to secure South American critical minerals (like lithium and niobium) to reduce reliance on China.
- **Critics:** Environmentalists argue that cheap agricultural imports will undercut domestic European farmers, while warning that increased trade will accelerate Amazon rainforest destruction.

### Implications for India

- India currently shares a restricted **Preferential Trade Agreement (PTA)** with MERCOSUR, covering fewer than 500 items.
- The execution of the EU-MERCOSUR pact is expected to push India to accelerate its own negotiations for a **Comprehensive Economic Partnership Agreement (CEPA)** with the South American bloc.

## PROJECT FREEDOM

The United States has temporarily paused its newly launched military and humanitarian operation, Project Freedom. This suspension aims to give Pakistan-mediated diplomatic talks a chance to secure a final settlement with Iran.

### About

- **Background:** The Strait of Hormuz has been largely shut down since February 28, following US and Israeli airstrikes on Iran. This critical waterway normally handles 20% of global oil and liquefied natural gas shipments, stranding thousands of neutral merchant vessels.



### Strait of Hormuz



- ➔ **Project Freedom:** The project was initiated in May 2026. This US Central Command (CENTCOM) mission deployed 15,000 personnel, guided-missile destroyers (including the USS Tripoli group), unmanned systems, and over 100 aircraft (F-16s, F-35s, Sea Hawks) to provide round-the-clock protection.
- ➔ **Objectives:**
  - ♦ Evacuating roughly 23,000 civilians from 87 countries stranded on ships for weeks.
  - ♦ Reopening the Strait to restart vital global energy trade.
  - ♦ Setting up an "Enhanced Security Area" in Omani waters to guard neutral vessels against Iranian drones, mines, and fast boats.

## INDIA-SRI LANKA ECONOMIC COOPERATION

The India-Sri Lanka Business Forum, organised by Confederation of Indian Industry in partnership with The Ceylon Chamber of Commerce in Mumbai, identified six priority sectors.

### Background

- ➔ India is Sri Lanka's closest neighbor and the relationship between the two countries is more than 2,500 years old, sharing a strong civilizational and historical connection.
- ➔ Sri Lanka lies near the vital sea lanes of communication (SLOCs) in the Indian Ocean through which over 60% of India's energy supplies and significant trade pass.
- ➔ Sri Lanka has a central place in India's 'Neighbourhood First' policy and MAHASAGAR (Mutual and Holistic Advancement for Security and Growth Across Regions) vision.

### Key Areas of Cooperation

- ➔ **Ports:** India and Sri Lanka are exploring cooperation in port infrastructure and maritime connectivity to strengthen trade and regional supply chains.

- ➔ **Transport and logistics:** Improving shipping routes, rail connectivity, warehousing, and cold storage facilities to enhance logistics efficiency.
- ➔ **Pharmaceuticals:** Sri Lanka has shown interest in importing affordable generic medicines from India under the existing FTA framework.
- ➔ **Digital payments:** Sri Lanka is exploring UPI-like cross-border digital payment systems with India.
- ➔ **Travel and tourism:** Expanding tourism and travel connectivity through improved visa facilities and travel circuits.
- ➔ **Review of the India-Sri Lanka Free Trade Agreement (FTA):** The two countries are considering updating the FTA to include pharmaceutical raw materials, logistics equipment, and trade facilitation measures.

### Challenges in Bilateral Economic Cooperation

- ➔ **Trade Imbalance:** Sri Lanka has concerns regarding trade deficits with India.
- ➔ **Regulatory Barriers:** Delays in customs clearances and regulatory approvals affect trade efficiency.
- ➔ **Infrastructure Constraints:** Limited logistics and transport infrastructure can increase trade costs.
- ➔ **Economic Instability:** Sri Lanka's recent economic crisis has affected investor confidence.
- ➔ **Geopolitical Competition:** External powers are increasingly competing for influence in strategic sectors such as ports and infrastructure.

### India and Sri Lanka Relations

- ➔ **Trade Relations: India-Sri Lanka Free Trade Agreement (ISFTA)** in 2000 contributed significantly towards the expansion of trade between the two countries.
- ➔ **Cultural relations:** The Cultural Cooperation Agreement signed in 1977 forms the basis for periodic Cultural Exchange Programmes between the two countries.
- ➔ **Tourism:** India has traditionally been Sri Lanka's top inbound tourism market, followed by China.
- ➔ **Maritime Security and Defence Cooperation:**
  - ♦ In 2011, a decision was taken to establish the **Colombo Security Conclave** which aims to further promote maritime security in the Indian Ocean Region.
  - ♦ India and Sri Lanka conduct a joint Military exercise named '**Mitra Shakti**', Trilateral Maritime Exercise "**Dosti**", and a Naval exercise named **SLINEX**.
- ➔ **Multilateral Forum Collaboration:** India and Sri Lanka are member nations of the **South Asian Association for Regional Cooperation (SAARC)**, South Asia Co-operative Environment Programme, South Asian Economic Union and **BIMSTEC**, working to enhance cultural and commercial ties.

## INDIA BACKS TWO-STATE SOLUTION FOR PALESTINE ISSUE

Recently, India has reiterated its support at the United Nations for a two-state solution that allows Palestinians to live freely in an independent nation within secure borders, while also addressing Israel's legitimate security concerns.

### Background

- The two-state solution originated from the long conflict between **Arabs and Jews in British-ruled Palestine**. In 1947, the United Nations proposed dividing **Palestine into separate Arab and Jewish states, but Arab nations rejected the plan**.
- Israel was established in 1948, war broke out with neighbouring Arab states, leading Israel to control most of the territory. In 1967, Israel **captured the West Bank, East Jerusalem, and Gaza**, leaving many Palestinians stateless and living under occupation or as refugees.
- The **Oslo Accords, brokered by the United States and signed during the 1990s** between Israel and the Palestine Liberation Organization (PLO), established the Palestinian Authority and granted it administrative control over parts of the West Bank.

### What is the Two-State Solution?

- The two-state solution is a proposed peace plan for the conflict between Israel and Palestine, where both countries would exist independently and peacefully side by side.
- The idea emerged after the **1967 Arab-Israeli war**, when Israel gained control of the West Bank and Gaza Strip.
- Under this plan, Israel would recognise Palestine as an independent state, while Palestine would accept Israel's right to exist. The two states would have internationally recognised borders, with Palestine's capital in East Jerusalem.

### Global Recognition

- The UN Secretary-General strongly supported the two-state solution, describing it as the only realistic way to achieve lasting peace after years of conflict and violence.
- The US used its veto power to block a United Nations Security Council resolution aimed at granting statehood to Palestine.

### India's Stand

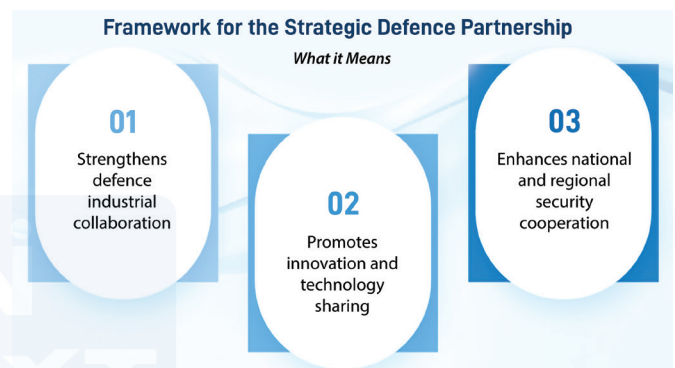
- India reiterated its support for a two-state solution, advocating for an independent Palestinian state while ensuring Israel's security.
- Palestine's UN membership bid would be reconsidered.
- India also pledged active participation in upcoming UN discussions on the issue.

## PRIME MINISTER'S VISIT TO THE UAE

PM Modi made a landmark diplomatic stopover in UAE, first stop in his five-nation trip to the Netherlands, Sweden, Norway and Italy.

### Key Outcomes

- **MoU on Strategic Collaboration between Indian Strategic Petroleum Reserves Limited (ISPRL) and Abu Dhabi National Oil Company (ADNOC)**. It proposes cooperation on energy storage and supply security, and collaborating on LNG and LPG storage infrastructure in India.
- **Framework for the Strategic Defence Partnership:**
  - ♦ MoU between Cochin Shipyard Limited (CSL) and Drydocks World (DDW) on setting up a Ship Repair Cluster at Vadinar, Gujarat.
  - ♦ Cooperation includes offshore fabrication, under the Maritime Development Fund Scheme launched by the Government of India.



- MoU between Cochin Shipyard Limited (CSL), Drydocks World (DDW) and Centre of Excellence in Maritime & Shipbuilding (CEMS) **on Skill Development in Ship Repair**.
- Term Sheet for setting up 8 Exaflop Super Computing Clusters in partnership between CDAC, India and G-42, UAE.
  - ♦ Pave the way for collaboration between CDAC and G-42 to set up a super computing cluster as part of AI Mission India.
- **Investment from UAE to India:** Abu Dhabi Investment Authority (ADIA) and National Infrastructure & Investment Fund (NIIF) of India to explore investments upto US\$ 1 bn in India's infrastructure sector.

### Bilateral Ties Between India and UAE

- **Political:** India and the United Arab Emirates (UAE) established diplomatic relations in 1972.
  - ♦ Relationships were upgraded to a Comprehensive Strategic Partnership (CSP) in 2017.
- **Trade and Investment Ties:** Bilateral merchandise trade between the two countries crossed US\$100 billion for the first time, reaching US\$101.25 billion in FY 2025-26.
  - ♦ Both sides have committed to **doubling bilateral trade to US\$200 billion by 2032**.
  - ♦ The two nations signed the Bilateral Investment Treaty in 2024.
  - ♦ From 2000 to 2025, the cumulative FDI from the UAE into India amounted to US\$25.19 billion, making **UAE the seventh-largest overseas investor in India**.

- **Energy Trade:** In FY 2024-25, the UAE stood as the **fourth largest source** of crude oil, third largest source of LNG, largest supplier of LPG and second largest export destination for India's finished petroleum products.
- **Defence cooperation:** It is steered through a Joint Defence Cooperation Committee (JDCC) at the Ministry level, with the signing of Agreement on Defence Cooperation in 2003, which came into effect in 2004.
- **Space Cooperation:** Indian Space Research Organisation (ISRO) and the UAE Space Agency signed an MoU regarding cooperation in the exploration and use of outer space for peaceful purposes in 2016.
- **Indian Community:** Indian expatriate community of approximately 3.5 million is the largest ethnic community in UAE constituting roughly about 35% of the country's population.
- **Multilateral Cooperation:** India and the UAE are currently part of several plurilateral platforms such as India-Middle East EU Economic Corridor (IMEC), I2U2 (India-Israel-UAE-USA) and UFI (UAE-France-India) Trilateral, etc.

## Challenges

- **Trade Imbalances:** India has a trade deficit with the UAE, primarily due to high oil imports from the UAE, which makes the economic relationship uneven despite growing non-oil trade.
- **Geopolitical Tensions in the Region:** Political instability in the Middle East and the Gulf region affect bilateral relations, especially with India's strategic interests in the region.
- **Labor and Migration Issues:** India is one of the largest sources of migrant labor in the UAE, and issues related to the welfare and rights of Indian workers have been a point of concern.
- **Foreign Policy of UAE:** India's relations with countries like Iran and Pakistan sometimes complicate its relations with the UAE, which maintains different strategic priorities in the region.

## Way Ahead

- The relationship between India and the UAE has **transformed from traditional trade linkages into a wide-ranging strategic partnership.**
- Today, the partnership spans energy security, trade, technology, investment, and defence cooperation.
- The outcomes of the Prime Minister's 2026 visit have **further strengthened bilateral ties.**
  - ♦ As both countries align their economic and geopolitical priorities, the partnership is expected to **play a larger role in regional stability, economic growth, and technological advancement.**

## KIMBERLEY PROCESS

The Kimberley Process Intersessional Meeting 2026 concluded in Mumbai.

## About

- The Kimberley Process is a **tripartite initiative** involving governments, the international diamond industry and civil society to prevent the trade in **conflict diamonds**. It operates through the Kimberley Process Certification Scheme (KPCS).
- **History:** KPCS established pursuant to a UN resolution, came into effect on **1 January 2003**.
- **Members:** The Kimberley Process (KP) is **open to any country that can meet its standards.**
  - ♦ Currently, it comprises **60 participants** representing 86 countries, with the EU and its **27 Member States** counted as one participant under the European Commission.
  - ♦ **India** is a founding member of the KP.
  - ♦ The members account for over **99 percent** of the global rough diamond trade.
- The **chair oversees** the implementation of the **Kimberley Process Certification Scheme (KPCS)** and operations of the working groups, committees and administration that activate the KP.
- **Secretariat:** The Kimberley Process Secretariat is headquartered in **Gaborone, Botswana.**

## What are Conflict Diamonds?

- Conflict diamonds are **rough diamonds mined in war zones** and sold to finance armed conflict, insurgencies or rebel activities against legitimate governments.
- These diamonds were linked to civil wars in parts of **Africa** such as **Sierra Leone, Angola and Liberia** during the 1990s.

## THUCYDIDES TRAP

The idea of the "Thucydides Trap" is being frequently used in discussions about relations between the United States and China.

## What is the 'Thucydides Trap'?

- The "Thucydides Trap" is the idea that when a rising power threatens to displace an established power, war often becomes likely. It comes from the ancient Greek historian Thucydides, who linked Sparta's fear of Athens' rise to the outbreak of the Peloponnesian War.
- The term "Thucydides Trap" was popularised by Harvard scholar Graham Allison after studying patterns in world history. In modern foreign policy, the term is often used to describe tensions between the United States and China, suggesting China's rise could provoke conflict with the US.

## COURT OF ARBITRATION (COA) RULING ON INDUS WATERS TREATY

India has rejected the latest ruling of the Court of Arbitration (CoA), a five-member arbitral panel set up in 2023 at Pakistan's request to settle a dispute over the design of India's Kishenganga and Ratle hydroelectric projects in Jammu & Kashmir.

### What is the Indus Waters Treaty (IWT)?

- The Indus Waters Treaty was signed on **September 19, 1960**, after nine years of negotiations between India and Pakistan, brokered by the World Bank, which is also a signatory.
- Under the treaty, Pakistan receives rights over the **three western rivers** i.e., **Indus, Jhelum, and Chenab** while India retains control over the three **eastern rivers** which are **Ravi, Beas, and Sutlej**.
- The treaty effectively gives Pakistan access to nearly **80% of the waters of the Indus river system**, while India retains around 20%, along with limited usage rights on the western rivers for irrigation, power generation, and other non-consumptive purposes.
- The treaty sets out a cooperation and information-exchange mechanism called the **Permanent Indus Commission (PIC)**, which serves as the first tier of dispute resolution.
- India has kept the **1960 Indus Waters Treaty in abeyance** as part of India's punitive measures against Pakistan a day after the Pahalgam terror attack.

### Dispute Settlement Mechanism Under IWT

The IWT provides a graded three-tier dispute resolution structure:

- **Tier 1: Permanent Indus Commission (PIC):** Bilateral body of commissioners from both sides. Handles routine "questions."
- **Tier 2: Neutral Expert:** Appointed by the World Bank on request of either party. Handles technical "differences."
- **Tier 3: Court of Arbitration (CoA):** Invoked for unresolved "disputes" of a legal or treaty-interpretation nature.

## INDIA AND ITALY SPECIAL STRATEGIC PARTNERSHIP

India and Italy upgraded their ties to a special strategic partnership.

### Major Highlights

- The **two sides inked 10 Memorandums of Understanding (MoUs)**, including agreements to boost partnerships in critical minerals, agriculture, maritime transport and marine products.
- **India and Italy rolled out a defence industrial roadmap** for the co-development and co-production of military hardware and platforms, including helicopters and marine armament.
- They committed to **cooperate on the India–Middle East–Europe Economic Corridor (IMEEC)**.
- Both nations vowed to expand **annual trade to Euro 20 billion by 2029**, from the current bilateral trade of €14 billion (\$15.2 billion).

### Brief on India-Italy Bilateral Ties

- **Diplomatic relations** with Italy were established in 1947 and were elevated to **Strategic Partnership in 2023** as they celebrated the 75 years of establishment of diplomatic relations.

- **Indo-Pacific Region:** In 2021, the '**India-Italy-Japan**' trilateral was **launched**, with an aim to work towards the security, stability, prosperity and multilateralism of the Indo-Pacific region.
- **Joint Action Plan:** Prime Minister and his Italian counterpart unveiled the **Joint Strategic Action Plan 2025-29** as they met on the sidelines of the **G20 Summit**.
  - ♦ It is a **five-year strategic action plan** outlining their vision for collaboration in a **range of key sectors** i.e. Defence, Economy, Connectivity, Science and Innovation, Migration and Mobility, Space and Energy transition.
- **Global Forums:** Italy joined both the significant initiatives, launched on the margins of the G20 Summit, the '**Global Biofuel Alliance**' and the '**India-Middle East-Europe Economic Corridor**'.
  - ♦ Italy has also joined the '**International Solar Alliance**' (ISA), in 2021, which was the year of the Italian Presidency of G20 and co-Presidency of COP26.
- **Economic:** Italy is India's 4th largest trading partner in the EU. In 2025, bilateral trade reached **€ 14.25 billion** with India's exports at **€ 8.55 billion** and a balance in favour of India of **€ 2.85 billion**.
  - ♦ The free trade agreement between the European Union and India paves the way for increased trade and investment in both directions.
- **Indian Diaspora:** Indian nationals in Italy are the **largest Indian community in the European Union**.
  - ♦ They are the seventh largest foreign community in Italy, comprising 3.25% of the foreign nationals residing in Italy.
  - ♦ The Migration and Mobility Agreement (MMA) was signed in 2023 to facilitate safe and legal migration of workers.

### Significance of Italy for India

- India–Italy relations are important for strategic engagement with Europe, as Italy is a key EU, G7, and NATO member.
- The partnership supports trade in manufacturing, luxury goods, and engineering, along with cooperation in defence, renewable energy, and climate technologies.
- Italy's Mediterranean location also strengthens India's maritime connectivity and access to Europe and North Africa.

## PM MODI RECEIVES AGRICOLA MEDAL

Prime Minister Narendra Modi was conferred the prestigious Agricola Medal by the Food and Agriculture Organization (FAO) at its headquarters in Rome, Italy.

### About Agricola Medal

- The Agricola Medal is the **highest honour** conferred by the **Director-General of the FAO**.
- The medal is named after **Georgius Agricola**, a German scholar widely considered the "**father of mineralogy**" and a pioneer in agricultural and mining sciences.



- It is awarded to distinguished world leaders and individuals for exceptional and long-term **contributions to global food security, sustainable agriculture, poverty reduction and improved nutrition.**

### Food and Agriculture Organization (FAO)

- FAO is a **specialized agency of the United Nations** that leads international efforts to defeat hunger and improve food security.
- It was **founded** on 16 October 1945.
- **Members:** The FAO comprises 195 members, including 194 countries and the European Union.
- **Headquarters:** Rome, Italy.

## INDIA'S CULTURAL DIPLOMACY THROUGH GIFTS

PM Modi gifted traditional Indian handicrafts, textiles, and regional artefacts to world leaders during his five-nation diplomatic tour covering the United Arab Emirates, Sweden, Norway, Netherlands, and Italy.

### Gifts Presented to World Leaders

- **Italian PM** Giorgia Meloni received a **Muga silk stole** from Assam and an off-white **Shirui Lily silk stole** from Manipur. Muga silk, known as the **"golden silk"** of Assam, is a rare textile produced in the **Brahmaputra Valley** without artificial dyes.
- The **Shirui Lily silk stole** derives inspiration from the **Shirui Kashong Peak of Manipur** and the rare **Shirui Lily flower**.
- Queen Máxima of the Netherlands was gifted **Meenakari and Kundan earrings** from **Rajasthan**.
- **Norwegian Leader** Jonas Gahr Støre received a **pressed orchid painting and orchid paperweights** made from real pressed orchids and ferns of **Sikkim**.
  - ♦ **Harald V** was presented with a **silver sailboat model** crafted using **Tarakasi**, the traditional silver filigree art of **Cuttack, Odisha**.
- **Swedish Prime Minister** Ulf Kristersson received a Santiniketan messenger bag from West Bengal along with works of Rabindranath Tagore.
- **UAE President** Sheikh Mohamed bin Zayed Al Nahyan received a **Rogan painting** featuring the **"Tree of Life" motif** from Gujarat.
  - ♦ **Rogan art** is a rare textile painting tradition from the **Kutch region of Gujarat**.
  - ♦ A **box of Kesar mangoes** from Junagadh, Gujarat, was also presented.

### Significance of Such Gifts

- The gifts promote local artisans, traditional crafts, and **Geographical Indication (GI)-linked products** internationally.
- They strengthen **cultural diplomacy** and enhance **India's soft power** globally.

## INDIA BACKS ETHIOPIA'S WTO ENTRY

India and Ethiopia signed a bilateral accession protocol in Geneva as part of Ethiopia's process of joining the World Trade Organization (WTO).

### About WTO Accession

- WTO accession is the process through which a non-member country becomes a member of the WTO.
- **The process involves:**
  - ♦ submission of an application to the WTO,
  - ♦ formation of a Working Party to examine the country's trade policies,
  - ♦ aligning domestic trade and economic laws with WTO rules, and
  - ♦ negotiating market-access commitments with existing WTO members.
- After negotiations are completed, the accession terms are approved by WTO members and ratified by the applicant country.
- Ethiopia applied for membership of the WTO in 2003 and is currently at an advanced stage of the WTO accession process.

### World Trade Organization (WTO)

- **WTO** is the international organization that deals with the rules of trade between countries.
- **History:**
  - ♦ **WTO** is the successor to the General Agreement on Tariffs and Trade (GATT) established in the wake of the Second World War.
  - ♦ **The Marrakesh Agreement** establishing the World Trade Organization was signed by 123 countries in 1994, leading to the birth of the WTO on 1 January 1995.
- **Headquarters:** Geneva, Switzerland
- **Member:** The WTO is run by its 166 members.
- **Mandate:** Its aim is to promote free trade, which is done through trade agreements that are discussed and signed by the member states.
  - ♦ **The preamble** of the Marrakesh Agreement accords primacy to the developmental objectives of this organization.

## ASIAN PRODUCTIVITY ORGANIZATION (APO)

India hosted the 68th Asian Productivity Organization (APO) governing body meeting with focus on regional productivity cooperation.

### About APO

- Established in **1961**, it is a **Tokyo-based intergovernmental body** that promotes productivity enhancement across the Asia-Pacific region through mutual cooperation and capacity building.

- The APO currently comprises **21 member economies**, including Bangladesh, Cambodia, Taiwan, Fiji, Hong Kong (dormant), **India**, Indonesia, Iran, Japan, Republic of Korea, Lao PDR, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand, Türkiye, and Vietnam.
- As one of its founding members, India has played a pivotal role in shaping the organization's vision and supporting its initiatives.

## THREATS TO PEACEKEEPING MISSIONS

Geopolitical tensions and a funding crisis are jeopardising peacekeeping missions, particularly those under the auspices of the United Nations, the Stockholm International Peace Research Institute warned.

### SIPRI Report on UN Peacekeeping Missions

- **Sharp Decline in Peacekeeping Personnel operations:**
  - ♦ By December 2025, UN peacekeeping reached a 25-year low with 78,633 personnel (down ~49% since 2016).
  - ♦ Alongside just 58 active multilateral peace operations across 34 countries, signaling reduced global conflict-management engagement.
- **Concentration of Missions in Conflict Zones:**
  - ♦ Peacekeeping forces were heavily concentrated in a few crisis zones—especially the Central African Republic, South Sudan, Somalia, the Democratic Republic of the Congo, and Lebanon.
- **Funding Crisis:**
  - ♦ UN peacekeeping faced a major financial shortfall in 2025, about \$2 billion, due to delayed or unpaid member contributions.
  - ♦ This led to budget cuts and reduced deployments.
- **Geopolitical Deadlock in the UNSC:** The United Nations Security Council increasingly faces divisions among permanent members which leads to difficulty in launching new missions.
- **Declining Political Support for Multilateralism:**
  - ♦ Major powers are shifting toward national and bilateral security arrangements over UN-led efforts.
  - ♦ This weakens collective peacekeeping and fragmenting global security responses.
- **Changing Nature of Modern Conflicts:** Conflicts are now mostly internal and driven by insurgencies and terrorism, making modern peacekeeping harder and less effective with traditional methods.
- **Host-State Resistance:** Many governments increasingly restrict peacekeepers' access and freedom, weakening mission effectiveness.
- **Weakness of Regional Alternatives:** regional bodies have stepped in for UN peacekeeping but lack sufficient resources for long-term efforts.

## UN Peacekeeping

- UN Peacekeeping is a key mechanism used by the United Nations to maintain global peace and security.
  - ♦ It operates alongside other UN efforts, including conflict prevention, peacemaking, peace enforcement, and peacebuilding.
- UN Peacekeeping began in 1948 with the establishment of the United Nations Truce Supervision Organization (UNTSO) in the Middle East to monitor ceasefires.
- The United Nations Peacekeeping Forces were awarded the Nobel Peace Prize in 1988.
- Uganda became the top contributor of military personnel, followed by Nepal, Bangladesh and India.



## Natable Peacekeeping Missions

- UNMIL (United Nations Mission in Liberia) operated from 2003 to 2018.
- MINURCAT (United Nations Mission in the Central African Republic and Chad) operated from 2007 to 2010.
- MINUSTAH (United Nations Stabilization Mission in Haiti) operated from 2004 to 2017.
- UNMISET (United Nations Mission of Support in East Timor) operated from 2002 to 2005.

## QUAD FOREIGN MINISTERS' MEETING

The Foreign Ministers of Australia, India, Japan and the Secretary of State of the United States met in New Delhi, for the 11th Quad Foreign Ministers' Meeting.

### Quadrilateral Security Dialogue (QUAD)

- It is an **informal multilateral grouping** of **India, the U.S., Australia, and Japan** aimed at cooperation for a free and open Indo-Pacific region.

- **Origin:** The Quad began as a loose partnership after the **2004 Indian Ocean tsunami** when the four countries joined together to provide humanitarian and disaster assistance to the affected region.
  - ♦ It was formalized by former Japanese Prime Minister **Shinzo Abe in 2007**, but then fell dormant.
- After a decade it was **resurrected in 2017**, reflecting changing attitudes in the region toward China's growing influence.

### Importance

- The Quad is strategically important for India as it supports the Act East Policy, strengthens maritime security through military cooperation and intelligence sharing, and promotes freedom of navigation.
- It also helps counter China's growing influence in the Indo-Pacific and supports India's goal of a rule-based multipolar world and greater regional power status.

### Major Highlights of recent Quad Foreign Ministers' Meeting

- The Quad partners launched the **first-ever Indo-Pacific Maritime Surveillance Collaboration (IPMSC) initiative** to enhance maritime domain awareness and information sharing in the Indo-Pacific, with an initial focus on the Indian Ocean Region.
- The four nations also expanded the **Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA) initiative** and announced plans to develop a comprehensive Common Operating Picture (COP) to improve real-time maritime information sharing across the region.
- **Counter-terrorism cooperation:** Australia will host a **Quad Counterterrorism Tabletop Exercise in June 2026** focusing on state-sponsored terrorism threats and the misuse of unmanned aerial vehicles and emerging technologies.
- **Critical Minerals:** **Quad Critical Minerals Initiative Framework** was unveiled aimed at strengthening resilient and diversified supply chains for critical minerals.
- **Energy Resilience:** **Quad Initiative on Indo-Pacific Energy Security** will focus on cooperation in energy technology, policy, market analysis and emergency response exercises.
- **Infrastructure Cooperation:** It announced plans to work with the Government of Fiji on port infrastructure development following discussions under the Quad Ports of the Future Partnership initiative.
- **Under the AI-ENGAGE initiative**, the Quad partners announced more than USD 6 million in funding for six international research projects focused on improving crop yields, pest management and food security using artificial intelligence, robotics and sensing technologies.
- **India will host the next edition of the Quad-at-Sea Ship Observer Mission** to strengthen interoperability and coordination in addressing unlawful maritime activities.

## ABRAHAM ACCORDS

**Pakistan opposes joining the Abraham Accords, citing conflicts with fundamental ideologies to normalise relations with Israel.**

### About Abraham Accords

- The Abraham Accords are a series of U.S.-brokered agreements launched during President Donald Trump's first term to normalize diplomatic relations between Israel and several Arab countries.
- They are named after Abraham, a figure revered in Judaism, Islam, and Christianity.
- They emphasize shared religious and cultural heritage while promoting diplomatic, economic, and security cooperation.
- It was first signed by the United Arab Emirates and Bahrain in September 2020 and the accords were later joined by Morocco and Sudan, marking the most significant expansion of Arab-Israeli ties since Israel's peace treaties with Jordan (1994) and Egypt (1979).
- During Trump's second term, efforts have continued to expand the framework to additional countries, including post-Soviet states, with Kazakhstan formally joining in November 2025.

### Importance

- The Abraham Accords have improved cooperation between Israel and Gulf countries in trade, technology, security, and connectivity, while also strengthening coordination on regional security concerns.

## INDIA-TRINIDAD ARCHIVAL PACT AND LEGACY OF THE GIRMITYA COMMUNITY

**India and Trinidad and Tobago signed an important archival agreement during the visit of External Affairs Minister S. Jaishankar. The agreement aims to preserve the history and legacy of the Girmitya community.**

### Key Outcomes of the Visit

- A **Memorandum of Understanding (MoU)** was signed between the **National Archives of India** and Trinidad and Tobago.
- This agreement will help in **digitising and preserving historical records** related to Indian indentured labourers.
- India also launched a **Quick Impact Project** at **Nelson Island**, an important historical site linked to Indian migration.
- The project will include the **construction of a memorial monument**, the creation of a **digital archive hub**, and the development of an **audio-visual heritage centre**.

### Who are Girmityas?

- The **Girmityas** were Indian indentured labourers who were sent to work on plantations during the **19th and early 20th centuries**.
- The word "**Girmitya**" comes from the term "**agreement**", which referred to the labour contracts signed by them.

- They were sent to countries like **Fiji, Mauritius, South Africa, Trinidad and Tobago, Guyana, Suriname, Malaysia, and Kenya.**

### Migration to Trinidad and Tobago

- Around **143,000 Indian labourers** migrated to Trinidad between **1845 and 1917.**
- Most of them came from **Northern India and Bihar.**
- Today, their descendants make up nearly **40–45%** of the population of Trinidad and Tobago.

### Significance for India

- This strengthens India's **diaspora diplomacy** and relations with overseas Indians.
- It improves India's **soft power** through cultural and historical engagement.
- It preserves the shared history of **migration, labour struggles, and resilience.**

### Key Initiatives

- India is working to establish a **Girmitiya Studies Centre** for research, documentation, and preservation of this heritage.
- India extended **OCI eligibility up to the sixth generation** for the Indian diaspora in Trinidad and Tobago in **2025.**

### Challenges

- Many old records are **damaged, incomplete, or missing.**
- Differences in names and spellings make ancestry tracing difficult.
- Younger generations may have limited awareness of their ancestral history.
- Preservation requires long-term **coordination, technical expertise, and funding.**

### Way Forward

- India should expand the **digitisation of migration and plantation records.**
- It should promote **cultural exchanges, scholarships, and heritage tourism.**
- India should work for greater **international recognition** of the Girmitiya experience as an important part of global migration history.

## NATO STRENGTHENS BALTIC DEFENCE ARCHITECTURE

NATO has restructured its Baltic command format by assigning the German-Netherlands Corps to directly oversee the tactical defense of Estonia and Latvia.

### Previous System

- All three **Baltic nations (Estonia, Latvia and Lithuania)** and northern Poland operated under the single Multinational Corps **Northeast command** headquartered in **Szczecin, Poland.**

### What is the German-Netherlands Corps?

- The German-Netherlands Corps is a **multinational military headquarters** based in **Muenster** jointly led by Germany and Netherlands. It forms part of **NATO's rapid-response and collective defence structure.**
- The corps reportedly includes **participation from around 16 countries.**

### NATO

- NATO, or the North Atlantic Treaty Organization, is a military alliance of countries.
- **Establishment:** It was founded in **1949** with the signing of the North Atlantic Treaty, more popularly known as the **Washington Treaty.**
- **Aim:** To ensure the security and defense of its member countries through collective defense.
- **Founding Members:** The original members of NATO were **Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States.**
- **Collective Defense:** The cornerstone of NATO is **Article 5** of the North Atlantic Treaty, which states that an armed attack against one or more of its members is considered an attack against all members.
- **Decision-Making:** Decisions within NATO are made on the basis of consensus among member countries. **The North Atlantic Council**, which includes the ambassadors of all member countries, is the principal political decision-making body.
- **Members:** It has **32 member countries**, **Finland and Sweden** became the 31st and 32nd members respectively.



## PAST RISK AND RETURN VERIFICATION AGENCY (PaRRVA)

The Securities and Exchange Board of India (SEBI) has operationalised the Past Risk and Return Verification Agency (PaRRVA) to improve transparency and investor protection in financial markets.

### About PaRRVA

- PaRRVA is a SEBI-regulated mechanism that verifies the **past risk and return performance** of market intermediaries.
- It aims to standardise how financial performance is presented and provide investors with reliable and comparable data.

### Institutional Framework

- The PaRRVA framework was issued by SEBI in **April 2025**.
- **CARE Ratings Limited** has been recognised as the first PaRRVA entity.
- The **National Stock Exchange (NSE)** will function as the **PaRRVA Data Centre (PDC)** for data processing and management.

### Who Can Use It?

- Investment Advisers (IA)
- Research Analysts (RA)
- Trading Members (TM)
- Investors seeking verified performance information

### Key Features

- It enables regulated entities to display **independently verified performance data**.
- Investors get access to **credible and standardised information** for better decision-making.
- PaRRVA-verified performance can also be used in advertisements as per SEBI rules.
- Investment advisers and research analysts must enrol within three months, and after a two-year transition period only PaRRVA-verified data can be used publicly.

## AVIATION TURBINE FUEL (ATF)

Indian airlines have urged the government to revise the pricing formula of Aviation Turbine Fuel (ATF) as global fuel prices rise due to the West Asia crisis.

### About ATF

- ATF, or jet fuel, is a high-performance **kerosene-based petroleum fuel** used mainly in aircraft gas-turbine engines.
- It is produced through the **fractional distillation of crude oil** and refined to meet strict aviation safety standards.

### ATF Pricing in India

- ATF prices in India follow the **Import Parity Pricing (IPP)** system, where domestic fuel prices are linked to international market prices, especially Arab Gulf benchmarks.
- ATF forms nearly **40% of airline operating costs** in India, much higher than the global average.
- It remains outside the **GST framework** and attracts high State VAT, leading to tax cascading because airlines cannot claim Input Tax Credit.

### Sustainable Aviation Fuel (SAF)

- SAF is an alternative aviation fuel made from **renewable biomass, waste oils, fats, municipal waste, non-food crops, and synthetic carbon capture processes**. It is chemically similar to conventional ATF and can be blended with jet fuel without modifying aircraft engines or airport infrastructure.
- The government has recently brought **SAF-blended ATF** under the **ATF (Regulation of Marketing) Order, 2001**.

## RECORD GST COLLECTIONS IN APRIL 2026

India's Goods and Services Tax (GST) collections reached a record Rs 2.43 lakh crore in April 2026, showing an annual growth of 8.7%. The increase was mainly driven by higher tax collections from imports, while domestic sales growth remained comparatively slower.

### About GST

- GST was introduced in **2017** through the **101st Constitutional Amendment Act, 2016** as a unified indirect tax system for the entire country.
- It is a **destination-based tax** levied on the consumption of goods and services at every stage of the supply chain.
- Only the **value added** at each stage is taxed, and the final burden is borne by the consumer.

### Types of GST

- **CGST**: Levied by the Central Government.
- **SGST/UTGST**: Levied by States or Union Territories.
- **IGST**: Levied by the Centre on inter-state trade and later shared with destination states.

### GST Structure and Governance

- GST currently follows a multi-rate structure, including major slabs of **5%, 18%, and 40%** for different categories of goods and services.
- The **GST Council**, created under **Article 279A**, is the constitutional body that recommends GST-related decisions through consensus.

## GST 2.0 Reforms

- ➔ **Simpler Tax Structure:** The move to a three-slab GST regime (5%, 18% and 40%) reduces complexity, classification disputes, and compliance costs.
- ➔ **MSME and Startup Enablement:** Faster refunds, simplified registration and returns, and lower input costs aim to boost the present businesses and startups and incentivise the youth to enter into businesses and initiate startups.
- ➔ **Wider Tax Base and Revenue Stability:** Simpler rates and improved compliance have expanded the GST taxpayer base to over 1.5 crore, while gross collections also increased, reinforcing fiscal sustainability.

## Exempted Items

- ➔ Alcohol for human consumption and five petroleum products remain outside GST.

## WORLD ECONOMIC SITUATION AND PROSPECTS REPORT

The United Nations (UN), in its *World Economic Situation and Prospects report*, has reduced India's Gross Domestic Product (GDP) growth forecast for 2026 from 6.6% to 6.4%.

### Key Highlights

- ➔ Despite the downward revision, the UN stated that India will remain one of the **fastest-growing major economies** in the world.
- ➔ India is expected to perform better than many **advanced** and **emerging economies** in growth terms.
- ➔ Different UN agencies have given varying projections:
  - ♦ United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) projected 7.4% growth for 2025 and 6.6% for 2027.
  - ♦ United Nations Conference on Trade and Development (UNCTAD) projected 6.5% growth for 2026.

### Reasons for Revision

- ➔ **Weak global demand** is reducing international trade and investment flows.
- ➔ **Geopolitical tensions**, especially the **West Asia crisis**, are increasing uncertainty in global markets.
- ➔ **Trade restrictions** and protectionist policies are slowing global economic activity.
- ➔ **Volatile energy prices** are raising India's import costs.
- ➔ **Higher global borrowing costs** are creating financial pressure on developing economies.

### External Sector Concerns

- ➔ India's economic activity slowed in the second half of 2025 due to weaker exports.
- ➔ Exports to the **United States** declined after higher tariffs were imposed in **August 2025**.

- ➔ India, being the world's largest recipient of **remittances**, may also be affected by the new **1% U.S. remittance tax** effective from **January 2026**.

## ELECTRONIC GOLD RECEIPTS (EGRs)

The National Stock Exchange (NSE) has launched **Electronic Gold Receipts (EGRs)** as a new trading segment to make gold trading more transparent, secure and organised.

### About

- ➔ **Electronic Gold Receipts (EGRs)** are **dematerialised securities** that represent ownership of **physical gold**.
- ➔ The actual gold remains stored in **SEBI-regulated vaults**, while investors hold EGRs in their **demat accounts**, similar to shares and Exchange Traded Funds (ETFs).
- ➔ Each EGR is fully backed by **real gold**, ensuring **quality, authenticity and standardisation**.
- ➔ The system operates under **SEBI guidelines**.
- ➔ **SEBI-registered Vault Managers** are responsible for providing vaulting services for gold deposited for the creation of EGRs.

### Working

- ➔ The process begins when **physical gold** is deposited with accredited vaults managed by **SEBI-registered Vault Managers**.
- ➔ After verification, the deposited gold is converted into **EGR units**.
- ➔ These EGR units are credited to the investor's **demat account**.
- ➔ Investors can trade these receipts on stock exchanges like other **financial assets**. EGRs can also be converted back into **physical gold** whenever required.

### Significance

- ➔ EGRs connect the **physical gold market** with the **financial market**.
- ➔ They improve **transparency, liquidity, and price discovery** in gold trading.
- ➔ They strengthen **investor confidence** by ensuring secure storage and standardised quality.
- ➔ The system benefits **jewellers, refiners, traders, retail investors and institutional investors**.

## SEBI'S PROPOSED REFORMS IN IPO AND RE-LISTING PRICE DISCOVERY

The Securities and Exchange Board of India (SEBI) has proposed reforms in the price-discovery mechanism for Initial Public Offerings (IPOs) and re-listed companies during the pre-open call auction session.

### Why are reforms needed?

- ➔ SEBI found that the existing system often causes **artificial suppression of opening prices** due to restrictive **dummy price bands**.

- Genuine investor orders are frequently rejected if they fall outside the allowed range.
- This leads to sharp price jumps and high volatility once regular trading starts, affecting market efficiency.

### Key Market Terms

- **Initial Public Offering (IPO):** The process through which a company offers shares to the public for the first time and gets listed on a stock exchange.
- **Re-listed Company:** A company whose shares were earlier suspended or removed from trading and are later listed again.
- **Price Discovery:** The process of determining the fair market price of a share based on demand and supply.

### Major Proposed Changes

- **Base Price for Re-listed Stocks:**
  - ♦ If trading resumes within **six months**, the latest traded closing price can be used.
  - ♦ If unavailable, stock exchanges may use valuation reports from **two independent valuers or chartered accountants**.
  - ♦ If re-listing happens after six months, valuation reports will fully decide the base price.
- **Flexible Dummy Price Bands:** SEBI proposes automatic widening of the price band by **10%** whenever the equilibrium price approaches the upper or lower limit.
- **Stronger Participation Requirement:** A valid opening price will need at least **five unique PAN-based buyers** and **five unique PAN-based sellers**.
- **Continuation of Call Auction:**
  - ♦ For re-listed stocks, if price discovery fails on day one, the call auction may continue on later days until a valid price is found.
  - ♦ For IPOs, normal trading will begin using the **issue price** as the base if no equilibrium price emerges.

### Present System

- IPOs and re-listed stocks currently have a **one-hour pre-open call auction** from **9 AM to 10 AM**.
- Mainboard IPOs use a **-50% to +100% dummy price band**, while **SME IPOs** have a fixed **±90% band**.

## ARUNACHAL KIWI MISSION

The Ministry of Development of North Eastern Region (MDoNER) has launched the Arunachal Kiwi Mission under the "One State-One USP" approach to promote Arunachal Pradesh as India's premium organic kiwi hub.

### Objective

- The mission has an outlay of around **₹167 crore** and aims to strengthen the entire **kiwi value chain** from cultivation, post-harvest management, and cold storage to branding, exports, and agri-tourism.

- It seeks to address major gaps such as **low farmer prices, weak cold-chain infrastructure, poor branding, distress sales, and limited export linkages**.

### Key Features

- The mission follows a **whole-of-government, convergence-led model** supported by ministries, institutions, and private investors.
- It adopts a **cluster-based model** with **six integrated post-harvest hubs** across **Ziro Valley, Dirang, Kalaktang, Shi Yomi, and Dibang Valley**.
- It aims to create **2,000 metric tonnes cold-chain capacity** and improve processing and market integration.
- It also promotes **kiwi orchard tourism** and **farm-stay experiences**, combining horticulture with tourism.
- Similar **USP products** include **Lakadong Turmeric (Meghalaya), Coffee (Nagaland), Ginger (Mizoram), and Muga Silk (Assam)**.

### Significance

- **Arunachal Pradesh** contributes over **50% of India's kiwi production**, producing more than **7,050 metric tonnes annually**.
- It was the **first State to receive organic kiwi certification**.
- Its **November–January harvest season** coincides with New Zealand's off-season, creating export opportunities.
- The mission aims to reduce post-harvest losses, improve farmer income, and position **Arunachal Organic Kiwi** in premium global markets.

### About Kiwi

- **Kiwi (*Actinidia deliciosa*)**, also called **Chinese gooseberry**, is a nutrient-rich woody deciduous vine native to **eastern Asia**.
- It requires **700–800 chilling hours below 7°C** and grows best at **800–1,500 metres altitude**.
- It starts fruiting in **4–5 years** and reaches full commercial production in **7–8 years**.

## DOLLAR-RUPEE SWAP AUCTION

The Reserve Bank of India (RBI) has announced a \$5 billion dollar-rupee buy/sell swap auction for a three-year tenor to infuse durable liquidity into the banking system. The move comes at a time when banking liquidity remains tight and the Indian Rupee has weakened beyond ₹96 per US dollar due to global uncertainty, capital flow volatility, and strong dollar demand.

### What is a Dollar–Rupee Swap Auction?

- A **Dollar–Rupee Swap Auction** is a **foreign exchange liquidity management tool** used by the RBI to inject long-term rupee liquidity into the banking system.
- It allows the RBI to ease liquidity stress without permanently increasing the money supply or permanently reducing foreign exchange reserves.

- It is particularly useful when both **liquidity conditions** and **currency stability** require simultaneous management.

### How does it work?

- It operates as a **buy/sell foreign exchange arrangement** between the RBI and banks.
- At the beginning of the swap, banks sell **US dollars** to the RBI and receive **rupees** in exchange.
- At the same time, both parties agree to reverse the transaction after a fixed period.
- The future exchange rate is determined as the **spot rate plus the swap premium** discovered through auction.
- In this case, banks will repurchase the dollars after **three years** by returning the rupees to the RBI.
- The auction follows a **multiple-price mechanism**, where each successful bidder pays the premium quoted by it.
- The minimum bid size is **\$10 million**, with additional bids allowed in multiples of **\$1 million**.

### Why has RBI used this Tool?

- To inject **durable liquidity** into the banking system.
- To reduce immediate pressure on the **rupee** caused by strong dollar demand.
- To improve **credit flow** by increasing fund availability for banks.
- To strengthen the transmission of **monetary policy**.

### Dollar–Rupee Swap vs Open Market Operations (OMO)

- OMO manages liquidity by buying or selling **government securities** in the domestic market.
- **Swap auctions** manage liquidity through **foreign exchange transactions**.
- OMOs mainly address domestic liquidity, while swaps help manage both **liquidity stress** and **exchange rate volatility** together.
- Swaps are often preferred during external sector pressures because they directly ease dollar demand.

## '3F' CONCERNS: FUEL, FERTILISER AND FOREIGN EXCHANGE

The Union Finance Minister highlighted concerns over the 3Fs — Fuel, Fertiliser and Foreign Exchange (Forex) amid the ongoing West Asia crisis. These three sectors directly affect India's inflation, agriculture, trade balance, and macroeconomic stability.

### Why the 3Fs Matter

#### Fuel

- India is one of the world's largest **crude oil importers** and depends heavily on **West Asia** for energy supplies.
- Rising crude oil prices increase the **import bill** and widen the **Current Account Deficit (CAD)**.

- **This creates a chain effect:** higher oil imports → more dollar demand → rupee depreciation → imported inflation.
- Higher fuel prices increase costs in transport, manufacturing, and household consumption.
- To reduce the burden, the government cut **central excise duty by ₹10 per litre** on petrol and diesel, causing a revenue loss of over **₹1 lakh crore in 2026–27**.

#### Fertilisers:

- India imports large quantities of **urea, ammonia, phosphates, and Liquefied Natural Gas (LNG)** from Gulf countries. Supply disruptions and rising LNG prices increase fertiliser costs.
- Higher fertiliser prices raise **cultivation costs**, reduce farm profitability, and may increase **food inflation**.
- This also raises the government's **fertiliser subsidy burden**.

#### Foreign Exchange (Forex):

- Higher payments for oil, fertilisers, and **gold** increase pressure on **forex reserves**. This weakens the **Indian Rupee** and raises import costs further.
- During global uncertainty, **Foreign Portfolio Investors (FPIs)** often withdraw funds, increasing external sector pressure.

### Broader Economic Impact

- Rising fuel and fertiliser costs create inflationary pressures across food, logistics, and manufacturing.
- Increased subsidies and tax cuts create fiscal stress.
- Prolonged external shocks may slow industrial growth and weaken economic momentum.

### Resilience Indicators

- India's economy remains resilient with strong Goods and Services Tax (GST) collections, higher tractor and two-wheeler sales, declining bad loans, and 67% year-on-year growth in private capital expenditure.
- The **Reserve Bank of India (RBI)** transferred a record surplus of **₹2.87 lakh crore** to the government.
- The government has also created an **Economic Stabilisation Fund of over ₹1 lakh crore** as a precautionary buffer.

## CONCERNS OVER ANTI-DUMPING DUTIES ON CHEMICALS

Anti-Dumping Duties (ADD) on chemicals have become a major policy conflict between large domestic manufacturers, who seek protection from cheap imports, and MSME-based downstream industries, which face rising input costs.

### What is Anti-Dumping Duty?

- **Anti-Dumping Duty (ADD)** is a trade remedy used to protect domestic industries from **unfairly cheap imports**.
- **Dumping** occurs when goods are exported at prices lower than their domestic price or production cost.



- In India, ADD is imposed under the **Customs Tariff Act, 1975** after investigation by the **Directorate General of Trade Remedies (DGTR)** under the **Ministry of Commerce and Industry**.
- It is permitted under the **World Trade Organization (WTO) Anti-Dumping Agreement**.

### Need for ADD in Chemicals

- **NITI Aayog** observed that India's chemical manufacturing base has weakened because of rising cheap imports, especially from **China**.
- India imported chemicals worth **\$75 billion** against exports of **\$44 billion**, creating a **\$31 billion trade deficit**.
- Between **January 2021 and June 2025**, India initiated **226 anti-dumping investigations**, with **51%** targeting chemicals.
- ADD aims to protect domestic producers, strengthen manufacturing, and reduce import dependence in strategic chemical value chains.

### Concerns

- **Higher input costs** make raw materials expensive for downstream industries. **MSMEs** in textiles, plastics, footwear, and auto components lose competitiveness because chemicals support nearly **80,000 downstream products**.
- **Exports become costlier**, reducing India's competitiveness in global markets. **Large upstream producers benefit**, while smaller industries bear the operational burden.
- Long-term protection may reduce **innovation, efficiency, and diversification** in the sector.

## COAL GASIFICATION

The Union Coal Minister stated that coal gasification can help substitute imports worth up to ₹3 lakh crore. To accelerate this, the Union Cabinet approved a ₹37,500 crore incentive package for surface coal and lignite gasification projects, in addition to the earlier ₹8,500 crore package approved in 2024.

### What is Coal Gasification?

- Coal gasification is a thermochemical process that converts coal into synthesis gas (syngas) through oxidation at high temperature and pressure.
- **Syngas** mainly consists of hydrogen ( $H_2$ ), carbon monoxide ( $CO$ ), carbon dioxide ( $CO_2$ ), and methane ( $CH_4$ ).

### Why is it Important for India?

- India imports nearly **one-fifth of its urea**, almost its **entire ammonia requirement**, and **80–90% of methanol demand**.
- Coal gasification can reduce this dependence and strengthen **energy security, fertiliser security**, and reduce the **current account deficit**.
- India possesses around **401 billion tonnes of coal** and **47 billion tonnes of lignite**, making it resource-rich for this transition.

### Types and Uses

- **Surface Gasification:** Coal is mined first and converted into gas in industrial reactors.
- **Underground Coal Gasification (UCG):** Coal is converted into gas while still underground.
- Syngas is used to produce **Synthetic Natural Gas (SNG)**, urea, ammonia, methanol, ethanol, hydrogen, ammonium nitrate, and dimethyl ether.

### Targets and Technology

- India aims to gasify **100 million tonnes of coal by 2030**.
- The biggest challenge is that **Indian coal has high ash content**, making standard technologies unsuitable.
- **Fluidised-bed gasification** is considered suitable for high-ash coal.
- **BHEL** has developed an indigenous **pressurised fluidised-bed gasifier** for Indian conditions.

### Challenges

- **High capital costs** and long project timelines affect viability.
- Dependence on **foreign technology**, especially for advanced systems, continues.

## FAIR AND REMUNERATIVE PRICE (FRP)

The Cabinet Committee on Economic Affairs (CCEA) has approved the Fair and Remunerative Price (FRP) of sugarcane for the 2026–27 season at ₹365 per quintal for a 10.25% sugar recovery rate.

### What is FRP?

- **Fair and Remunerative Price (FRP)** is the **minimum price** that sugar mills are legally bound to pay sugarcane farmers for their produce. It is fixed annually by the **CCEA**, chaired by the Prime Minister, based on the recommendations of the **Commission for Agricultural Costs and Prices (CACP)** after consultation with State Governments and stakeholders.
- The payment is regulated under the Sugarcane (Control) Order, 1966.

### Mechanism of FRP

- The **FRP calculation mechanism** is similar to the one used for determining the **Minimum Support Price (MSP)** of other crops.
- However, unlike **MSP**, which does not have a legal guarantee, **FRP is mandatory by law** and sugar mills must make payment.
- The payment must be made within **14 days** of cane delivery.
- If mills fail to pay, the **Cane Commissioner** can take legal action, including **attachment of mill properties**.

### Basis of Calculation

- FRP is directly linked to the **sugar recovery rate**, which means the percentage of sugar obtained from crushed sugarcane.
- A **higher recovery rate** leads to a **higher FRP**, as it increases sugar output.

## FRP, MSP and SAP

- FRP applies only to **sugarcane** and is fixed by the **Central Government**.
- MSP applies to multiple crops but remains only a **support price** without legal enforcement.
- **State Advised Price (SAP)** is fixed by some States and is also mandatory within those States.

## UDGAM PORTAL

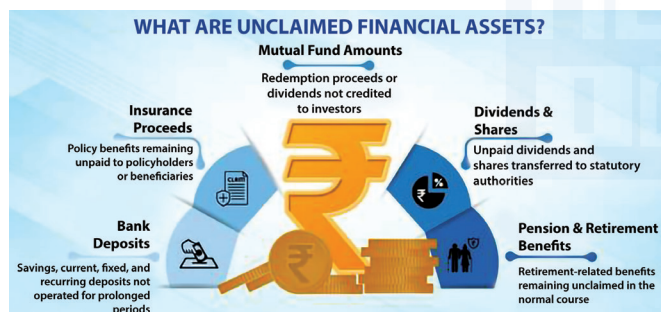
The Reserve Bank of India (RBI) reported to the Supreme Court of India that 30 banks are now connected to the UDGAM portal.

### About

- Developed by the RBI, UDGAM (Unclaimed Deposits – Gateway to Access Information) serves as a centralized search system.
- It allows citizens to locate their unclaimed bank balances across various participating banks using one single platform.
- Rather than paying out or settling the claims itself, the portal guides users directly to the specific banks holding their funds.

### About Unclaimed Financial Assets

- These assets are funds left untouched in financial institutions by account holders or their legal heirs for an extended period.



- If a bank deposit is not claimed for **10 years or longer**, it gets moved to the Depositor Education and Awareness Fund (DEA Fund).
- However, the depositor still owns the money, and there is no deadline for them or their heirs to reclaim it.

## STRESSED ASSET RESOLUTION

The National Asset Reconstruction Company Limited (NARCL) has strengthened India's stressed asset resolution framework by accelerating recoveries in FY 2025–26. It marks an important step in improving the banking sector's ability to resolve Non-Performing Assets (NPAs).

### Evolution

- India initially relied on Debt Recovery Tribunals (DRTs), 1993, the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002, and Asset Reconstruction Companies (ARCs).

- These mechanisms faced low recovery rates, procedural delays, and coordination failures.
- A major reform came with the Insolvency and Bankruptcy Code (IBC), 2016, which introduced a time-bound insolvency process and a creditor-in-control model.
- The **Asset Quality Review (AQR)** by the **Reserve Bank of India (RBI)** improved transparency in NPAs and strengthened bank balance sheets through recapitalisation.

### Need for a Bad Bank

- Despite IBC reforms, many **large and complex NPAs** remained unresolved due to multiple lenders and weak coordination.
- This created the need for a centralised '**bad bank**' model to aggregate stressed assets and improve recovery.

### About NARCL

- NARCL is a government-backed Asset Reconstruction Company (ARC) working with the India Debt Resolution Company Limited (IDRCL).
- It acquires stressed assets from banks, aggregates exposures, and resolves them through IBC, restructuring, and market-based sales. It has a target to acquire **₹2 lakh crore** worth of stressed assets.

## FDI NORMS EASED UNDER FEMA

The Government of India has amended rules under the Foreign Exchange Management Act (FEMA), 1999 to ease Foreign Direct Investment (FDI) norms for foreign companies with limited Chinese shareholding. The reform aims to improve investor confidence while maintaining strategic safeguards.

### Amendment

- Earlier, the **Department for Promotion of Industry and Internal Trade (DPIIT)** required **prior government approval** for any investment from countries sharing a land border with India, even if the shareholding was minimal.
- Under the revised policy, restrictions will now apply only where there is **significant beneficial ownership**.
- As per the **Prevention of Money Laundering Act (PMLA), 2002**, a **beneficial owner** means a person or entity holding more than **10% ownership, control, or profit entitlement**.

### Key Provisions

- Foreign companies with up to **10% Chinese or Hong Kong shareholding** can now invest under the **automatic route**, subject to sectoral conditions.
- This relaxation applies only to sectors where FDI is already permitted under the automatic route.
- Entities incorporated in **China, Hong Kong**, or any country sharing a land border with India will continue to require prior government approval.

- Investments by **multilateral institutions** where India is a member will not be treated as country-specific investments.
- All such investments will remain subject to **Reserve Bank of India (RBI)** reporting requirements.

### About FEMA and FDI

- FEMA, 1999** regulates foreign exchange transactions and replaced **Foreign Exchange Regulation Act (FERA), 1973**.
- It provides the legal framework for **FDI, external commercial borrowings, and cross-border payments**.
- FDI** refers to investment by a foreign entity in ownership or control of business enterprises in another country.
- FDI can enter through:**
  - Automatic Route** – no prior approval required.
  - Government Route** – prior approval required.
- FDI is prohibited in sectors such as lottery, gambling, betting, chit funds, Nidhi companies, real estate business, and manufacturing of tobacco products.

## UPI COMPLETES 10 GLORIOUS YEARS

The Unified Payments Interface has completed 10 years since its launch in April 2016.

### About UPI

- UPI is a real-time payment system that enables users to link multiple bank accounts into a single mobile application, allowing seamless fund transfers and merchant payments.
- It was launched by the **National Payments Corporation of India** under the regulatory oversight of the **Reserve Bank of India**.

### Key Features of UPI



#### Simplified Transactions

Users can transfer money using a UPI ID or mobile number, eliminating the need for details such as IFSC and account numbers.



#### Universal Interoperability

It enables seamless transactions across banks and fintech applications through a unified interface.



#### Real-Time Payments

Instant fund transfers are available 24x7 across the country.



#### Enhanced Security

It uses two-factor authentication, ensuring secure and verified transactions.

- The system integrates multiple banking features into a single interoperable platform, enabling instant transactions across banks and applications.

### Achievements of UPI

- Transaction Growth:** Annual transactions increased from 2 crore in FY 2016–17 to 24,162 crore in FY 2025–26.
  - In 2025, UPI processed around 22,000 crore transactions, with a daily average of about 60 crore transactions.
- Bank Participation:** The number of banks onboarded rose from 44 to 703, covering public, private, small finance, payments, and cooperative banks.
- Global Leadership:** UPI accounts for around 49% of global real-time payment transactions (2024), as recognised by the **International Monetary Fund**.
- UPI has been operationalised internationally, enabling cross-border payments and merchant acceptance in countries such as:
  - United Arab Emirates:** Widely accepted at merchant locations and used by the Indian diaspora.
  - Singapore:** Linked with PayNow for seamless cross-border transfers.
  - France:** Accepted at merchant points, especially for Indian tourists.
  - Bhutan, Nepal, Sri Lanka, Mauritius, and Qatar:** Integrated with local payment systems for real-time transactions.

### National Payments Corporation of India

- The NPCI is an umbrella organisation for retail payments and settlement systems in India, established as an initiative of the RBI and the Indian Banks' Association under the Payment and Settlement Systems Act, 2007.
- It operates as a not-for-profit company under Section 8 of the Companies Act, 2013.
- Key products include Immediate Payment Service (IMPS), National Automated Clearing House (NACH), UPI, RuPay, and Aadhaar Enabled Payment System (AePS).

## ILO ARTICLE 24

Tea plantation workers in West Bengal, represented by Paschim Banga Cha Majoor Samity, have approached the International Labour Organization (ILO) under Article 24 of its Constitution, alleging serious labour rights violations.

### Why the issue was Raised

- Workers have alleged **systemic violations** despite India being bound by ratified ILO conventions.
- The major concerns include starvation deaths, severe malnutrition, non-payment of wages and provident fund dues, absence of minimum wages, and discrimination against women and Adivasi workers.

- These allegations point towards weak enforcement of labour protections in tea plantations.

### Article 24 of ILO

- **Article 24** allows industrial associations of employers or workers to file a **representation** against a member state for failing to effectively implement a **ratified ILO Convention**.
- It is an important supervisory mechanism to ensure compliance with international labour standards.

### Procedure Under Article 24

- The complaint is examined by the **ILO Governing Body**.
- If found admissible, a **three-member tripartite committee** may be constituted.
- This committee studies the complaint and the government's response. It then submits a report containing **legal findings** and **recommendations**.
- If the response is unsatisfactory, under **Article 25**, the ILO may publish the representation, creating international moral pressure. In serious cases, it may escalate into a formal complaint under **Article 26**.

### International Labour Standards

- Since **1919**, the ILO has developed labour standards through:
  - ♦ Conventions and Protocols (legally binding after ratification).
  - ♦ Recommendations (non-binding guidelines).
- Under **Article 19(6)**, member states must place adopted standards before competent authorities for consideration.

### India and Labour Protection

- India is a **founding member** of the **ILO (1919)**.
- Labour protection in India is governed through four Labour Codes, including Code on Wages (2019) and Code on Social Security (2020).
- However, enforcement remains weak, especially in plantation and unorganised sectors.

### Significance

- The case highlights the gap between legal commitments and ground-level implementation.
- It also reinforces the role of international mechanisms in promoting workers' rights, social justice, and accountability.

## DECARBONISING INDUSTRIAL HEAT

Geopolitical tensions in the Strait of Hormuz and India's dependence on imported fossil fuels have highlighted the need to decarbonise industrial heat for energy security and sustainable growth.

### Industrial Heat

- **Industrial heat** refers to thermal energy used in manufacturing processes such as **steam generation**, **drying**, **dyeing**, and **kiln operations**.

- It is essential in sectors like textiles, steel, ceramics, chemicals, food processing, pharmaceuticals, and paper.
- It accounts for nearly **25% of India's total energy consumption**.
- Industrial process steam alone emits around 182 million tonnes of CO<sub>2</sub> annually.
- At present, this demand is mainly met through coal, furnace oil, biomass, and natural gas, causing emissions of carbon dioxide (CO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and particulate matter.

### Why Decarbonisation is Necessary

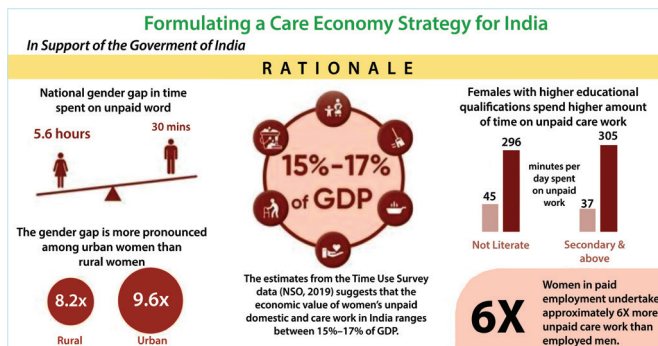
- **Energy Security:** Import dependence makes industries vulnerable to supply disruptions and price volatility.
- **Climate Goals:** Industrial heat remains a major source of greenhouse gas emissions.
- **Efficiency:** Conventional boilers lose **20–30% energy**, while electric systems can exceed **90% efficiency**.
- **Air Quality:** Cleaner technologies reduce industrial pollution and improve worker health.
- **Thermal Sovereignty:** Renewable-based electrification reduces external dependence.

## CARE ECONOMY

A working paper by the Economic Advisory Council to the Prime Minister (EAC-PM) has called for a major shift in policy thinking by treating care as a foundational social and economic infrastructure, rather than a private household responsibility.

### What is the Care Economy?

- The **Care Economy** (or **Purple Economy**) includes all **paid** and **unpaid** activities related to the care of **children**, **elderly persons**, and **persons with disabilities (PwDs)**.
- It is essential for **human development**, **labour productivity**, and **social welfare**.
- In India, unpaid domestic and care work, largely performed by women, is estimated to contribute nearly **15–17% of GDP**.



### Why India Needs a Formal Care Economy

- **Economic Opportunity:** Public investment of **2% of GDP** can generate nearly **11 million jobs**, with a majority for women.



- India may need **31–38 million formal care workers by 2050**.
- **Gender Imbalance:** Women spend nearly **289 minutes daily** on unpaid care work, compared to **88 minutes by men**, creating severe **time poverty** and limiting workforce participation.
- **Demographic Transition:** By **2050**, elderly persons will form **21%** of the population, while children will account for **18%**.
- **Weakening Family Support:** Urbanisation and nuclear families are reducing traditional caregiving support.
- **Informal Workforce Stress:** Workers like **ASHA** and **Anganwadi workers** face high workloads, weak social security, and honorarium-based payments.

## LIFELONG LEARNING FOR AN AI-DRIVEN LABOUR MARKET

The International Labour Organization (ILO), in its recent report, has urged governments to place lifelong learning at the centre of economic and social policy as labour markets undergo rapid transformation due to Artificial Intelligence (AI), digitalisation, and structural shifts.

### What is Lifelong Learning?

- **Lifelong learning** refers to the continuous process of acquiring knowledge, skills, and competencies throughout life.
- It includes:
  - ♦ **Formal education** and vocational training.
  - ♦ **Informal learning** through work experience and digital platforms.
  - ♦ Continuous **reskilling** and **upskilling** to remain relevant in changing labour markets.

### Why is Demand Rising?

- **Digitalisation and AI:** Automation is replacing repetitive tasks and increasing demand for higher-order digital and analytical skills.
- **Green Transition:** The shift towards renewable energy and sustainable industries is generating new skill requirements.
- **Demographic Shifts:** Ageing populations and youth-dominated labour markets require constant workforce adaptation.
- **Changing Nature of Work:** Growth of the **gig economy**, platform work, and remote employment demands flexible and evolving skills.

### Key Findings of the ILO Report

- Only **16%** of people aged **15–64** participate in structured learning annually.
- Around **51%** of full-time permanent workers in formal firms receive employer-provided training.
- This reveals a significant **learning divide** between formal and informal workers, and across income and education levels.
- The report notes an overemphasis on **initial formal education**, while lifelong skill-building remains neglected.

### Initiatives Taken

- **Skill India Mission** for industry-relevant skill development.
- **PM Kaushal Vikas Yojana (PMKVY)** for short-term skill certification.
- **National Apprenticeship Promotion Scheme (NAPS)** for practical training.
- **Jan Shikshan Sansthan (JSS)** for marginalised groups.
- **National Education Policy (NEP) 2020** for integrating vocational education.

### ILO Recommendations

- Develop **inclusive**, affordable, and high-quality learning systems.
- Strengthen **Public-Private Partnerships (PPPs)** for market-linked training.
- Promote **modular courses**, **micro-credentials**, and workplace learning.
- Expand **social protection** to support workers during job transitions and retraining.

## ATOMIC ENERGY REGULATORY BOARD

The Atomic Energy Regulatory Board (AERB) has approved major equipment erection for Kudankulam Nuclear Power Project (KKNPP) Units 5 and 6, advancing India's nuclear energy expansion.

### About AERB

- AERB is India's apex regulatory body for ensuring nuclear and radiation safety.
- It was established on 15 November 1983 under the Atomic Energy Act, 1962.
- Its powers are derived from rules framed under the Atomic Energy Act, 1962 and the Environment (Protection) Act, 1986.
- It functions under the administrative control of the Department of Atomic Energy (DAE) and is headquartered in Mumbai.

### Evolution

- Safety regulation began with committees during the commissioning of Tarapur and Rajasthan Atomic Power Stations in 1969.
- The Department of Atomic Energy Safety Review Committee (DAE-SRC) was formed in 1972.
- Based on committee recommendations, AERB was formally created in 1983 to strengthen institutional safety oversight.

### Objectives

- To ensure safe use of **ionising radiation** and nuclear energy without undue risk to people and environment.
- To regulate nuclear and radiation facilities through **licensing, inspection, and enforcement**.
- To frame safety standards for nuclear plants and radioactive waste management.

## Functions

- Grants approvals at different stages such as **First Pour of Concrete (FPC)** and major equipment erection.
- Conducts **multi-level safety reviews** of plant design, construction, and operations.
- Monitors operational plants through the **Safety Review Committee for Operating Plants (SARCOP)**.
- Ensures **radiological safety** in industrial, medical, and research installations.

## Kudankulam Nuclear Power Project (KKNPP)

- Located in **Tirunelveli, Tamil Nadu**.
- Developed by **Nuclear Power Corporation of India Limited (NPCIL)** with Russian collaboration.
- Uses VVER-type Pressurised Water Reactors (PWRs) (*Water-Water Energetic Reactor*).
- These reactors use **light water** as coolant and moderator.
- The project has **six units**, each of **1000 MW** capacity.

## SUSTAINABLE AGRICULTURE

The National Mission for Sustainable Agriculture (NMSA) is promoting climate-resilient farming by improving water efficiency, soil conservation, and sustainable farming systems.

### Meaning

- **Sustainable agriculture** refers to continuous food production in a way that protects the environment and preserves ecosystem balance.
- It aims to maintain **soil fertility**, use natural resources carefully, and ensure farmers can manage land, inputs, and labour over the long term.

### Importance

- **Food Security:** Ensures steady agricultural production for future generations.
- **Climate Adaptation:** Improves the ability of farming systems to handle droughts, floods, and heat stress.
- **Livelihood Security:** Supports nearly **46%** of India's population dependent on agriculture.
- **Environmental Safety:** Reduces soil erosion, water depletion, and chemical contamination.
- **Crop Diversity:** Promotion of **millets (Shree Anna)** encourages low-water and climate-friendly crops.

### Challenges

- **Declining Soil Health:** Excessive fertiliser and pesticide use has reduced organic matter in soil.
- **Water Scarcity:** Over-extraction of groundwater and uneven irrigation coverage remain major concerns.
- **Fragmented Holdings:** Small farm sizes limit mechanisation and modern farming practices.

- **Climate Risks:** Frequent extreme weather events affect production stability.
- **Weak Market Access:** Small farmers face difficulty in getting fair prices and formal credit.

## Government Measures

- **NMSA (2014–15)** was launched under the **National Action Plan on Climate Change (NAPCC)** for climate adaptation in agriculture. It became part of **Green Revolution–Krishonnati Yojana** in 2018–19.
- From 2022–23, it was integrated into **Pradhan Mantri Rashtriya Krishi Vikas Yojana (PMRKVY)**.
- **NICRA (National Innovations in Climate Resilient Agriculture)** promotes climate-resilient crops, **agroforestry**, **intercropping**, and **zero-till farming**.

## NATIONAL JUTE BOARD AND JUTE CROP INFORMATION SYSTEM

India's jute sector has entered a major transformation phase with the implementation of the Jute Crop Information System (JCIS), which aims to improve crop monitoring and strengthen production planning.

### National Jute Board (NJB)

- The **National Jute Board (NJB)** is the apex body under the **Ministry of Textiles** responsible for the overall development and promotion of the jute sector in India.
- It was established under the **National Jute Board Act, 2008** and became operational in **2009**.
- The Board works to improve productivity, modernise jute mills, promote product diversification, and expand India's presence in the global jute market.
- It also supports research, technology transfer, training, and market development for jute-based products.

### About JCIS

- The **Jute Crop Information System (JCIS)** has been implemented since **2023** by the National Jute Board in collaboration with **ISRO (Indian Space Research Organisation)** and the **Jute Corporation of India (JCI)**.
- The system replaces manual and fragmented crop reporting with a digital and geo-referenced monitoring framework.
- The main objective of JCIS is to improve the accuracy of crop area, yield, and production estimates through real-time and evidence-based monitoring.

### Key Tools

- **BHUVAN JUMP** is a mobile application used for collecting geo-tagged field data on jute cultivation.
- **PATSAN (Prospective Assessment of Jute Using Mobile App-Based Field Observations)** is a web-based platform that provides near real-time crop surveillance and analytical support.

- The system also uses satellite imagery, weather analytics, and smart crop-cutting experiments to improve yield estimation and assess disaster-related crop losses.

### Jute Production in India

- Jute is known as the **golden fibre** because it is a natural, renewable, biodegradable, and eco-friendly product.
- India is the largest producer of jute in the world, followed by Bangladesh and China. Around **90%** of India's jute production is consumed domestically due to strong internal demand.
- The jute sector provides direct employment to about **4 lakh workers** and supports nearly **40 lakh farm families**.
- **West Bengal, Bihar, and Assam** together account for nearly **99%** of India's total jute production.

### Government Measures

- The **Jute Packaging Material Act, 1987** ensures compulsory use of jute packaging for selected commodities.
- The government provides **Minimum Support Price (MSP)** for raw jute to protect farmers.
- The **National Jute Development Programme (NJDP)** supports scientific cultivation, advanced retting, artisan training, raw material supply, and product design innovation.

## NEW GEOPOLITICS OF FOOD

The report **"The New Geopolitics of Food"**, released by the **International Panel of Experts on Sustainable Food Systems (IPES-Food)**, examines how **changing global politics is reshaping food systems and strengthening the control of large agrifood corporations**.

### Key Drivers of the New Food Geopolitics

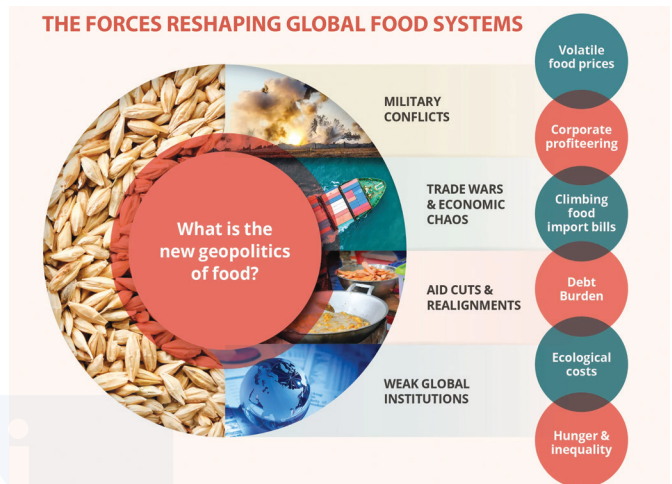
- **Trade wars** and changes in tariff policies, especially by the United States, are affecting countries dependent on agricultural exports.
- **Military conflicts** are increasingly disrupting food production and supply chains, and food is being used as a tool of war and coercion in hunger-prone regions.
- The **crisis of multilateralism** has weakened institutions such as the **United Nations**, which are facing financial shortages and declining legitimacy.



### Major Findings

- The report highlights that many **agrifood corporations** increased prices beyond the rise in actual production costs during recent crises.

- Rising food inflation after 2020 enabled these corporations to expand their profit margins.
- Continuous mergers and acquisitions since 2008 have reduced the number of major seed and agrochemical companies from six to four, increasing market concentration.
- Fertiliser companies also raised prices sharply, earning extraordinary profits.



### Concerns

- High corporate concentration threatens **food sovereignty**, as countries become dependent on multinational firms for food security.
- Excessive market power creates risks of **price manipulation** and profiteering during crises.
- Small farmers face weak bargaining power as supply chains remain controlled by large corporations.
- Developing countries become more vulnerable to wars, sanctions, shipping disruptions, and volatile commodity prices.
- The global food import bill reached nearly **US\$2.2 trillion in 2025**, with the highest burden on **Least Developed Countries (LDCs)** and **Net Food Importing Developing Countries (NFIDCs)**.

### Market Management Tools

- **Public Food Stockholding (PSH)** involves procurement, storage, and release of food by public agencies. In India, this is supported by the **National Food Security Act, 2013** and managed by the **Food Corporation of India (FCI)**.
- However, PSH faces challenges such as high fiscal costs, infrastructure gaps, weak coordination, and corruption risks.
- **Supply management mechanisms** include marketing boards and production quotas to regulate food supply and stabilize prices.
- Examples include **Canada's dairy, poultry, and egg sectors** and **Norway's farmer-owned cooperatives**.
- These systems may create inefficiencies and distort market competition.

## SOUTH COAST RAILWAY ZONE

The Ministry of Railways has issued the gazette notification constituting the South Coast Railway (SCoR) zone, India's 18th railway zone, headquartered at Visakhapatnam.

### About

- **Formalization:** The Zone was formed under **Section 3(4) of the Railways Act, 1989**, following a gazette notification.
- **Structure:** The new SCoR zone will consist of the existing **Vijayawada, Guntakal, and Guntur divisions**, plus a new division formed from the reorganization of the current **Waltair division**.
  - ♦ It will have a total route length of around **3,300 km across Andhra Pradesh and parts of Telangana, Tamil Nadu and Karnataka**.

| Existing Railway Zones in India |                            |                       |
|---------------------------------|----------------------------|-----------------------|
| S.No.                           | Railway Zone               | Headquarters          |
| 1                               | Central Railway            | Mumbai                |
| 2                               | Eastern Railway            | Kolkata               |
| 3                               | East Central Railway       | Hajipur               |
| 4                               | East Coast Railway         | Bhubaneswar           |
| 5                               | Northern Railway           | New Delhi             |
| 6                               | North Central Railway      | Allahabad (Prayagraj) |
| 7                               | North Eastern Railway      | Gorakhpur             |
| 8                               | Northeast Frontier Railway | Guwahati              |
| 9                               | North Western Railway      | Jaipur                |
| 10                              | Southern Railway           | Chennai               |
| 11                              | South Central Railway      | Secunderabad          |
| 12                              | South Eastern Railway      | Kolkata               |
| 13                              | South East Central Railway | Bilaspur              |
| 14                              | South Western Railway      | Hubli                 |
| 15                              | Western Railway            | Mumbai                |
| 16                              | West Central Railway       | Jabalpur              |
| 17                              | Metro Railway              | Kolkata               |

## INDIA'S GOLD IMPORT CHALLENGE AND UAE TRADE CONCERNS

Rising oil prices due to the ongoing West Asia crisis have increased pressure on India's economy, leading the Prime Minister to urge citizens to reduce petroleum use, postpone non-essential foreign travel, and defer gold purchases to conserve foreign exchange reserves.

### Why Gold Imports Matter

- India imports around **750 tonnes** of gold annually, while domestic production remains extremely low at only **1.5 tonnes**, making the country heavily dependent on imports.

- This dependence increases the **Current Account Deficit (CAD)**, puts pressure on the rupee, and complicates inflation management during global shocks.
- In **FY26**, India's gold import bill rose by nearly **25%** to **\$71.97 billion**, even though import volume declined from **757 tonnes to 721 tonnes**, mainly because global gold prices increased by over **40%**.

| Surging Value of Gold Imports |                |                   |
|-------------------------------|----------------|-------------------|
|                               | IMPORTS (\$BN) | QUANTITY (TONNES) |
| FY26                          | 71.97          | 721.04            |
| FY25                          | 58.00          | 757.09            |
| FY24                          | 45.54          | 795.32            |
| FY23                          | 35.01          | 678.30            |
| FY22                          | 46.16          | 879.04            |

*Gold import in FY26 had jumped by nearly 25% to \$71.97 billion.*

### Structural Challenges

- India's gold policy has largely depended on raising import duties, but this has shown limited success.
- Higher duties have encouraged **smuggling**, diverted trade through countries with preferential tariff access, and weakened official import control systems.
- Research by **IIM Ahmedabad** shows that India's dependence on imported gold remains a serious macroeconomic risk.

### India-UAE Trade Issue

- Under the **India-UAE trade agreement**, tariff concessions made importing **finished bullion** cheaper than importing **gold doré**, which is semi-processed gold.
- This reversed the intended duty advantage for domestic refining and reduced opportunities for value addition.
- A **NITI Aayog** report also noted that the narrow duty gap between doré and refined gold reduced profitability for domestic refiners.

### Weak Refining Ecosystem

- India has only **one LBMA-certified refinery**, which limits access to global bullion markets.
- Most refineries are small-scale and operate below capacity, reducing efficiency and competitiveness.
- The sector faces high working capital requirements, limited financing, regulatory complexity, and widespread informal operations.

### Global Lessons

- **Switzerland** has built a strong gold refining hub despite having no domestic gold production by importing doré and exporting refined bullion.
- **Japan** has developed gold recycling through **urban mining**, while **Hong Kong** has emerged as an integrated gold refining and trading centre.



## INDIA'S GOLD IMPORT DUTY HIKE AND ECONOMIC CONCERNS

The Government of India has raised the effective import duty on gold and silver from 9.2% to 18.4% by increasing customs duty from 5% to 10% and the Agriculture Infrastructure and Development Cess (AIDC) from 1% to 5%. The government has also imposed a 100 kg cap on gold imports under the Advance Authorisation (AA) Scheme.

### Key Terms

- **Current Account Deficit (CAD)** refers to a situation where a country's total imports of goods, services, and transfers exceed its exports and transfers.
- **Import duty** is a tax imposed on goods brought into a country.
- **AIDC** was introduced in the **Union Budget 2021–22** to generate funds for improving agricultural infrastructure.

### Advance Authorisation Scheme

- The **Advance Authorisation Scheme**, operated by the **Directorate General of Foreign Trade (DGFT)**, allows duty-free import of raw materials for manufacturing export products, especially in the jewellery sector.

### Reasons for the Duty Hike

- The move came after the Prime Minister urged citizens to postpone non-essential gold purchases to reduce pressure on **foreign exchange reserves**.
- The government wants to conserve foreign exchange for essential imports such as **crude oil, fertilisers, defence equipment**, and industrial goods.
- Rising uncertainty due to the **West Asia crisis**, higher crude prices, and shipping disruptions have further increased concerns.

### Economic Impact of Rising Gold Demand

- India's **merchandise trade deficit** rose to **\$333.2 billion** in FY26, compared to **\$284.5 billion** in the previous year.
- Gold imports reached **\$71.98 billion**, showing a **24.08% increase**.
- The **International Monetary Fund (IMF)** projected India's CAD to widen to nearly **2% of GDP** in 2026.
- Higher imports increase dollar demand, weaken the rupee, and force the **Reserve Bank of India (RBI)** to use forex reserves for stability.
- Gold stored privately acts as **dead capital**, as it remains outside productive investment.

### Gold Consumption Status

- India is the world's **second-largest gold consumer** after China, and nearly **90%** of its demand is met through imports.
- The largest gold ore resources are in **Bihar (43%)**, followed by **Rajasthan (24.92%)** and **Karnataka (20%)**.
- **Karnataka** produces nearly **97%** of India's domestic gold.

- Globally, the **United States, Germany, and Italy** hold the largest gold reserves, while **Switzerland, UAE, and UK** are major exporters.

### Concerns

- Gold demand in India remains deeply linked to **savings habits, festivals, weddings, and cultural traditions**, making demand reduction difficult.
- Higher duties may encourage **smuggling**, grey-market trade, and illegal supply chains.
- **MSMEs**, which form nearly **80%** of the jewellery sector council, may face higher costs, liquidity stress, lower competitiveness, and reduced exports.
- The **Global Trade Research Initiative (GTRI)** has criticised the complex customs notifications for reducing transparency and increasing compliance burdens.

## INDIA'S NUCLEAR ENERGY ROADMAP TO 100 GW BY 2047

According to a **TERI (The Energy and Resources Institute)** report, India aims to expand its nuclear power capacity from **8.8 GW** to **100 GW** by **2047**. This will require major regulatory reforms, rapid execution, and investments of nearly **₹23–25 lakh crore**.

### Present Status

- India currently operates **25 nuclear reactors** across **seven sites** with an installed capacity of **8.8 GW**.
- Existing and planned projects may increase this to nearly **22 GW by 2032**.

### Why Nuclear Energy is Important

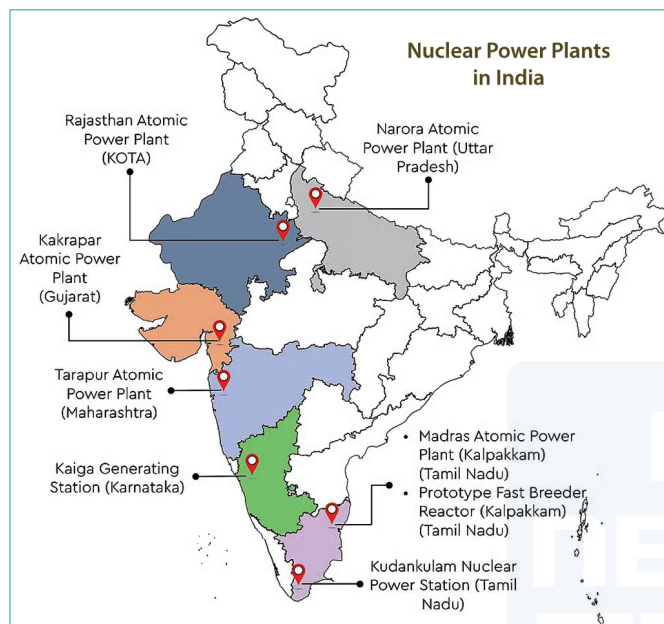
- Nuclear energy provides reliable **base-load power**, unlike solar and wind which are intermittent.
- It strengthens **energy security**, supports industrial growth, and contributes to low-carbon development.
- It is important for sectors like **green hydrogen, green ammonia, steel, and cement**.

### Role of Small Modular Reactors (SMRs)

- **SMRs** are compact nuclear reactors generating up to **300 MWe per module**.
- They offer **modularity**, allowing factory-based production for faster construction and lower costs.
- They provide **scalability**, enabling gradual deployment based on energy demand.
- Their **passive safety systems** improve safety by allowing automatic shutdown without human intervention.
- India is developing a **200 MWe Bharat SMR**, a **55 MWe reactor**, and a **5 MWth High Temperature Gas-Cooled Reactor**.
- The **Union Budget 2025–26** allocated **₹20,000 crore** for SMR development, targeting **five indigenous SMRs by 2033**.

## India's Three-Stage Programme

- **Stage 1** uses **Pressurised Heavy Water Reactors (PHWRs)** based on natural uranium.
- **Stage 2** uses **Fast Breeder Reactors (FBRs)** based on plutonium. The **Prototype Fast Breeder Reactor (PFBR)** at Kalpakkam achieved criticality in **April 2026**.
- **Stage 3** focuses on **thorium-based reactors** for long-term fuel sustainability.



## Challenges

- The regulatory framework remains outdated for SMRs and private participation, and the **SHANTI Act, 2025** lacks operational clarity.
- Nuclear projects involve high capital costs of **₹20–25 crore per MW**.
- India produces only around **600 tonnes of uranium annually**, despite having reserves of **425,000–433,800 tonnes of  $U_3O_8$** , and imported **18,842.60 tonnes** between **2008–09 and 2024–25**.
- The construction phase will require **1.2–2 lakh skilled workers**.
- Public safety concerns remain a challenge.

## WARNING SIGNS IN INDIA'S IMPORT BILL

Prime Minister Narendra Modi recently urged citizens to reduce spending on petroleum products, edible oils, gold imports, foreign travel, and other non-essential foreign currency expenses. The appeal reflects concern over rising import dependence, widening trade deficit, pressure on foreign exchange reserves, and the weakening rupee.

## Trade Deficit

- India's **merchandise trade deficit** reached a record **\$333 billion** in **2025–26**, rising over **17%** from the previous year.

- Total **imports** rose by **7%** to **\$775 billion**, while **exports** remained almost stagnant at **\$442 billion**.
- This widening gap increases external vulnerability.

## Key Import Pressures

- **Crude Oil:** Rising **West Asia tensions** pushed global oil prices higher. The **International Monetary Fund (IMF)** crude oil index rose by **53%**, increasing India's energy import bill.
- **Gold and Silver:** Imports crossed **\$90 billion**, making them the third-largest import category. Gold imports rose **82%** in **April 2026**, despite a **15% customs duty**.
- **Edible Oils:** Imports rose over **12%** in **2025–26** and account for over **56%** of domestic demand due to weak oilseed output.
- **Fertilisers:** Global fertiliser prices rose **46%**, while **urea prices doubled**. Fertiliser imports, which met **31–37%** of needs earlier, may cross **50%** in **2025–26**.
- **Electronics and Batteries:** Electronic component imports rose over **20%**, while battery imports increased by **50%**, showing continued technology dependence.

## Economic Risks

- Higher imports increase **dollar demand**, causing **rupee depreciation**.
- The **Reserve Bank of India (RBI)** has intervened, but forex reserves have fallen by over **\$21 billion** since **February 2026**.
- Limited gains under **Atmanirbhar Bharat Abhiyan** show weak import substitution in critical sectors.

## MSMEs: BACKBONE OF INDIA'S INCLUSIVE GROWTH

Micro, Small and Medium Enterprises (MSMEs) have emerged as a major pillar of India's economy by driving economic growth, employment generation, exports, and grassroots entrepreneurship, especially in rural and semi-urban areas.

## What are MSMEs?

- MSMEs are enterprises classified on the basis of **investment in plant and machinery or equipment** and **annual turnover**.
- The **Union Budget 2025–26** revised the classification criteria to widen the sector's coverage and allow businesses to grow without losing policy benefits.

| Revision in Classification Criteria for MSMEs |                                       |                                                 |                                     |                                               |
|-----------------------------------------------|---------------------------------------|-------------------------------------------------|-------------------------------------|-----------------------------------------------|
| Category                                      | Investment not exceeding (₹ in Crore) | (Revised) Investment not exceeding (₹ in Crore) | Turnover not exceeding (₹ in Crore) | (Revised) Turnover not exceeding (₹ in Crore) |
| Micro                                         | 1                                     | 2.5                                             | 5                                   | 10                                            |
| Small                                         | 10                                    | 25                                              | 50                                  | 100                                           |
| Medium                                        | 50                                    | 125                                             | 250                                 | 500                                           |

## Why MSMEs Matter

- MSMEs contribute around **31.1%** to India's **Gross Domestic Product (GDP)**.

- They account for nearly **48.58%** of total exports and **35.4%** of manufacturing output.
- India has more than **7.47 crore** MSMEs operating across manufacturing, services, and trade.
- The sector supports livelihoods for nearly **32.8 crore people**, making it the **second-largest source of employment** after agriculture.
- A large share of these enterprises operate in rural and semi-urban areas, strengthening **local value chains**, creating **non-farm employment**, and supporting **regional economic development**.

### Key Challenges

- **Limited Credit Access:** Many micro enterprises face credit shortages due to collateral requirements, weak credit history, and lender hesitation.
- **Rising Competition:** Globalisation and e-commerce have increased competition from large firms and cheap imports, especially in textiles, handicrafts, and electronics.
- **Technology Gap:** Many MSMEs lack knowledge and resources to adopt digital tools, automation, and modern production methods.
- **Weak Marketing Networks:** Poor branding and limited market connections reduce access to national and global markets.
- **Regulatory Burden:** Complex rules related to labour, taxation, and environment increase compliance costs.
- **Skill Shortage:** Rural MSMEs often struggle to retain skilled workers due to migration towards urban areas.
- **External Vulnerability:** Events like **COVID-19** exposed their weak financial buffers against supply and demand shocks.

### Government Initiatives

- **PM Vishwakarma (2023–24 to 2027–28):** Supports traditional artisans by improving product quality and market access.
- **Credit Guarantee Scheme for Micro and Small Enterprises (CGSMSE):** Provides collateral-free loans through credit guarantees.
- **Udyam Registration Portal (2020):** Offers free, paperless, and self-declared registration.
- **Prime Minister's Employment Generation Programme (PMEGP):** Promotes self-employment through credit-linked subsidies.
- **MSME Hackathon 4.0 (2024):** Supports **500 entrepreneurs** with funding up to **₹15 lakh** each.
- **MSME-TEAM Scheme (2024):** With an outlay of **₹277.35 crore**, supports **5 lakh MSEs**, including **2.5 lakh women-led enterprises**, in digital onboarding and trade facilitation.
- **Khadi and Gramodyog Vikas Yojana (KGVY):** Promotes Khadi and Village Industries (KVI).
- **International Cooperation Scheme:** Helps MSMEs access global markets through fairs, exhibitions, and knowledge-sharing.

## MIZORAM GINGER MISSION

The Union Ministry of Development of North Eastern Region (MDoNER) has launched the Mizoram Ginger Mission to transform Mizoram into a global hub for premium pharma-grade ginger and strengthen its entire value chain.

### About the Mission

- It is a **₹189.79 crore** convergence-based initiative focused on ginger cultivation, processing, branding, and exports.
- The mission is part of the broader Brand North East vision, where each state is linked to a unique product such as Sikkim (Organic State), Arunachal Pradesh (Kiwi), Tripura (Queen Pineapple), Nagaland (Coffee), and Meghalaya (Lakadong Turmeric).
- It follows a multi-agency model involving the Ministries of Agriculture, Rural Development, and Food Processing, along with **NABARD** (National Bank for Agriculture and Rural Development), **ICAR** (Indian Council of Agricultural Research), **APEDA** (Agricultural and Processed Food Products Export Development Authority), and private players.

### Key Features

- The mission is built on four strategic pillars — **Convergence, Value Addition, Branding, and Market Integration**.
- It aims to reduce the role of middlemen (disintermediate the intermediary) by strengthening **Farmer Producer Organisations (FPOs)** and cooperatives.
- It targets a six-fold increase in farmer value realisation.
- At present, farmers receive only **₹8–15 per kg**, while the international value chain reaches nearly **₹500 per kg**.
- It will establish one Integrated Processing Hub and three Spoke Centres.
- Nearly **20,000 farming households** will be linked to a unified global value chain.
- The mission will improve **traceability, quality assurance**, reduce post-harvest losses, and promote exports.

### Significance

- Mizoram is known for its GI-certified ginger and high-quality pharma-grade ginger. It contains **6–8% oleoresin**, much higher than the global average of **3%**, making it highly valuable for flavour, aroma, and medicinal use.
- The mission targets premium export markets in **South-East Asia, the Middle East, and Europe**. **NITI Aayog** has recognised Mizoram as the **"Ginger Capital of India."**

## SUGAR EXPORT BAN

The Government of India has banned exports of raw, white, and refined sugar till **30 September 2026** to protect domestic supply and maintain price stability amid concerns over **El Niño** and geopolitical uncertainty linked to Iran.

### About the Decision

- Earlier, sugar exports were under the **restricted category**, where exports were allowed within approved quotas. They have now been shifted to the **prohibited category**.
- Only limited exports under special quota commitments to the **European Union (EU)** and **United States (US)** will continue.

### India's Sugar Position

- India is the **world's second-largest producer** of sugar after **Brazil** and the **largest consumer**.
- Sugar production for **2025–26** is estimated at **279 lakh tonnes**.
- With opening stocks of **50 lakh tonnes**, total availability stands at **329 lakh tonnes**.
- After domestic consumption of **280 lakh tonnes** and exports of **6.5 lakh tonnes**, closing stocks are expected at **42.5 lakh tonnes**, which is nearly **1.8 months of domestic consumption**.

### Reasons for the Ban

- A possible **El Niño** may weaken monsoon rains and reduce sugarcane production in the next cycle.
- Geopolitical tensions in **West Asia**, especially involving Iran, may disrupt **fertiliser supplies**, affecting yields.
- The government wants to prevent future shortages and control **food inflation**.
- Concerns remain over whether actual sugar stocks match reported figures. Domestic sales currently offer better returns than exports, reducing export attractiveness.

### Impact

- Sugar exports peaked at **₹45,132 crore in 2022** but declined to **₹18,586 crore in 2025**.
- Nearly **90%** of exports to countries like **Somalia, Sudan, Bangladesh, Sri Lanka, UAE, and Iran** will be affected.

## ASSAM'S FIRST LEGAL AGARWOOD EXPORT

Assam has achieved a major milestone by making its first legally approved export of agarwood chips to Saudi Arabia and the United Arab Emirates (UAE), marking a new phase in its agro-forest economy.

### About Agarwood

- **Agarwood**, also known as **oud**, is one of the world's most valuable aromatic raw materials.
- It is produced from **resin formed in infected trees** of the **Aquilaria** and **Gyrinops** genera as a natural defence response.
- It is widely used in **luxury perfumes, incense, cosmetics**, and traditional products. It is in high demand across the **Gulf, Europe, and South-East Asia**.
- It is cultivated in countries such as **India, Cambodia, Vietnam, Malaysia, Indonesia, Laos, and Bhutan**.
- In India, important species like **Aquilaria malaccensis** and **Aquilaria khasiana** are mainly found in the **North-East**, especially Assam.

- Agarwood is listed under **Appendix II of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora)** because of concerns over declining tree populations.

### Export Details

- On **13 May 2026**, Assam exported **100 kg** of agarwood chips to **Saudi Arabia** and **12 kg** to the **UAE**.
- The total consignment was valued at **₹2.35 crore**.
- All required approvals, including a **CITES permit** and a **restricted export licence**, were obtained.

### Significance

- The export is expected to create new opportunities for **farmers, nursery owners, and traders** in Assam.
- The sector has a projected revenue potential of nearly **₹50,000 crore** if expanded properly.

## INDIA'S FARM EXPORTS GROW DESPITE US TARIFFS

India's farm exports recorded growth in 2025–26 despite higher tariffs imposed by the United States (US), showing resilience in the agricultural sector.

### US Tariff Impact

- The US imposed higher tariffs on several Indian exports, affecting sectors such as **pharmaceuticals, readymade garments, gold and jewellery, leather products**, and agricultural products like **shrimp, spices, and basmati rice**.
- These tariff measures reduced India's export competitiveness in the US market and created uncertainty for exporters.

### Reasons behind Farm Export Growth

- India reduced its dependence on the US by **diversifying export destinations**.
- Exporters expanded their presence in markets such as **China, Vietnam, Japan, Belgium, Thailand, Canada, and the United Kingdom**, which helped offset losses.

### Major Export Drivers

- **Marine products** remained one of the strongest export segments, with rising demand from **China, Vietnam, Japan, and Belgium**.
- **Buffalo meat exports** recorded strong growth, supported by demand from **Vietnam, Egypt, Malaysia, UAE, and Saudi Arabia**.
- **Coffee exports** crossed **\$2 billion** for the first time due to high global prices, lower global stocks, and weaker production in **Brazil and Vietnam**.
- Exports of **fresh fruits and vegetables**, including **grapes, pomegranates, mangoes, bananas, onions, and tomatoes**, also increased.
- Major markets for these products included **UAE, Iraq, Bangladesh, and Malaysia**.



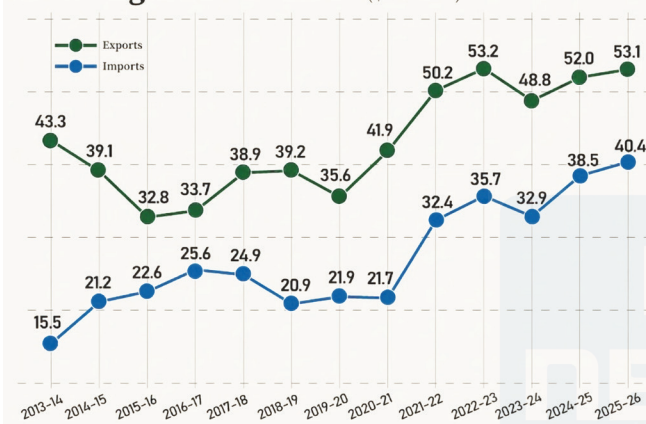
### Other Trade Trends

- Exports of **rice, spices, tobacco**, and **processed fruits and vegetables** declined from earlier highs.
- India's agricultural imports continued to rise, especially in **vegetable oils, fresh fruits**, and **raw cotton**.
- As a result, India's agricultural trade surplus has narrowed significantly over time, reflecting rising import dependence.

### Significance

- The trend highlights the importance of **market diversification**, stronger value chains, and reduced dependence on a single export market for sustaining agricultural trade growth.

### India's Agriculture Trade (\$ billion)



## WITHHOLDING TAX

Amid the West Asia conflict, the Government is reportedly considering reducing the withholding tax (WHT) on foreign investors to encourage overseas capital inflows.

### What is Withholding Tax?

- Withholding tax (WHT)**, also known as **retention tax**, is a tax collected at the **source of income** before payment is made to the recipient.
- It works like **Tax Deducted at Source (TDS)**, where tax is deducted in advance and deposited with the government.
- It generally applies to payments made to **non-residents**, including **non-resident individuals** and foreign entities.
- It is charged on income such as **wages, dividends, interest**, and **royalties**.
- In India, it is commonly applied on **interest income earned by foreign investors** from investments such as bonds.

### Legal Basis

- Under **Section 195 of the Income Tax Act, 1961**, any person making payments to a **non-resident** must deduct withholding tax at the time of **payment** or **credit**, whichever is earlier.
- The tax amount depends on the **type of income**, the **amount earned**, and applicable international tax agreements.

- The applicable rate is determined under the **Income Tax Act, 1961** or the **Double Taxation Avoidance Agreement (DTAA)**, whichever is lower.
- The tax is collected by the **Government of India**.

### Why Lowering WHT Matters

- Lower WHT increases the **net returns** of foreign investors and can attract higher **foreign direct investment (FDI)** and **portfolio investment**.
- It reduces the tax burden in cross-border transactions and improves the **ease of doing business**.
- It can support greater **capital inflows**, trade expansion, and technology transfer.
- Some global financial centres like **Hong Kong** and **Singapore** have relatively lower withholding tax structures for certain transactions, making them attractive for international investors.

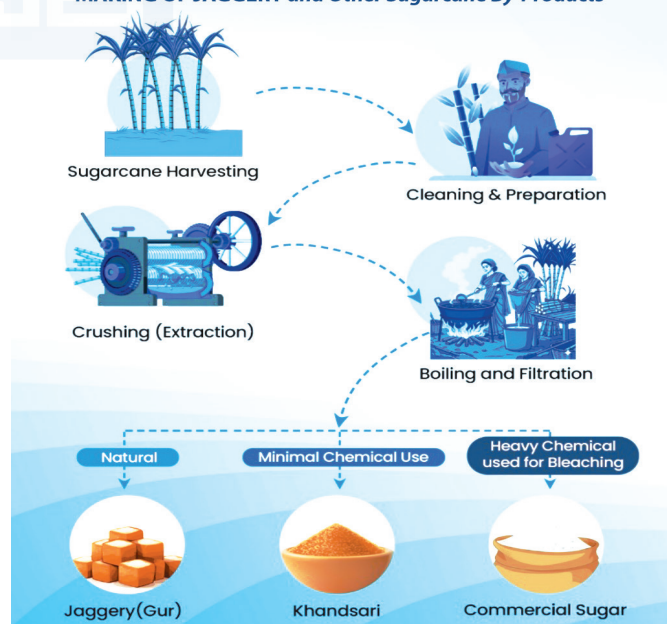
## JAGGERY SECTOR IN INDIA

India produces over 70% of the world's jaggery, making it the largest global producer and an important centre of natural sweeteners.

### About Jaggery

- Jaggery**, commonly known as **gur**, is a traditional, unrefined, natural sweetener made by concentrating **sugarcane juice** without chemical refining.
- It is regarded as a **superfood** because it is a nutrient-rich alternative to refined sugar.

### MAKING OF JAGGERY and Other Sugarcane By-Products



- It retains essential **minerals** and **micronutrients** that are usually lost during sugar refining.
- It is widely consumed across **Asia, Africa, Latin America**, and **the Caribbean**.

## Historical Roots

- Jaggery is considered an **indigenous product of India**, with origins tracing back to the **Vedic period (1400–1000 BCE)**.
- Sugarcane is believed to have first developed in **North-Eastern India** before spreading globally.
- In **647 AD**, a Chinese mission visited **Magadha** to study Indian sugarcane processing techniques.

## Nutritional Value and Benefits

- Jaggery contains minerals such as **calcium, magnesium, potassium, phosphorus, sodium, iron, zinc, copper, and manganese**.
- It also contains small amounts of **folic acid, B-complex vitamins**, and vitamins **A, C, D, and E**.
- It provides **sustained energy**, helps in treating **anaemia**, strengthens **immunity**, supports **digestion**, and helps in **throat and lung infections**.

## Production and Exports

- **Uttar Pradesh** contributes **48.5%** of India's production, followed by **Maharashtra (24.1%)** and **Karnataka (10.5%)**.
- The sector supports **rural livelihoods**, improves **farmer incomes**, and promotes **value addition through cottage industries**.
- Major export destinations in **2024–25** included **Indonesia, USA, UAE, Nigeria, and Nepal**.

### GI-Tagged Jaggery Varieties in India

#### Kolhapur Jaggery



Maharashtra

#### Muzaffarnagar Gur Jaggery



Uttar Pradesh

#### Marayoor Jaggery (Marayoor Sharkara)



Keralam

#### Central Travancore Jaggery



## GI-Tagged Varieties

- **Kolhapur Jaggery (Maharashtra)** is known for its golden colour and high sucrose content.
- **Muzaffarnagar Gur (Uttar Pradesh)** is known for high-quality export-oriented production.
- **Marayoor Jaggery** and **Central Travancore Jaggery (Kerala)** are known for purity, medicinal value, and traditional processing.

## AI-FOCUSED GLOBAL CAPABILITY CENTRES

India's Global Capability Centre (GCC) ecosystem is witnessing rapid transformation, with multinational corporations increasingly using India not only for back-office work but also for Artificial Intelligence (AI), engineering, research, and strategic global functions.

### What are GCCs?

- **GCCs** are offshore centres established by multinational companies to perform strategic business functions for global operations.
- Their functions include technology and software development, engineering and research, finance and accounting, data analytics, product development, and operations management.
- India hosts around **2,117 GCCs**, employing nearly **2.36 million professionals** and generating around **\$98.4 billion** revenue in **FY26**.
- The sector has grown by nearly **32%** in the last five years, with over **500 new GCCs**.

### Evolution of GCCs

- Earlier, GCCs mainly worked on **cost arbitrage** and outsourcing models. Now they are moving towards **product ownership, AI deployment, platform engineering**, and **business transformation**.
- This shift marks the transition from **delivery engines** to **enterprise nerve centres**.
- Over **1,200 GCCs** now have **AI and Machine Learning (ML)** capabilities, with more than **250 Centres of Excellence (CoEs)**.
- India has over **250,000 AI professionals**, making it the world's **second-largest enterprise AI talent base**.

### Importance for India

- GCCs contribute significantly to **export earnings**, **urban growth**, **technology transfer**, and **high-skilled employment**.
- They create jobs in **engineering, AI, data science, cybersecurity, finance**, and **research**.
- GCCs strengthen India's integration into **global value chains** through advanced engineering and innovation.

### GCCs vs Traditional IT Firms

- Traditional IT firms largely depend on **labour-intensive outsourcing** and **time-and-material contracts**.
- GCCs increasingly prefer **end-to-end ownership, value-share models, gain-share models**, and **product-centric operations**.
- GCCs attract talent through **higher salaries, product exposure**, and **long-term strategic work**.
- This pushes Indian IT firms towards **AI integration, consulting, platform engineering**, and **automation solutions**.

### Challenges

- Only **5%** of GCCs have evolved into full **transformation hubs** with **CXO-level authority**.

- Rising demand for **AI, semiconductor design, cloud engineering**, and **cybersecurity** talent is creating skill gaps.
- Countries like **Vietnam, Philippines, Poland**, and **Mexico** are emerging as competitors.
- Major hubs like **Bengaluru, Hyderabad, Pune, Chennai**, and **Gurugram** face congestion, high costs, and resource stress.
- **Tier-2 and Tier-3 cities** still have low participation.
- Concerns over **data security, cross-border data flows**, and **global compliance** are rising.
- Ownership of **intellectual property (IP)** largely remains with foreign parent companies.

### Government Support

- Support comes through Digital India, IndiaAI Mission, India Semiconductor Mission, Startup India, Fund of Funds for Startups, Atal Innovation Mission, Skill India, FutureSkills Prime, Special Economic Zones (SEZs), and IT Parks.
- States like **Karnataka, Telangana, Tamil Nadu**, and **Maharashtra** have developed dedicated GCC ecosystems.
- India's digital public infrastructure like Aadhaar, Unified Payments Interface (UPI), DigiLocker, and Open Network for Digital Commerce (ONDC) supports digital innovation.

## INDIA'S LOGISTICS SECTOR

The Union Minister of Commerce and Industry released the **LEADS 2025 Report** and felicitated winners of the **LEAPS Awards 2025**, recognising excellence and innovation in India's logistics ecosystem. This reflects India's growing focus on building an efficient and globally competitive logistics network.

### Overview

- India's economy is witnessing strong growth, supported by recovery in major sectors and improved supply chains.
- The logistics sector is vital for the smooth functioning of **trade, manufacturing**, and **services**.
- India improved its **Logistics Performance Index (LPI)** ranking to **38th in 2023**, moving up six places since 2018.
- The target is to enter the **top 25 globally by 2030** and reduce logistics costs to below **10% of Gross Domestic Product (GDP)**.

### Importance of Efficient Logistics

- Efficient logistics strengthen the **supply chain** by reducing delays and improving timely delivery of goods.
- Better logistics improve **connectivity and accessibility**, linking regions and expanding markets.
- Lower transport, storage, and distribution costs improve business competitiveness.
- The sector creates employment in **transportation, warehousing**, and **distribution**.
- Adoption of technologies like **Global Positioning System (GPS)**, **Radio Frequency Identification (RFID)**, and advanced analytics improves tracking, productivity, and operational efficiency.

- A strong logistics system supports wider **economic integration** by ensuring smooth movement of goods and services.

### Challenges

- India's logistics costs remain higher than global averages due to heavy dependence on **road transport**.
- The sector remains highly **fragmented** and unorganised, leading to inefficiencies.
- **Port congestion**, weak **last-mile connectivity**, and poor warehousing continue to create bottlenecks.
- Uneven technology adoption and shortage of skilled workers slow modernization.
- Heavy use of diesel increases **carbon dioxide (CO<sub>2</sub>)** emissions and affects environmental sustainability.

### Government Measures

- **Dedicated Freight Corridors (DFCs)** connect major centres like **Delhi, Mumbai, Chennai**, and **Howrah**, improving freight speed and reliability.
- **Multi-Modal Logistics Parks (MMLPs)** integrate **road, rail, and air transport** with warehouses, cold storage, and customs services.
- The **Parivahan Portal**, along with **SARATHI** and **VAHAN**, has digitised transport services.
- The **e-Way Bill** system under **Goods and Services Tax (GST)** has reduced paperwork and improved transparency.
- **GST** removed interstate checkpoints, simplified taxation, and improved transport efficiency by over **33%**.
- **PM GatiShakti (2021)** supports integrated infrastructure planning and multi-modal connectivity.
- The **National Logistics Policy (2022)** aims for a seamless logistics ecosystem and lower logistics costs.
- **Logistics Efficiency Enhancement Programme (LEEP)** improves freight efficiency through infrastructure and technology.
- **Maritime Amrit Kaal Vision 2047** focuses on port expansion, digitalisation, green shipping, shipbuilding, tourism, and skill development.
- **Unified Logistics Interface Platform (ULIP)** integrates logistics data across departments for transparency and efficiency.

### LEADS 2025

- **LEADS (Logistics Ease Across Different States)** evaluates States and Union Territories on **infrastructure, services, regulatory environment**, and **sustainability**.
- It introduced a **four-tier classification**:
  - ◆ **Exemplars** – top-performing regions with sustained excellence.
  - ◆ **High Performers** – regions with strong and consistent outcomes.
  - ◆ **Accelerators** – regions showing notable reform momentum.
  - ◆ **Growth-Seekers** – regions at a foundational stage of logistics development.



## LEADS 2025: PERFORMANCE SNAPSHOT

| STATE / UT CATEGORY                                                                                    | EXEMPLARS (Top Performing States/UTs) | HIGH PERFORMERS (Strong & Consistent Outcomes) | ACCELERATORS (Notable Improvement Momentum)                           | GROWTH-SEEKERS (Foundational Stage of Development) |
|--------------------------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------|
|  Coastal States       | Tamil Nadu                            | Gujarat, Kerala, Maharashtra                   | Andhra Pradesh, Odisha, Goa, Karnataka                                | West Bengal                                        |
|  Landlocked States    | Uttar Pradesh                         | Haryana, Telangana, Chhattisgarh, Bihar        | Punjab, Jharkhand, Madhya Pradesh, Uttarakhand, Himachal Pradesh      | Rajasthan                                          |
|  North-Eastern States | Mizoram                               | Tripura, Meghalaya                             | Nagaland, Arunachal Pradesh, Manipur, Assam                           | Sikkim                                             |
|  Union Territories    | Delhi                                 | Jammu & Kashmir, Puducherry                    | Dadra & Nagar Haveli and Daman & Diu, Chandigarh, Ladakh, Lakshadweep | Andaman & Nicobar Islands                          |

Note: LEADS (Lotus Education & Assessment Development System) 2025 assesses learning outcomes in Grades 3, 6, and 9 across all States and Union Territories of India.

## EMERGENCY CREDIT LINE GUARANTEE SCHEME (ECLGS) 5.0

The Union Cabinet, led by Prime Minister Narendra Modi, has approved the Emergency Credit Line Guarantee Scheme (ECLGS) 5.0 to help businesses manage liquidity issues caused by the ongoing West Asia crisis.

### Objective

- The scheme aims to **inject an extra ₹2,55,000 crore in credit** to assist MSMEs and the aviation industry through financial instability.
- It allows banks and financial lenders to give extra credit to eligible borrowers using government-backed safety nets managed by the **National Credit Guarantee Trustee Company Limited (NCGTC)**.

### Key Features of the NCGTC

- **Guaranteed Coverage:** The NCGTC offers a 100% credit guarantee for MSMEs and a 90% guarantee for non-MSMEs (including airlines) on defaulted amounts from these extra credit facilities. There is no guarantee fee.
- **Eligible Borrowers:** MSMEs, non-MSMEs with active working capital limits, and scheduled passenger airlines with outstanding credit facilities as of March 31, 2026, can apply, provided their accounts are classified as standard.
- **Financial Limits:**
  - ♦ MSMEs and non-MSMEs can get extra credit up to 20% of their highest working capital used during Q4 of FY 26, capped at ₹100 crore.
  - ♦ Airlines can receive up to 100% of their peak usage, capped at ₹1,500 crore per borrower under specific conditions.
- **Loan and Guarantee Timelines:**
  - ♦ For MSMEs and non-MSMEs (excluding airlines), the loan lasts 5 years from the initial payout, including a 1-year repayment pause (moratorium).
  - ♦ For airlines, the tenure is 7 years with a 2-year pause. The guarantee lasts exactly as long as the loan.
- **Scheme Validity:** The program applies to all loans approved from the day NCGTC issues these guidelines until March 31, 2027.

## DEPRECIATION OF INDIAN RUPEE

The Indian rupee has depreciated sharply against the U.S. dollar, with the rupee-dollar exchange rate rising from around ₹85 per dollar in 2025 to beyond ₹96 per dollar in 2026.

### Reasons for Fall of Indian Rupee

- **Persistent Trade Deficit:**
  - ♦ India imports more goods than it exports, leading to a **persistent merchandise trade deficit**.
  - ♦ Indian importers **exchange rupees for dollars** to pay foreign suppliers, increasing demand for dollars. The increased demand for dollars weakens the rupee.
- **Rising Crude Oil Prices:**
  - ♦ Brent crude prices rebounded more than 2% to above \$98 per barrel amid geopolitical tensions. The rupee has **weakened roughly 5% since the Iran conflict escalated earlier in 2026**.
  - ♦ A higher oil import bill means more rupees are sold to buy dollars, directly depressing the currency.
- **Current Account Deficit (CAD):**
  - ♦ India consistently records a Current Account Deficit because imports exceed exports.
  - ♦ Although India earns **foreign exchange through software exports and remittances**, these inflows are often insufficient to offset the trade deficit fully.
- **Foreign Portfolio Investment (FPI) Outflows:** FPI includes investments in stocks and bonds by foreign investors. FPI remains highly volatile because investors shift funds quickly based on global financial conditions.
- **Rising U.S. Interest Rates:**
  - ♦ Higher interest rates in the United States attract global investors towards U.S. financial assets.
  - ♦ **Investors withdraw funds from emerging economies** like India and invest in safer U.S. assets.
  - ♦ Capital outflows from India increase pressure on the rupee.
- **Global Geopolitical Uncertainty:** Geopolitical tensions increase uncertainty in global financial markets. Investors prefer **safe-haven assets** such as the U.S. dollar during periods of instability. This strengthens the dollar globally.
- **Policy & Market Sentiment:** RBI interventions (\$50 bn sold, \$10 bn swap auction) partially curb volatility; IMF's "crawl-like" exchange-rate classification and higher hedging costs reinforce market expectations of gradual depreciation.

### Impact of Falling Rupee on Indian Economy

- **Inflationary Pressures Rise:**
  - ♦ Rising import costs increase domestic prices of fuel and essential commodities, eventually leading to increased transportation and logistics costs.
  - ♦ This contributes to **imported inflation** in the economy.



### ➤ External Debt Burden Increases:

- ♦ Indian firms with dollar-denominated loans must repay more rupees after depreciation.
- ♦ This increases debt-servicing costs and affects corporate profitability.

### ➤ Financial Market Volatility Increases: Large FPI outflows trigger stock market declines and **financial market instability** weaken investor confidence in the Indian economy.

### ➤ Export Competitiveness: A weaker rupee makes Indian goods cheaper in international markets as foreign buyers can purchase Indian products at lower dollar prices. However in the case of India the **benefit remains limited** due to high import dependence.

### ➤ Remittances: NRI remittances fetch more rupees; India is the world's largest remittance recipient (~\$120 billion in FY25).

## STRUCTURAL ADJUSTMENT PROGRAM

Recently, it has been highlighted that structural adjustment programmes (often linked to institutions like the IMF and World Bank) have imposed heavy social and economic costs on countries in the Global South.

### Structural Adjustment Programmes (SAPs)

- They are economic policies for developing countries that have been promoted by the World Bank and International Monetary Fund (IMF) since the early 1980s by the provision of loans conditional on the adoption of such policies.
- They are designed to encourage the structural adjustment of an economy by, for example, removing "excess" government controls and promoting market competition as part of the neo-liberal agenda followed by the Bank.
- SAPs generally demanded three major reforms:
  - ♦ **Austerity Measures:** Reduction in public expenditure on healthcare, education, food subsidies, and social welfare. Aim was to divert savings towards repayment of external debt and creditors.
  - ♦ **Privatisation:** Transfer of public sector enterprises and services into private hands. Included privatisation of utilities, transport, banking, and other state-owned industries.
  - ♦ **Economic Liberalisation and Deregulation:** Removal of industrial regulations, tariffs, labour protections, and capital controls. Opening domestic markets to foreign trade and investment.
- Countries had **very limited bargaining power** because defaulting on international loans could isolate them from global financial markets.

## INDIA'S GDP BASE YEAR REVISION

India has revised the Gross Domestic Product (GDP) base year from 2011-12 to 2022-23 to better reflect the present structure of the economy.

### About

- GDP is the total monetary value of all final goods and services produced within a country during a specific period.
- It is released by the National Statistical Office (NSO) under the Ministry of Statistics and Programme Implementation (MoSPI).
- Nominal GDP measures output at current prices, while Real GDP measures output at constant base-year prices after removing inflation.
- A Base Year is the benchmark year used for comparison to measure real economic growth.

### Why was the Base Year Revised?

- India revises its GDP base year to capture changes in production, consumption, and economic structure.
- This exercise is usually done every five years but was delayed because of the Goods and Services Tax (GST) transition and the COVID-19 pandemic.
- The aim is to improve accuracy, reliability, and relevance of economic estimates.

### Methodological Changes

- The new series uses updated data sources such as Annual Survey of Unincorporated Sector Enterprises (ASUSE) and Periodic Labour Force Survey (PLFS).
- Estimation now uses sub-sector and activity-level data instead of broad sectoral indicators.
- It applies commodity-specific price indices for more precise inflation adjustment.
- The introduction of Double Deflation in agriculture and manufacturing adjusts both input and output prices separately, improving the accuracy of real Gross Value Added (GVA).

### Significance

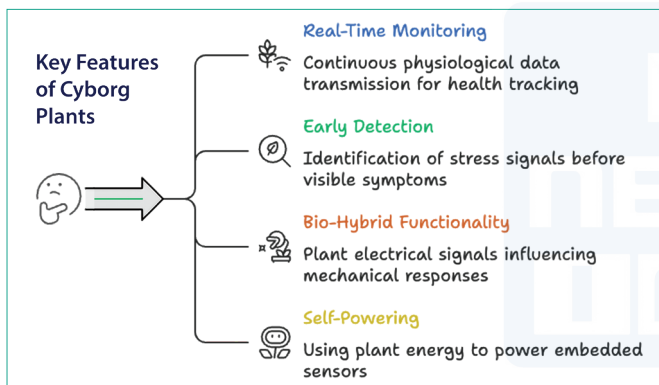
- Better GDP estimates improve fiscal and monetary policy decisions. They provide clearer insights into consumption, investment, and production trends.
- Improved methodology strengthens India's global statistical credibility and investor confidence.
- It allows better assessment of employment, income, and welfare changes.

## CYBORG BOTANY

Scientists have advanced the field of cyborg botany, which enables plants to communicate their internal health in real time by converting biological signals into electronic data.

### About

- Cyborg botany is an interdisciplinary field that integrates **living plants with electronic materials and devices**.
- It aims to create plant-based **biohybrid systems (cybernetic organisms)** capable of sensing, communication, environmental monitoring, and energy-related functions.
- The goal is to turn plants into functional living circuit boards that can naturally sense, process, and transmit data.



### Working

- **Biosensors**: Researchers insert tiny electronic transistors and nanowires directly into plant cell walls to track biochemical shifts instantly.
- **Internal Wiring**: Safe, biodegradable conductive polymers like PEDOT act as internal wires, sending cell signals to external hardware.
- **Data Conversion**: The setup detects how the plant responds to light, moisture, pests, and nutrients, converting these biological signals into readable digital data.

## RU-SOAM BRIDGES

UNESCO has partnered with the Sikkim government to document indigenous Ru-Soam engineering. Supported by Airbnb, the project operates in the Khangchendzonga Biosphere Reserve.

### About

- **Origin & Identity**: Built by the native **Lepcha community**, "Ru" means cane or rattan, and "Soam" means bridge. These structures are not mere relics but living expressions of

ecological balance and structural resilience, surviving the **2023 Sikkim Glacial Lake Outburst Flood**.

- **Design & Materials**: Crafted from local bamboo, cane, and wood, these bridges can stretch up to **100 meters** and support **two or three people** at a time.
- **Key Components**:
  - ♦ **Soamgyang**: Two parallel canes tied to trees on opposite ends to suspend the structure.
  - ♦ **Ahool**: Swinging cane loops integrated into the design.
  - ♦ **Soamgur**: Bamboo pieces used to build the bridge deck.



## ECOCIDE

Recent military conflicts in Gaza, Southern Lebanon, and attacks on fuel depots in Tehran (Iran) have renewed global attention and intensified demands to criminalize ecocide which translates to "killing one's home."

### About

- Ecocide refers to unlawful or wanton human acts committed with the knowledge that there is a substantial likelihood of causing severe, widespread, or long-term destruction and degradation to ecosystems, severely diminishing peaceful enjoyment by its inhabitants.
- **Evolution**:
  - ♦ Plant biologist **Prof. Arthur W. Galston** coined the term in 1970 to describe the US military's use of the herbicide **Agent Orange** during the Vietnam War.
  - ♦ Swedish PM Olof Palme brought it to the global stage at the 1972 UN Stockholm Conference.
  - ♦ In 1990, Vietnam became the first country to codify ecocide into domestic law. Today, nations like Russia, Ukraine, France, Belgium, and Chile incorporate similar provisions.

### International Framework:

- Current laws (Geneva Conventions, Environmental Modification Convention) restrict environmental warfare, and the ICC's Rome Statute recognizes four core crimes: **Genocide, Crimes against humanity, War crimes, and Crimes of aggression**.
- However, existing laws are **anthropocentric (human-focused)**. Environmentalists demand ecocide be recognized as the **fifth international crime** under the Rome Statute.
- Recent milestones include formal recognition by the IUCN (2025) and the Council of Europe's Convention on the Protection of the **Environment through Criminal Law in 2025**

### Legal Status in India:

- India lacks a distinct criminal law for ecocide, relying instead on a fragmented regulation under laws, such as, **Environment Protection Act 1986, Wildlife Protection Act 1972, Forest Conservation Act 1980** etc.
- The National Green Tribunal treats severe pollution as a "continuing offense," imposing multi-crore fines via the **Polluter Pays Principle**.
- The Supreme Court in **M.K. Ranjitsinh v. Union of India, 2024**, established a fundamental **"Right against the adverse impacts of climate change"** under Article 14 (Equality) and Article 21 (Life).

### Environmental Impacts of Armed Conflict

- Toxification:** Heavy artillery, missiles, and chemical agents leave toxic residues, heavy metals, and unexploded ordnance (UXOs) that contaminate soil and groundwater for decades.
- Infrastructure Destruction:** Bombing oil depots, industrial sites, and dams (like Ukraine's Kakhovka Dam) triggers toxic chemical spills and catastrophic flooding, erasing biodiversity.
- Carbon Footprint:** The global military sector drives ~5.5% of greenhouse gas emissions. If ranked as a country, militaries would have the world's fourth-largest carbon footprint.
- Habitat Loss:** Strategic military land-clearing causes severe deforestation, destroying flora and fauna while disrupting local micro-climates.

## INDIA'S FIRST SATELLITE-TAGGED GANGES SOFT-SHELL TURTLE

In a first in India, a satellite-tagged Ganges soft-shell turtle was released in the Kaziranga National Park and Tiger Reserve on the occasion of Endangered Species Day.

### Ganges Soft-shell Turtle (*Nilssononia Gangetica*)

- Common names:** Ganges Soft-shell Turtle / Indian Soft-shell Turtle
- Family:** Trionychidae (softshell turtles)

- Key Characteristics:** Flat, leathery shell instead of hard scutes, long snorkel-like snout, olive to dark green coloration, and a highly aquatic lifestyle.
- Distribution:** Native to the Indian subcontinent.
  - Found mainly in Ganga River system, Indus basin, Mahanadi and other northern river systems
  - Occurs in India, Nepal, Bangladesh, and Pakistan
- Habitat:** Prefers large rivers, deep pools, slow-moving freshwater bodies, reservoirs and wetlands; and frequently seen basking on sandbanks.

### Ecological Importance

- Acts as a **river scavenger** by feeding on dead organic matter.
- Helps maintain river cleanliness, nutrient cycling, and aquatic ecosystem balance.
- Consumes fish, insects, molluscs, and aquatic vegetation.

### Conservation Status

- IUCN Red List:** Endangered
- Wildlife (Protection) Act, 1972:** Schedule I
- CITES:** Appendix I

### Conservation Efforts

- Turtle rehabilitation and breeding programmes in the Ganga basin.
- Conservation Initiatives:** Namami Gange Programme; and National Mission for Clean Ganga (NMCG).

| Difference between Turtle and Tortoise |                                               |                                              |
|----------------------------------------|-----------------------------------------------|----------------------------------------------|
| Feature                                | Turtle                                        | Tortoise                                     |
| Habitat                                | Mostly aquatic (freshwater or marine)         | Mainly terrestrial (land-dwelling)           |
| Feet                                   | Webbed feet or flippers for swimming          | Thick, sturdy elephant-like legs for walking |
| Shell Shape                            | Flat and streamlined                          | Dome-shaped and heavy                        |
| Diet                                   | Omnivorous in many species                    | Mostly herbivorous                           |
| Movement                               | Good swimmers                                 | Slow walkers                                 |
| Body Adaptation                        | Adapted to water life                         | Adapted to dry land life                     |
| Examples in India                      | Olive Ridley Turtle, Ganges Soft-shell Turtle | Indian Star Tortoise                         |
| Examples                               | Olive Ridley Turtle, Ganges Soft-shell Turtle | Indian Star Tortoise                         |
| Egg Laying                             | Usually on sandy riverbanks/beaches           | In soil or burrows on land                   |

### Additional Information

#### Endangered Species Day:

- ➔ It is observed every year on the **third Friday of May**. It fell on May 15 in 2026.
- ➔ It is initiated by conservation organizations to spread awareness about threatened and endangered species, biodiversity conservation, habitat protection, and sustainable development.
- ➔ **Meaning of 'Endangered':** A species facing a **very high risk of extinction in the wild**.

#### India's Conservation Framework:

- ➔ **Constitutional Provisions:**
  - ♦ **Article 48A:** Protection of environment and wildlife.
  - ♦ **Article 51A(g):** Fundamental duty to protect nature.
- ➔ **Major Statutes:**
  - ♦ **Wildlife Protection Act, 1972:** Provides legal protection to wildlife. Schedules classify species according to protection level.
  - ♦ **Biological Diversity Act, 2002:** Conservation and sustainable use of biodiversity.
  - ♦ **Forest Conservation Act, 1980:** Restricts diversion of forest land.

#### Major International Conventions:

- ➔ **CITES:** Regulates wildlife trade
- ➔ **Convention on Biological Diversity (CBD):** Biodiversity conservation
- ➔ **Ramsar Convention:** Wetland protection
- ➔ **Convention on the Conservation of Migratory Species of Wild Animals (CMS) (aka Bonn Convention)**

## GENETIC 'MAP' HELPS TRACE PANGOLIN TRAFFICKING

A new study has developed a breakthrough 'genetic map' to trace pangolin trafficking routes using advanced DNA sequencing.

### Pangolins

- ➔ Pangolins are **scale-covered mammals** belonging to the order **Pholidota**.
- ➔ Commonly called '**scaly anteaters**' because they feed mainly on **ants and termites**.
- ➔ They are **solitary**, mostly **nocturnal**, and curl into a ball when threatened.
- ➔ Pangolins are the **only mammals with keratin scales**.
- ➔ They are the **world's most trafficked mammals** due to demand for their meat, scales, and leather products.
- ➔ There are currently **eight species of pangolin** recognized by the IUCN.
- ➔ **Distribution:** They are found across Africa and Asia

| Species Found in Africa                                   | IUCN Status                  |
|-----------------------------------------------------------|------------------------------|
| Black-bellied pangolin ( <i>Phataginus tetradactyla</i> ) | <b>Vulnerable</b>            |
| White-bellied pangolin ( <i>Phataginus tricuspis</i> )    | <b>Endangered</b>            |
| Giant Ground pangolin ( <i>Smutsia gigantea</i> )         | <b>Endangered</b>            |
| Temminck's Ground pangolin ( <i>Smutsia temminckii</i> )  | <b>Vulnerable</b>            |
| Species Found in Asia                                     | IUCN Status                  |
| Indian pangolin ( <i>Manis crassicaudata</i> )            | <b>Endangered</b>            |
| Philippine pangolin ( <i>Manis culionensis</i> )          | <b>Critically Endangered</b> |
| Sunda pangolin ( <i>Manis javanica</i> )                  | <b>Critically Endangered</b> |
| Chinese pangolin ( <i>Manis pentadactyla</i> )            | <b>Critically Endangered</b> |

### Pangolins in India

- ➔ India has **Indian and Chinese Pangolins**. They are found in Pakistan, China, Nepal, Sri Lanka, Bangladesh along with India.

### Protection Status

- ➔ **India:** Protected under **Schedule I** of the Wildlife (Protection) Act, 1972
- ➔ **International:** All pangolin species are listed under: **CITES Appendix I**; prohibiting international commercial trade.

### Importance

- ➔ The 'genetic map' provides a powerful new tool to trace illegal wildlife trade back to its source and could significantly strengthen global efforts to combat pangolin poaching and trafficking.

## SPERM WHALES

A recent study found that sperm whale clicks exhibit complex, structured patterns resembling elements of human speech, offering new insights into whale communication and the evolution of language.

### About Sperm Whale (*Physeter Macrocephalus*)

- ➔ Sperm whales got their name because the semi-liquid, waxy substance in their head was first believed to be sperm.
- ➔ They use **echolocation (powerful clicks)** to navigate and locate prey in dark ocean depths.
- ➔ **Distribution:** They occur throughout the world's oceans and in the Mediterranean Sea.
- ➔ **Appearance:** It is a large, dark-colored, toothed whale with a massive, square-shaped head that can make up more than a third of its body length.



## Sperm whales are the largest of the toothed whales.

- ➔ **Threats:** Deep-sea oil and gas exploration can cause multiple issues, such as loss of hearing, water pollution from hydrocarbons, and increased risk of being hit by ocean vessels.
- ➔ **Conservation Status:**
  - ♦ **IUCN:** Vulnerable
  - ♦ **Wildlife Protection Act, 1972:** Schedule II
  - ♦ **CITES:** Appendix I

### Ambergris

- ➔ It is a **waxy substance** that originates from the **digestive system** of sperm whales.
- ➔ It is often called the '**floating gold**' and '**treasure of the sea**' due to its high value in the market.
- ➔ It is **not covered in CITES** provisions as it is considered a **naturally excreted waste product** and trade of which is legal in many countries.

## SARANDA FOREST

Jharkhand filed a review petition in the Supreme Court against notifying Saranda elephant forests as a wildlife sanctuary, arguing it may impact tribal settlements, roads, infrastructure and therefore requires further ecological and socio-economic studies.

### Saranda Forest

- ➔ The word 'Saranda' means '**Land of Seven Hundred Hills**'. It is located in **West Singhbhum, Jharkhand**, and considered **Asia's largest Sal (*Shorea robusta*) forest**.
- ➔ It is part of the **Chhotanagpur Biogeographic Zone** and connects with forests in Odisha and Chhattisgarh, creating a continuous wildlife habitat.
  - ♦ Major tree species include **Sal, Mahua, and Kusum**.
- ➔ Tributaries of the **Koel and Karo rivers** originate from here.
- ➔ Rich in **iron ore deposits**, making it strategically important for mining and industry.

### Ecological Significance

- ➔ Dominated by **Sal trees** with rich biodiversity.
- ➔ Habitat for **Asian elephants**, Leopards, Sloth bears, Giant squirrels, and various bird and reptile species
- ➔ Acts as an important **elephant corridor** in eastern India.

### Tribal Population

- ➔ Inhabited mainly by the **Ho tribe** and other tribal communities.
- ➔ Forest-based livelihoods: Minor forest produce, agriculture, and traditional forest dependence.
- ➔ It holds deep cultural significance for local tribes, whose traditions, rituals, and **sacred groves ('Sarna')** are closely tied to the forest ecosystem.

## URBAN HEAT ISLAND

An intense heatwave across north and central India has highlighted concerns over the Urban Heat Island (UHI) effect.

### What is an Urban Heat Island?

- ➔ It is a phenomenon where urban areas experience **higher temperatures than surrounding rural areas** due to human activities and built-up infrastructure.
- ➔ **Cities absorb and retain more heat** because of concrete, asphalt, buildings, and reduced vegetation.

### Why does UHI occur?

- ➔ Replacement of Natural Surfaces and Loss of Green Cover
- ➔ Waste Heat from Human Activities
- ➔ Urban Geometry and Air Pollution

### Impacts of Urban Heat Island

- ➔ On Environment (worsening air quality and formation of ground-level ozone; increased greenhouse gas emissions)
- ➔ On Health Impacts (Elderly, Children, workers, and poor).
- ➔ Water-related Impacts (warmer runoff entering rivers and lakes, and deterioration of aquatic ecosystems)
- ➔ On Economy (Reduced labour productivity, and higher healthcare expenditure)

### Related Government Initiatives

*National Action Plan on Climate Change (NAPCC)*

- ➔ **Heat Action Plans (HAPs)** in cities such as Ahmedabad.
- ➔ **AMRUT Mission** promoting urban green infrastructure.
- ➔ Urban forestry initiatives such as **Nagar Van Yojana**.

## WATER HYACINTH LIVELIHOOD INITIATIVE

A livelihood initiative supported by the International Rhino Foundation has enabled women living near the Laokhowa-Burhachapori Wildlife Sanctuary in Assam to convert invasive water hyacinth into marketable household products.

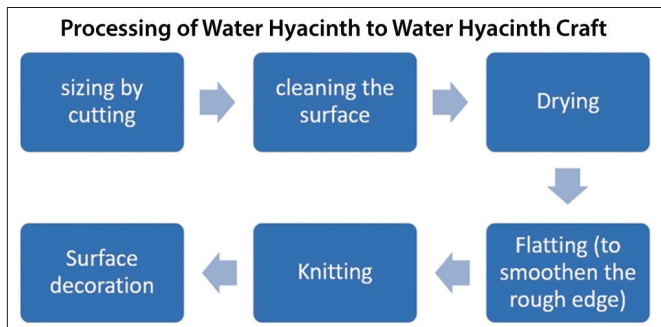
### Water Hyacinth (*Eichhornia crassipes*)

- ➔ **Origin:** Amazon Basin (South America); **Native to Brazil**
- ➔ **Type:** Free-floating aquatic plant
- ➔ It is often called the '**Terror of Bengal**' due to its rapid spread in Indian water bodies.
- ➔ It is listed among the world's **most invasive alien species**.
- ➔ It is frequently reported in Loktak Lake (Manipur), Vembanad Lake (Kerala), Dal Lake (J&K), Kolkata wetlands, and various stretches of the Ganga and Brahmaputra basin.

### Characteristics

- ➔ Fast-growing perennial aquatic weed.
- ➔ Reproduces through **Vegetative propagation (stolons)**, and seeds can remain viable for years.

- It forms dense floating mats on water surfaces, and thrives in **nutrient-rich (eutrophic) waters**.



### Beneficial Uses

- Although invasive, it can be utilized for **Bioremediation** (absorbs heavy metals and pollutants), and production of biogas, compost, handicrafts, and biochar.

### Impacts of Water Hyacinth

- It enhances water loss by 2.5 to 3 times due to evaporation.
- Diversity of fish stocks is often affected by proliferation of water hyacinth, and other aquatic plants have difficulty in surviving.
- Sediment level increases with increase of water hyacinth.
- Source of breeding ground for mosquitoes and other parasites. Hindrance to water transport.

### Management and Control Measures

- **Mechanical Control:** Physical removal using harvesters or manual labour. It is expensive and requires regular maintenance.
- **Biological Control:** Use of **weevils like *Neochetina eichhorniae*, and *Neochetina bruchi***. These are considered environmentally safer.
- **Chemical Control:** Herbicides may be used in limited situations with risk of ecological side effects.
- **Integrated Management:** It combines nutrient reduction, biological control, mechanical removal, and wetland restoration.

#### Laokhowa-Burhachapori Wildlife Sanctuary (LBWLS)

- It spans along the southern bank of the **Brahmaputra River in Assam**, and serves as an **important wildlife corridor** and an official **buffer zone of the Kaziranga Tiger Reserve**.
- It connects the Kaziranga National Park in the east with the **Orang National Park in the west**.
- It comprises a rich mix of wet alluvial grasslands, riparian forests, moist deciduous woods, and rare freshwater mangroves.
- It provides essential riverine habitats for the Greater One-horned Rhinoceros, Royal Bengal Tiger, Asian Elephant, Wild Water Buffalo, and the highly endangered Gangetic River Dolphin.

## WHITE-BELLIED HERON CONCERNS OVER KALAI-II HYDEL PROJECT

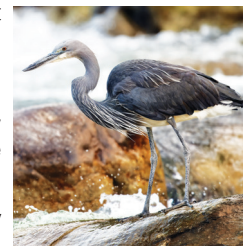
The Union Environment Ministry's Forest Advisory Committee (FAC) has granted in-principle forest clearance to the Kalai-II Hydroelectric Project, raising concerns due to its potential impact on the White-Bellied Heron.

### Kalai-II Hydroelectric Project

- **Location:** Proposed on **Lohit River** (a tributary of the Brahmaputra) in **Anjaw, Arunachal Pradesh**, near the India–China border.
- **Type:** 1,200 MW; Run-of-the-river hydropower project; Proposed and implemented by Tehri Hydro Development Corporation Limited (THDC) India Limited and the government of Arunachal Pradesh. **Concrete gravity dam (128.5-metre)** and an **underground powerhouse**.
- **Concerns:**
  - ♦ Forest land diversion (around 869 hectares), including the submergence (around 638 hectares).
  - ♦ Compensatory Afforestation is planned in **Madhya Pradesh**.

### White-Bellied Heron (*Ardea insignis*)

- It is one of the world's rarest and most threatened heron species.
- It is a large freshwater bird found primarily along **undisturbed rivers, wetlands, and forested streams** in the eastern Himalayas.
- It serves as an indicator of **healthy riverine ecosystems**.
- It survives in **Bhutan (largest known population)**, and **Myanmar**.
- **In India:**
  - ♦ It is primarily found in **Arunachal Pradesh (Namdapha Tiger Reserve)** and **parts of Assam**.
  - ♦ It has been recorded in **Walong, Chengung, and the downstream Kamlang Tiger Reserve landscape**.



### Threats

- **Habitat degradation** due to river modification and development.
- **Hydropower projects** affecting river ecosystems.
- **Human disturbance** near nesting and feeding sites.
- **Small population size**, making the species vulnerable to extinction.
- **Climate-related changes** affecting river habitats.

### Conservation Status

- **IUCN Status:** Critically Endangered
- **Wildlife (Protection) Act, India (WPA), 1972: Schedule I** (highest level of legal protection)
- **CITES: Appendix I** (international commercial trade prohibited except under exceptional circumstances)

## ANDAMAN SETS TWO GUINNESS WORLD RECORDS

The Andaman and Nicobar Islands set two Guinness World Records including the 'Largest National Flag Unfurled Underwater' and the 'Tallest Human Stack Underwater' (22.3 m) at Swaraj Dweep, formerly known as Havelock Island.

### More About News

- Fourteen people, including Lieutenant-Governor took part in forming the 22.3-metre-long stack, and they stayed under the water for three minutes.
- It achieved a landmark by **unfurling the world's largest underwater national flag**, measuring approximately 60 by 40 metres.
- Both the Guinness World Records** are expected to draw national and international attention and will boost the profile of the Andaman and Nicobar Islands as a **hub for scuba diving and eco-tourism**.

### Andaman and Nicobar Islands

- Location:** It extends from 6°45'N to 13°41'N and from 92°12'E to 93°57'E. About 1,300 km southeast of the Indian mainland in the Bay of Bengal.
- Duncan Passage:** It separates South Andaman from Little Andaman.
- Ten Degree Channel:** It separates the Andaman Islands from the Nicobar Islands.
- Six Degree Channel:** It separates the Nicobar Islands from Sumatra (Indonesia). The Southernmost Island is Great Nicobar whose **southernmost tip is only about 150 km away from Sumatra, Indonesia**.

#### Other Features

- Most of these islands have a **volcanic base** and are made of tertiary sandstone, limestone, and shale.
- The **Barren and Narcondam islands**, north of Port Blair, are **volcanic islands**.
- Some of the islands are fringed with **coral reefs**.
- The highest point is **Saddle Peak** in North Andaman (732 metre), **Mount Thullier** in Great Nicobar (642 metre).
- The names of the following three islands were changed in 2018:
  - Ross Island:** renamed as Netaji Subhash Chandra Bose Dweep
  - Neil Island:** renamed as Shaheed Dweep
  - Havelock Island:** renamed as Swaraj Dweep

- Pandanus or Nicobar Breadfruit** is a rare fruit found in the Andaman and Nicobar islands.
- Barren Island of the Andaman & Nicobar** Island group is the only active volcano not just in India but the whole of South Asia.
- Indira Point in Great Nicobar** is the Southern-most point of India.
- Great Nicobar Biosphere Reserve** declared in 1989 & recognised as UNESCO Man and Biosphere Reserve in 2013.

#### Particularly Vulnerable Tribal Groups (PVTGs)

- Great Andamanese of Strait Island;
- Onges of Little Andaman;
- Jarawas of South and Middle Andaman;
- Sentinelese of Sentinel Islands;
- Shompens of Great Nicobar;

## LIPULEKH PASS

Nepal has objected to India's plan to conduct the Kailash Mansarovar Yatra through the Lipulekh pass, which Nepal considers disputed territory.

### Lipulekh Pass

- It is a high-altitude Himalayan pass in Pithoragarh, Uttarakhand (India) and accessed from India through Dharchula.
- It is located at an elevation of about 5,334 metres in the **Kumaon region**.
- It serves as a strategic **tri-junction connecting India, China (Tibet), and Nepal**.
- It is strategically and culturally important as a traditional route for Indian pilgrims on the **Kailash Mansarovar Yatra**.
- It has historical commercial value, as it became the **first India-China border trade post** when trade opened in 1992.



### What is the Dispute?

- The tension between India and Nepal over the Lipulekh Pass is a complex boundary dispute rooted in the **Treaty of Sugauli (1816)**.
- It was signed between the British East India Company and the Kingdom of Nepal and established the **Kali River (Mahakali) as Nepal's western border**.
- Nepal claims the river originates at Limpiyadhura, which would **place the Lipulekh and Kalapani regions within its territory**.
- Conversely, India maintains that the river begins at a lower point **near Kalapani** keeping the pass a strategic tri-junction between India, Nepal, and China within its **state of Uttarakhand**.

## ATLANTIC MERIDIONAL OVERTURNING CIRCULATION (AMOC)

A recent study found that the proposed Bering Strait Dam could stabilize the Atlantic Meridional Overturning Circulation (AMOC).

### Bering Strait Dam

- It is a proposed mega-engineering project that would **close the Bering Strait**, the narrow passage between **Alaska (USA)** and **Siberia (Russia)**.
  - ♦ The Bering Strait connects the **Pacific Ocean with the Arctic Ocean** and allows freshwater inflow into the Arctic.
- **Researchers found that:** Water flowing through the Bering Strait currently brings relatively fresh Pacific water into the Arctic and eventually the North Atlantic.
  - ♦ Closing the strait would reduce this freshwater pathway.
  - ♦ It could make North Atlantic waters saltier and denser, helping the AMOC remain active and less vulnerable to collapse.

### Mechanism of Bering Strait Closure

- The idea of altering ocean circulation through a dam was proposed in the **1960s** by **Petr Mikhailovich Borisov**.
- The **proposed Bering Strait Dam consists of three separate parts**:
  - ♦ Between the Russian mainland and the island of **Big Diomed (38 km)**;
  - ♦ Between **Big Diomed and Little Diomed (4 km)**; and
  - ♦ Between **Little Diomed and Alaska (38 km)**.

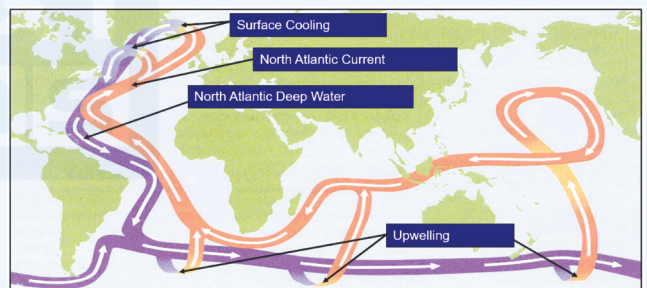


### Potential Benefits

- Constructing a dam across the Bering Strait could **reduce freshwater inflow** and **maintain higher salinity** in the North Atlantic.
  - ♦ **Higher salinity** could support deep water formation and potentially **stabilise the AMOC**.
- It may reduce the risk of an abrupt AMOC shutdown and lessen some extreme climate impacts associated with AMOC weakening.
- It could help preserve climate patterns influenced by the Gulf Stream.

### What is AMOC?

- The AMOC is a large system of ocean currents that transports heat:
  - ♦ Warm, salty water flows **northward near the surface** (e.g., Gulf Stream)
  - ♦ Cold, dense water sinks in the North Atlantic and flows **southward at depth**.
- It regulates **global climate**, keeps **Europe warmer than comparable latitudes**, and drives **rainfall patterns in tropics**.
- In the **North Atlantic**, water cools, becomes denser, and **sinks**. It then flows **southward at depth**, completing a **circulation loop**.



### Importance

- Keeps **Europe relatively warm** despite high latitude.
- Influences **Indian monsoon patterns**.
- Regulates **global climate and rainfall distribution**.
- Supports **marine ecosystems** by nutrient circulation.

### Evidence of Weakening

- Observational data (last 20 years) shows **consistent decline in AMOC strength**.
- Western Atlantic boundary contributes **about 90% of weakening**.
- Strongest decline observed at **16.5°N latitude**.

### Impacts of AMOC Collapse

- **Carbon Cycle Disruption:** Release of **47–83 gigatonnes of CO<sub>2</sub>** into the atmosphere.
  - ♦ **The Southern Ocean shifts** from carbon sink to carbon source, adding about **0.2°C global warming**.



### ➤ Temperature Changes:

- ♦ **Northern Hemisphere:** Arctic cooling up to 7°C; reduced heat transport and **sea-ice albedo feedback**.
- ♦ **Southern Hemisphere:** Antarctic warming up to 6–10°C.
- **Global Temperature Effect:** Net global warming increase: 0.17–0.27°C.
- **Oceanic and Atmospheric Changes:** AMOC weakening disrupts **monsoons, storm tracks, and marine ecosystems**.
- ♦ It can trigger **cascading tipping points**.

## TANZANIA

The 5th session of the India–Tanzania Joint Trade Committee (JTC), held in Dar es Salaam in Tanzania.

### About

- **Location:** East African Country and South of Equator.
- **Capital:** Dodoma; **Largest City & Main Port:** Dar es Salaam



### ➤ Border:

- ♦ **North:** Uganda, Kenya, and Lake Victoria (Tanzania includes a portion of Lake Victoria, the largest lake in Africa and a source of the Nile River).
- ♦ **East:** Indian Ocean;
- ♦ **South:** Mozambique, Malawi, Zambia, and Lake Nyasa;
- ♦ **West:** Rwanda, Burundi, and Lake Tanganyika. **Lake Tanganyika** forms boundary between Tanzania and the Democratic Republic of the Congo.

- **Geographical Features:** Mount Kilimanjaro Located in Tanzania. Mount Kilimanjaro is the African continent's highest peak. **Great Ruaha, Rufiji, and Kagera** etc are main rivers.

### Cooperation with India

- India and Tanzania have **strengthened their economic partnership**, with bilateral trade reaching \$9.02 billion in 2025–26, up from \$8.64 billion the previous year.
- Both countries agreed to deepen cooperation by improving trade mechanisms, exploring local currency settlements, easing visa processes for businesspersons, and addressing tariff and regulatory barriers.
- Key sectors of collaboration include pharmaceuticals, healthcare, mining, agriculture, education, and technology.

## TEESTA RIVER

Bangladesh has renewed its request to move forward on the long-pending Teesta water-sharing agreement.

### Geographic Profile of Teesta River

- **Origin:** Tso Lhamo Lake (near Pauhunri Glacier) in North Sikkim, eastern Himalayas.
- **Course:** Flows through **Sikkim** and **West Bengal**, enters **Bangladesh**, and joins the **Brahmaputra (Jamuna)** and emptied into Bay of Bengal.
- **Major Tributaries:** Rangit, Lachung Chu, Lachen Chu, Great Rangit.
- **Important Towns:** Chungthang, Mangan, Kalimpong region, Jalpaiguri.

### Importance of the Teesta River

- **Economic Significance:**
  - ♦ Almost 83% of the river's catchment area lies in India and the remaining 17% is in Bangladesh, supporting 8.5% of its population and 14% of its crop production.
  - ♦ It supports irrigation, drinking water supply, fisheries, and hydropower generation.
  - ♦ Key source of water for the **Teesta Barrage Project** in West Bengal.
- **Strategic Significance:** Flows through the sensitive eastern Himalayan region. Important in India–Bangladesh relations due to water-sharing concerns.

### Teesta Water-Sharing Dispute (India–Bangladesh)

- India and Bangladesh had reached an **in-principle agreement in 2011** to share the Teesta river waters, but it was never finalized due to coordination issues between the Centre and the West Bengal government.
- Bangladesh seeks a larger share of Teesta waters during the dry season.

## JAMAICA

India and Jamaica signed three Memoranda of Understanding (MoUs) in health cooperation, solarisation, and broadcasting during the External Affairs Minister official visit.

### About

- **India and Jamaica** discussed expanding **cooperation in sectors including** healthcare, infrastructure, digitalisation, agriculture, education, tourism and capacity building
- They also discussed capacity building through ICCR scholarships and digital learning platforms such as E-Vidyabharati and iGOT Karmyogi.

### Jamaica

- Jamaica is a mountainous island in the **Caribbean Sea, situated south of Cuba**.

- ➔ It was formed when the **North American and Caribbean tectonic plates** collided about 25 million years ago.
  - ♦ **Major Mountain Ranges:** Blue Mountains, John Crow Mountains, Don Figuero Mountains, Cockpit Country.
  - ♦ **Major Rivers:** Black River, Rio Cobre, Rio Grande.



- ➔ It is part of the **chain of Caribbean islands** called the **Greater Antilles**, along with Cuba, Hispaniola, and Puerto Rico.
- ➔ It is the **third largest island in the Caribbean Sea**, after Cuba and Hispaniola.
- ➔ Jamaica became **independent from the United Kingdom in 1962** but remains a member of the Commonwealth.

## CANARY ISLANDS

A cruise ship carrying passengers with a hantavirus outbreak has arrived in Spain's Canary Islands.

### About Canary Islands (aka *Canaries*)

- ➔ These are an **archipelago** in the **Atlantic Ocean** formed by **volcanic eruptions**, and form the southernmost autonomous regions of Spain.
  - ♦ They are located about 100 kilometres off the northwestern coast of Africa.
- ➔ The islands are divided into **two groups**:
  - ♦ **A Western Group:** Tenerife, Gran Canaria, La Palma, La Gomera, and Ferro islands and;
  - ♦ **An Eastern Group:** Lanzarote, Fuerteventura Island, and six islets.
- ➔ The islands sit **near important Atlantic shipping routes** connecting Europe, Africa, and the Americas, giving them economic and strategic importance.



## IMD LAUNCHES BLOCK-LEVEL MONSOON FORECAST SYSTEM

The India Meteorological Department (IMD) has launched a new forecasting system capable of providing block-level forecasts of the southwest monsoon across 15 States and one Union Territory.

### Weather Forecasting in India

- ➔ India, at present, depends on **satellite data and computer models** for weather prediction. The **Indian Meteorological Department (IMD)** uses the **INSAT** series of satellites and supercomputers.
- ➔ In India three satellites, **INSAT-3D, INSAT-3DR and INSAT-3DS** are used mainly for meteorological observations.
- ➔ Forecasters use satellite data around **cloud motion, cloud top temperature, and water vapor content** that help in rainfall estimation, weather forecasting, and tracking cyclones.

### New Forecast System

- ➔ It has been developed by the **Indian Institute of Tropical Meteorology** under the **Ministry of Earth Sciences**.
- ➔ It combines **artificial intelligence-based analysis, historical meteorological records, and global weather models** to improve the accuracy of monsoon forecasts.
- ➔ It currently covers **3,196 blocks across 15 States** and one Union Territory.
  - ♦ It has mainly been designed for regions falling within the **monsoon core zone**, which are highly dependent on rainfall.
- ➔ It provides probabilistic forecasts for the **next four weeks** and tracks the movement of the monsoon from its onset over **Kerala** to different parts of the country.

### Significance of the Initiative

- **Strengthening Agricultural Resilience:** The initiative can reduce agricultural vulnerability by enabling farmers to make timely and informed decisions regarding crop planning and sowing.
- **Promoting Precision Agriculture:** The use of AI-based weather forecasting supports the growth of precision agriculture and data-driven farming practices in India.
- **Improving Disaster Preparedness:** Accurate local weather forecasts can improve preparedness against floods, droughts, and extreme weather events.
- **Advancing India's Meteorological Capabilities:** The initiative reflects India's growing capabilities in climate science, weather modelling, and AI-enabled forecasting systems.
- **Spatial Variability of the Monsoon:** The Indian monsoon displays considerable spatial variation even within the same district.
  - ◆ In several cases, the monsoon may officially arrive in a district, while many villages and blocks within that district may continue to experience dry conditions.

### Government Initiatives to Improve Weather Forecasting

- **Mission Mausam:** It was launched to upgrade the capabilities of India's weather department in forecasting, modelling, and dissemination. The objectives of the mission are;
  - ◆ Develop Cutting Edge Weather Surveillance Technologies & Systems
  - ◆ Implement Next-generation radars, and satellites with advanced instrument payloads
  - ◆ Develop improved earth system models, and data-driven methods (use of AI/ML).
- **'National Monsoon Mission', 2012:** It aims to move the nation over to a system that relies more on **real-time, on-the-ground data gathering**.
- **Doppler Radars:** The IMD is increasingly using these to improve efficiency in predictions.
  - ◆ Doppler radars are used to predict rainfall in the immediate vicinity, making predictions more timely and accurate.
  - ◆ The number of Doppler radars has increased from **15 in 2013 to 50 in 2026**.
- **Weather Information Network and Data System (WINDS):** It is a programmatic initiative by the **Ministry of Agriculture & Farmers Welfare** to build a nationwide weather data infrastructure.
  - ◆ It integrates **hyper-local weather datasets**, such as rainfall, temperature, and humidity **into a single digital platform** to enhance agricultural productivity and crop insurance.

### Challenges Associated with the Forecast System

- **Limited Weather Infrastructure:** Many regions in India still lack sufficient weather monitoring stations and observational infrastructure, which limits the accuracy of hyper-local forecasting.

- **Threat of El Niño Conditions:** The forecasting system may face a major challenge this year because of the possible development of El Niño conditions during the later phase of the monsoon season. El Niño conditions are generally associated with **weaker southwest monsoon** rainfall in India.
- **Complexity of Monsoon Dynamics:** The Indian monsoon is influenced by multiple factors such as **ocean-atmosphere interactions, pressure systems, temperature variations, and regional topography**. Forecasting rainfall at micro scales therefore remains scientifically challenging.

### Way Ahead

- **The system should be expanded** to all States and Union Territories to improve nationwide weather forecasting capacity. India needs greater investment in **automatic weather stations, Doppler radars, and observational infrastructure** to improve forecasting accuracy.
- Weather forecasts should be **integrated with mobile-based agricultural advisory services** to improve last-mile delivery of information to farmers. **Effective coordination** between the IMD, State governments, agricultural institutions, and local administrations will be essential for the successful implementation of the forecasting system.

#### Indian Meteorological Department (IMD)

- IMD is an agency of the **Ministry of Earth Sciences**, responsible for meteorological observations, weather forecasting and seismology.
- It is one of the six Regional Specialized Meteorological Centres of the **World Meteorological Organisation (WMO)**.

### DEATHS CAUSED BY LIGHTNING HAVE BEEN CONSISTENTLY RISING

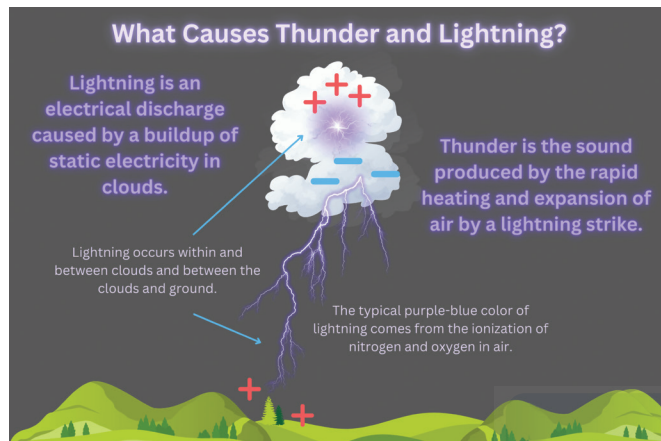
Lightning has emerged as the most lethal natural hazard in India, with the number of fatalities rising consistently over the years.

#### About

- A review of reports published by the **National Crime Records Bureau (NCRB)** showed that the country reported a total of **1,02,263 deaths due to lightning in the 50-year-period between 1975 and 2024**.
- Over half of these deaths happened between **2005 and 2024**.
- **From 2016**, lightning accounted for at least **50%** of all deaths due to natural causes while cyclones and floods accounted for fewer.
- **State-wise trends show** that the majority of deaths caused by lightning happened in **non-peninsular States**.
  - ◆ **In 2024, five States in India** i.e. Madhya Pradesh, Bihar, Uttar Pradesh, Odisha, and Chhattisgarh accounted for nearly **60% of total deaths**.

## What is Lightning?

- It is a sudden and powerful electrical discharge that occurs in the atmosphere, usually during thunderstorms, between clouds or between a cloud and the ground. It produces a bright flash of light and is often accompanied by thunder.
- The thunderclouds possess **millions of volts of electrical charge** and different polarity within the cloud itself.



- The atmospheric conditions are quite conducive for formation of severe thunderstorms **in the pre-monsoon season**.

## Related Government Efforts

- **Lightning Resilient India Campaign:** Nationwide awareness and education programme.
  - ♦ **April 13** is observed as **National Lightning Day**.
  - ♦ Focus on community sensitisation and preparedness.
- **Mitigation Project on Lightning Safety (MPLS):** Implemented by NDMA, Ministry of Panchayati Raj, and technical support from IMD, MoES and NRSC.
  - ♦ **Key Features:** Risk mapping and micro-zonation atlas; installation of electric field meters and alert poles; community awareness drives; and training of volunteers and paramedics.
  - ♦ **Target:** **60% reduction in lightning-related deaths** in targeted panchayats.
- **Indigenous Technological Development:** Domestic production of lightning detection sensors; Panchayat-level alert systems; and integration of early warning protocols at village level.

## Forecasts and Awareness

- IMD currently provides thunderstorm forecasts, while the IITM provides real-time alerts on lightning through **its mobile application Damini**.
  - ♦ The app shares **precautionary guidelines during thunderstorms in 23 regional languages**, making safety information more accessible.
- The increasing fatalities emphasise the need for creating more awareness among the public on precautions to be taken during lightning attacks.

## LATVIA

Latvian Prime Minister Evika Silina announced her resignation after her coalition pulled support from the government.

### About Latvia

- Latvia is a country in **Northern Europe**, one of the **three Baltic states** (along with Estonia and Lithuania).
- It has borders with **Estonia, Russia, Belarus and Lithuania**.
- It has linguistic links with **Lithuania to the south**, and historical and religious ties with **Estonia to the north**.
- Its **capital city Riga** is the largest city, known for its beautiful **Art Nouveau architecture** and **historic Old Town** (a UNESCO World Heritage site).
- Latvia was admitted to the **North Atlantic Treaty Organization (NATO)** and the **European Union (EU)** in 2004.



## PRATAS ISLANDS

The Pratas Islands recently witnessed a maritime standoff between the coast guards of China and Taiwan.

### About Pratas Islands (aka Dongsha Islands)

- These are a group of **coral atolls** located in the northern part of the **South China Sea**, currently administered and controlled by Taiwan.
- The islands lie roughly midway between **southern Taiwan, Hong Kong, and the Chinese mainland**.
- The region includes the **Dongsha Atoll National Park**, which is known for its marine biodiversity and coral reef ecosystems.





## NAVAL ANTI-SHIP MISSILE – SHORT RANGE (NASM-SR)

India successfully carried out the maiden launch of a Naval Anti-Ship Missile – Short Range (NASM-SR) from a Sea King helicopter off the Odisha coast in the Bay of Bengal.

### About NASM-SR

- The NASM-SR is India's first indigenously developed, air-launched anti-ship missile designed for helicopter-based strikes. Developed by **DRDO's Research Centre Imarat**, it replaces legacy British **Sea Eagle** missiles to strengthen defense self-reliance.
- **Indigenous Subsystems:** All critical components i.e. including the seeker, avionics, navigation, control systems, and data links, are domestically developed.
- **Operational Features:**
  - ♦ **Salvo Launch:** Can fire multiple missiles in rapid succession from a single platform for strike saturation.
  - ♦ **Waterline Hit:** Targets the ship's hull at the waterline to maximize structural damage and flooding for effective neutralization.

### Key Features of NASM-SR



#### Propulsion

Solid-propellant system with an ejectable booster for launch and a long-burn sustainer for cruise phase.



#### Range and Flight Profile

Approximately 55 km range with a subsonic sea-skimming trajectory to evade radar detection



#### Guidance and Navigation

Uses a fibre-optic gyroscope-based Inertial Navigation System, radio altimeter, and Imaging Infra-Red (IIR) seeker for precise targeting.



#### Connectivity

Equipped with a high-bandwidth two-way data link enabling lock-on-after-launch and in-flight retargeting.



#### Control System

Features electro-mechanical actuators and jet vane control for high manoeuvrability.

## TARA GLIDE WEAPON

The DRDO and Indian Air Force successfully tested the Tactical Advanced Range Augmentation (TARA) weapon.

### About

- It has been designed and developed by Research Centre Imarat, a Hyderabad-based DRDO laboratory, in collaboration with other DRDO facilities.
- The objective of TARA is to provide a **low-cost solution to enhance the lethality and accuracy of existing unguided munitions**.
- TARA will convert **conventional unguided bombs** (also known as dumb bombs, gravity bombs, or iron bombs) into **precision-guided munitions (PGMs)**.
- It is specifically designed to neutralize **ground-based targets with high precision**, reducing collateral damage and improving mission success rates.



## MULTIPLE INDEPENDENTLY TARGETED RE-ENTRY VEHICLE SYSTEM

India successfully conducted a flight-trial of an Advanced Agni missile equipped with Multiple Independently Targeted Re-Entry Vehicle (MIRV) technology from Dr APJ Abdul Kalam Island, Odisha.

### MIRV Technology

- This system allows a single missile to carry multiple warheads capable of striking different targets simultaneously, causing extensive damage.
  - ♦ It is difficult to intercept as each warhead follows a separate trajectory and can carry **dummy warheads** to bypass defenses.
  - ♦ Equipped with advanced sensors and avionics, it improves targeting accuracy and strengthens counterattack capabilities, crucial for India's **no-first-use** policy.
  - ♦ Developed in the 1960s by the US and Soviet Union, it is also used by China, the UK, and France.

- **Strategic Importance:** This capability significantly upgrades the Agni system, providing a necessary response to similar developments by China and Pakistan.
- **Agni Missile:**
  - ◆ Developed by DRDO, the series is India's primary land-based nuclear system.
  - ◆ While Agni-1 to Agni-4 (700–3,500 km range) carry single warheads, the **Agni-5** features MIRV technology, a three-stage solid-fuel engine, and a range exceeding **5,000 km**.
  - ◆ Agni-5 has undergone successful tests since 2012, including a 2022 night trial.

## LONG-DURATION SCRAMJET COMBUSTOR

The Defence Research and Development Organisation (DRDO) successfully conducted a long-duration flight trial of its Actively Cooled Full-Scale Scramjet Combustor in Hyderabad.

### About

- The trial was held at the **Scramjet Connect Pipe Test (SCPT) Facility**. It achieved a sustained runtime of over 1,200 seconds, significantly surpassing the 700-second milestone reached in January 2026.
- **Scramjet Technology:** A Scramjet is an **advanced air-breathing engine designed for hypersonic speeds**. It works by using its own high velocity to compress incoming atmospheric oxygen, allowing fuel combustion to occur within a supersonic airflow.
- **Significance:** This achievement is a major step forward in building indigenous hypersonic cruise missiles and mastering next-generation aerospace and defense technologies.

### Hypersonic Technology

- Hypersonic technology refers to systems capable of travelling at speeds greater than Mach 5, which is five times the speed of sound.
- Hypersonic weapons can travel at extremely high speeds while maintaining manoeuvrability during flight, making them difficult to detect and intercept.
- **Types of Hypersonic Weapons:**
  - ◆ **Hypersonic Glide Vehicles (HGVs):** These are launched using rockets and glide towards the target at hypersonic speeds.
  - ◆ **Hypersonic Cruise Missiles (HCMs):** These are powered throughout flight by advanced air-breathing engines such as scramjets.

## SAFEGUARDING INDIA'S CRITICAL INFRASTRUCTURE IN THE DIGITAL AGE

India's critical infrastructure is increasingly dependent on digital technologies. This has improved efficiency, but also increased vulnerability to cyberattacks and remote disruptions.

### What is Critical National Infrastructure (CNI)?

- **CNI** includes assets, systems, and services whose disruption can seriously affect **national security, economy, public safety, and governance**.
- **Critical National Infrastructure includes:**
  - ◆ Power and electricity systems
  - ◆ Oil refineries, pipelines, LPG networks
  - ◆ Railways, airports, and ports
  - ◆ Banking and payment systems
  - ◆ Telecom and internet networks
  - ◆ Water supply and sanitation
  - ◆ Healthcare and emergency services
  - ◆ Defence installations

### Why Security of CNI is Important

- **National Security:** Disruptions in power, fuel, or communication weaken defence and internal security.
- **Economic Stability:** Critical infrastructure supports production, trade, banking, and logistics.
- **Public Safety:** Failure of healthcare, transport, or water systems can directly affect lives.
- **Strategic Sovereignty:** Dependence on untrusted foreign technologies creates strategic risks.

### Digital Transformation

- **Automation and IoT** now manage industrial operations through real-time sensors.
- **AI and predictive analytics** improve efficiency and maintenance.
- Traditional **SCADA (Supervisory Control and Data Acquisition)** systems are now connected to the internet.
- Modern infrastructure works through **IT–OT–IoT convergence**:
  - ◆ **Information Technology (IT):** Manages data and communication.
  - ◆ **Operational Technology (OT):** Controls physical operations.
  - ◆ **Internet of Things (IoT):** Enables remote monitoring and data collection.

### Major Security Concerns

- Internet-connected systems have expanded the **cyberattack surface**.
- Imported IoT devices may contain **hidden vulnerabilities, backdoors, or malware**.
- Procurement often lacks **strict security audits** and trusted technology checks.
- Security certification for many devices remains weak.

### Global Examples

- The **Colonial Pipeline ransomware attack** disrupted fuel supply in the U.S.
- Recent attacks on **Automatic Tank Gauge (ATG)** systems exposed risks in fuel infrastructure.

## India's Protection Framework

- **CERT-In:** National cyber incident response agency.
- **NCIIPC:** Protects critical information infrastructure.
- **Cyber Swachhta Kendra:** Botnet cleaning and malware analysis.
- **STQC:** Security testing and certification.
- **CISF:** Physical protection of major infrastructure.

## Way Forward

- Make security certification mandatory for all IoT devices.
- Promote trusted indigenous technologies under Atmanirbhar Bharat. Ensure continuous monitoring, audits, and vulnerability testing.

## ORESHNIK MISSILE

Russia recently used the Oreshnik hypersonic ballistic missile in a missile and drone attack on Kyiv, Ukraine. It reflects Russia's growing use of advanced strategic weapons.

### About Oreshnik

- **Oreshnik** is a Russian-made **intermediate-range hypersonic ballistic missile**.
- It is believed to be based on the **RS-26 Rubezh** missile system.
- It was first used by Russia in **November 2024** against **Dnipro, Ukraine**.
- The missile can carry both **nuclear** and **conventional warheads**.

### Key Features:

- Its estimated strike range is **3,000 to 5,500 km**.
- This range allows it to target large parts of **Europe**. It is around **15 to 18.5 metres long** with a diameter of about **1.9 metres**.
- It is mounted on a **mobile transporter-launcher**, allowing quick deployment and concealment.
- It can travel at **Mach 10**, nearly **2.5 to 3 km per second**, making interception extremely difficult.

### Strategic Importance

- It is equipped with **MIRVs (Multiple Independently Targetable Re-entry Vehicles)**.
- It can carry **6 to 8 warheads** and strike multiple targets at the same time.
- This capability is usually associated with **Intercontinental Ballistic Missiles (ICBMs)**.
- Its range falls under the category once restricted by the **Intermediate-Range Nuclear Forces (INF) Treaty**. The **US** withdrew in 2019, followed later by **Russia**.

## VADINAR SHIP REPAIR FACILITY

The Cabinet Committee on Economic Affairs (CCEA) approved the development of a Ship Repair Facility at Vadinar, Gujarat. The project involves an investment of ₹1,570 crore. It aims to strengthen India's maritime infrastructure and reduce dependence on foreign shipyards.

### About the Facility

- It is a high-capacity brownfield maritime project.
- It is being developed jointly by the **Deendayal Port Authority (DPA)** and **Cochin Shipyard Limited (CSL)**.
- The facility will provide repair services for large commercial and foreign-flagged vessels.
- Its main objective is to make India a global ship repair hub.

### Location Advantage

- **Vadinar** is located on the western coast of Gujarat in the **Gulf of Kutch**.
- It is close to **Deendayal Port (Kandla)** and **Mundra Port**, two major cargo ports of India.
- It is also near important **Arabian Sea shipping routes**.
- The site has a **natural deep draft**, suitable for handling very large ships.

### Key Features

- The facility will include a **650-metre jetty**, workshops, and specialised marine infrastructure.
- It will have **two floating dry docks**.
- These dry docks can repair vessels of up to **300 metres**, beyond India's present limit of **230 metres**.
- It will support the growth of **maritime MSMEs** and related industries.

### Significance

- It aligns with **Maritime India Vision 2030** and **Maritime Amrit Kaal Vision 2047**.
- It will reduce **foreign exchange outflow** by enabling domestic repair of large vessels.
- It will lower maintenance costs for Indian shipowners.
- It is expected to create about **290 direct** and **1,100 indirect jobs**.

### Do You Know?

- India has less than **1%** share in the global ship repair market.
- Around **7–9%** of global shipping traffic passes within **300 nautical miles** of India's coastline.

## US SUPPORT FOR APACHE AND M777 SYSTEMS TO INDIA

The United States approved sustainment support for India's **AH-64E Apache** helicopters and **M777A2 Ultra-Light Howitzers**. This move further strengthens India-US defence cooperation.

### Apache Helicopters

- The **AH-64 Apache**, developed by **Boeing**, is an advanced **multi-role attack helicopter**.
- It combines **firepower, agility, and modern avionics**.

- It is equipped with **Hellfire missiles, 70 mm rockets, and a 30 mm chain gun**. It can target **armoured vehicles, ground targets, and low-flying aircraft**.
- Its **advanced sensors, targeting radar, and night vision systems** make it effective in **all-weather, high-altitude, and low-visibility operations**.
- The approved support package is worth **\$198.2 million** and includes **engineering, logistics support, technical data, publications, personnel training, and programme support**.

### M777A2 Ultra-Light Howitzer

- The **M777A2** is known for its **lightweight design** and **high mobility**, especially in **mountainous terrain**.

- It is widely deployed by the Indian Army in **strategic border areas**.
- The support package worth **\$230 million** includes **spares, repair, training, technical assistance, field service support, and logistics**.

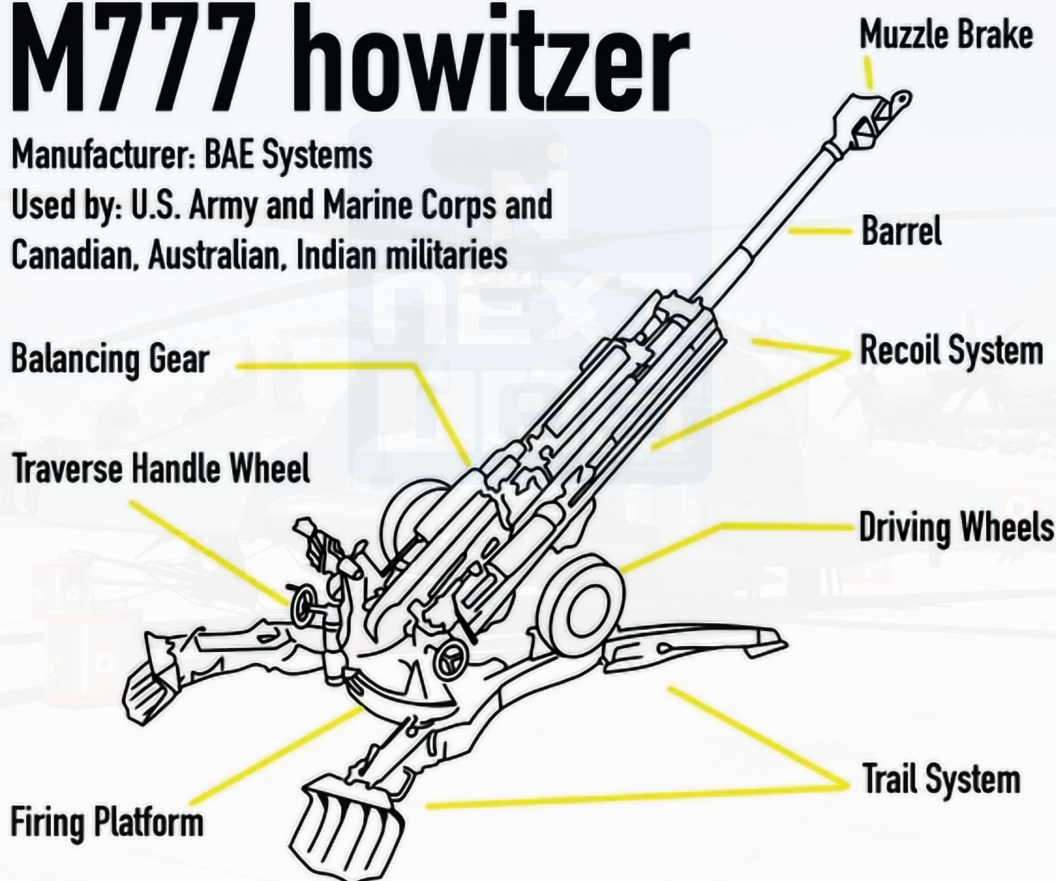
### Broader Defence Cooperation

- Other major US defence supplies to India include **MQ-9B drones, MH-60R helicopters, Sig Sauer rifles, and M777 howitzers**.
- Key defence agreements include **LEMOA (2016), COMCASA (2018), BECA (2020), SOSA (2024), and the Major Defence Partnership Framework (2025)**

# M777 howitzer

**Manufacturer: BAE Systems**

**Used by: U.S. Army and Marine Corps and Canadian, Australian, Indian militaries**



| Exercise     | Venue                              | Participants                                                                                                                                                                     | Remarks                                                                                                                                                                                                               |
|--------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRAGATI 2026 | Umroi Military Station (Meghalaya) | India and soldiers from "12 friendly nations i.e. Bhutan, Cambodia, Indonesia, Laos, Malaysia, the Maldives, Myanmar, Nepal, the Philippines, Seychelles, Sri Lanka, and Vietnam | <p>PRAGATI stands for <b>Partnership of Regional Armies for Growth and Transformation</b> in the Indian Ocean Region.</p> <p>➤ <b>Focus:</b> Counter-terrorism operations in semi-mountainous and jungle terrain.</p> |





# SCIENCE & TECHNOLOGY

## GALAXEYE LAUNCHES MISSION DRISHTI

Indian space start-up GalaxEye launched Mission Drishti, the world's first OptoSAR Earth observation satellite, aboard SpaceX's Falcon 9 rocket from California, USA.

### About Mission Drishti

- Mission Drishti is a **190-kg Earth observation satellite** carrying both **Electro-Optical (EO)** and **Synthetic Aperture Radar (SAR)** sensors on a single platform.
- Optical sensors capture photograph-like images, while SAR uses microwave signals to generate images even through clouds or darkness.
- By combining both systems, the satellite enables **all-weather, day-and-night monitoring** with fused, analysis-ready imagery.
- It also uses onboard **artificial intelligence** to merge optical and radar data in real time, reducing dependence on multiple satellite systems and improving efficiency.

### Key Features

- World's first operational satellite integrating **EO and SAR imaging** together.
- Largest satellite built by a private Indian company (~190 kg).
- Placed in **Sun-synchronous Low Earth Orbit (LEO)**.
- Provides **high-resolution imaging**, with future missions targeting **sub-metre resolution**.

### Applications and Significance

- Mission Drishti is a **dual-use satellite** with both civilian and defence applications.
- It supports border surveillance, disaster management, agriculture monitoring, maritime surveillance, environmental assessment, urban planning, and infrastructure mapping.
- The system enables faster damage assessment and real-time monitoring during disasters such as floods, cyclones, and earthquakes.

## HANTAVIRUS OUTBREAK

The World Health Organization (WHO) reported a suspected outbreak of hantavirus aboard a Netherlands-based cruise ship in the Atlantic Ocean, resulting in three passenger deaths and three active illnesses.

### About

- It is a rare, severe **RNA virus** from the **Hantaviridae family**. It is zoonotic, meaning it transfers from animals to humans, and is carried primarily by rodents like mice and rats.

- **Transmission:** Infection typically occurs when people inhale airborne particles of dried rodent droppings, urine, or saliva, or touch contaminated surfaces. Human-to-human transmission is generally rare.
- **Associated Illnesses & Symptoms:** The virus triggers two severe conditions:
  - ♦ **Hantavirus Pulmonary Syndrome (HPS):** A lung infection with a high fatality rate of around 40%.
  - ♦ **Haemorrhagic Fever with Renal Syndrome (HFRS):** A severe kidney infection causing low blood pressure, internal bleeding, and acute kidney failure.
- **Progression & Treatment:**
  - ♦ It starts with flu-like fever and fatigue 1–8 weeks post-exposure.
  - ♦ After 4–10 days, coughing, shortness of breath, and fluid in the lungs develop.
  - ♦ There is no specific drug treatment; care relies on fluids, rest, or ventilators in severe cases.

## INTERNATIONAL ORGANISATION FOR STANDARDISATION (ISO)

The Bureau of Indian Standards (BIS) hosted the 35th Plenary and Working Group meetings of the ISO Technical Committee 20/Subcommittee 14 (ISO TC 20 / SC 14) on 'Space Systems and Operations' in New Delhi.

### About ISO

- Established in 1947, and headquartered in **Geneva, Switzerland**, ISO is an independent, non-governmental international organization.
- It is a **global network of national standards bodies** with one member per country (**BIS** represents India).
- **Aims & Functions:**
  - ♦ ISO creates voluntary, consensus-based global standards to unite industrial benchmarks, remove trade barriers, protect consumers, and encourage innovation.
  - ♦ It ensures product quality, safety, and operational compatibility across sectors like IT, healthcare, agriculture, energy, and manufacturing.

### About ISO TC 20 / SC 14

- ISO Technical Committee 20/Subcommittee 14 is a specialized subcommittee under ISO responsible for framing international standards related to space systems and operations.
  - ♦ **TC 20:** Aircraft and Space Vehicles
  - ♦ **SC 14:** Space Systems and Operations.

- **Subcommittee 14** focuses on the entire lifecycle of space systems, covering **design, production, launch, operations**, and space-based services.
- The Delhi meeting specifically targeted mission safety, space sustainability, and debris mitigation to ensure global technologies function smoothly together.

## HOMOGENEOUS ACCRETION

A Nature Astronomy study, recently, suggested that Earth formed mainly from materials present in the inner solar system through a process called homogeneous accretion.

### About

- Homogeneous accretion is a model of planetary formation in which a planet grows from a **uniform mixture of materials** such as metals, silicates, and volatile substances accreting together simultaneously.
- This means Earth's building blocks remained **chemically similar throughout its formation**, unlike **heterogeneous accretion**, where different materials accumulate in separate stages.

### Key Findings of the Study

- Scientists used Bayesian latent factor analysis to examine chemical signatures in meteorites and rocks, finding that Earth likely formed mainly from materials in the inner solar system.
- The study also suggests that Mercury and Venus may have formed through similar processes.

## APNOEA TEST

The Supreme Court is examining the plea alleging apnoea test is inconclusive to assess brain death.

### About

- It is a critical component in the determination of brain death.
- It assesses whether the patient can initiate spontaneous breathing when carbon dioxide (CO<sub>2</sub>) levels rise.
  - ♦ It is conducted **to confirm absence of respiratory drive** from the brainstem (specifically the medulla), which is essential in diagnosing brain death.
- Normally, rising arterial CO<sub>2</sub> stimulates the respiratory centers in the brainstem to trigger breathing. If no breathing occurs despite elevated CO<sub>2</sub>, it suggests loss of brainstem function.

### Brain Death

- It is the irreversible and complete loss of all functions of the brain, including the brainstem.
- A person who is brain dead has no consciousness, no brainstem reflexes, and no ability to breathe independently, and is legally considered dead in many countries, including India.

## CELL BROADCAST ALERT SYSTEM

India has launched the SACHET emergency alert system using indigenous cell broadcast technology to send instant disaster warnings.

### Cell Broadcast

- It is a **one-to-many mobile messaging** system that sends short alerts to all phones in a specific geographic area at the same time.
  - ♦ Unlike SMS, it does not target individual numbers, so it can deliver messages instantly even during network congestion.
- It was developed in the early **1990s by the European Telecommunications Standards Institute (ETSI)** and first demonstrated in 1997 in Paris, it is now widely used in over 30 countries.
- Cell Broadcast is used to send fast, reliable emergency alerts to people in specific areas during disasters like earthquakes, floods, cyclones, storms, heatwaves, and industrial accidents such as gas leaks or chemical incidents.

### Advantages of Cell Broadcast System

- Cell Broadcast **does not use personal data and does not require phone numbers**, apps, or subscriptions.
- It delivers loud, attention-grabbing alerts that override normal phone activity, including silent or Do Not Disturb modes, and the message stays on screen until acknowledged.
- It is used very sparingly for life-threatening emergencies such as earthquakes, flash floods, landslides, dam breaks, and other major disasters, and is only sent to people in the affected area.

## ALZHEIMER'S DISEASE

Eli Lilly and Company has launched a new Alzheimer's treatment in India called Lormalzi, marking one of the first disease-modifying therapies for the condition in the country.

### Alzheimer's Disease

- Alzheimer's disease is the most common form of dementia, causing gradual loss of memory, thinking, and daily functioning.
- It affects about 8.8 million people in India and is expected to nearly double by 2036, making new treatments significant despite their limitations.
- Existing treatments like lecanemab and aducanumab offer limited benefits and come with high cost and safety concerns.

### Lormalzi Drug

- Lormalzi is a monthly infusion monoclonal antibody for early Alzheimer's that removes amyloid plaques and may slow cognitive decline by ~30–35% over 18 months, but it doesn't reverse damage and can cause serious side effects like brain swelling or bleeding (ARIA).

## DIGITAL CHOKEPOINTS IN THE ERA OF GLOBAL CONNECTIVITY

Amid rising geopolitical tensions, Undersea Cable Networks passing through strategic Digital Chokepoints have emerged as highly vulnerable infrastructure.

### What are Digital Chokepoints?

- ➔ Digital chokepoints are **narrow maritime passages** through which **multiple submarine communication cables** pass together.
  - ♦ These chokepoints become strategically important because disruption at one location can affect internet connectivity across several regions simultaneously.
- ➔ **Major Global Digital Chokepoints:**
  - ♦ **Strait of Hormuz** serves as a major digital and energy chokepoint connecting the Gulf region with the global economy.
  - ♦ **Bab el-Mandeb Strait** links the **Red Sea with the Arabian Sea** and carries major submarine cable routes.
  - ♦ **The Suez Canal** acts as a crucial corridor connecting Europe and Asia through both maritime trade and digital infrastructure.
  - ♦ **Malacca Strait** connects the Indian Ocean with the Pacific Ocean and carries vital communication networks.
  - ♦ **The Red Sea** hosts several critical undersea cable systems connecting Europe, Asia, and Africa.

### What are Undersea Cables?

- ➔ Undersea or submarine cables are fibre-optic communication cables laid on the seabed to transmit internet and telecommunication data across countries and continents.
- ➔ They carry about 95% of global internet traffic, support critical services like banking and cloud computing, and are increasingly funded by big tech companies like Google, Meta, and Microsoft.

### Vulnerabilities Associated with Undersea Cables

- ➔ Undersea cables are now part of geopolitical competition, with digital infrastructure used for strategic influence and risks from hybrid warfare and maritime rivalry among major powers.
- ➔ They are vulnerable due to concentrated routes, difficult repairs, and unclear international laws on intentional damage.
- ➔ Potential Consequences of Cable Disruption
- ➔ Disruption of submarine cables can cause major global internet and communication failures, financial instability, and trade disruptions.
- ➔ It can also weaken military coordination during crises and disproportionately harm developing countries due to limited digital backup systems.

### Concerns for India

- ➔ India faces risks due to its heavy reliance on uninterrupted digital connectivity for finance and IT, rising tensions in

the Indian Ocean Region, and dependence on foreign-controlled submarine cable infrastructure, creating strategic vulnerabilities.

### Way Ahead

- ➔ Countries should protect submarine cables by diversifying routes, improving maritime security, building backup systems like satellites, and strengthening international cooperation for protection, repairs, and legal frameworks.

#### International Advisory Body for Submarine Cable Resilience

- ➔ The **International Telecommunication Union (ITU)** and the **International Cable Protection Committee (ICPC)** jointly launched the International Advisory Body for Submarine Cable Resilience. This initiative aims to **strengthen the resilience of submarine cables**.
- ➔ It will also provide **strategic guidance** to address challenges related to **increasing traffic, aging infrastructure, and growing environmental threats** to submarine cables.

#### International Cable Protection Committee (ICPC):

- ➔ ICPC, **founded in 1958**, is a global forum for governments and commercial entities involved in the submarine cable industry.
- ➔ Its **primary mission** is to enhance the security of undersea cables by providing a platform for exchanging technical, legal, and environmental information.

## COMMON CRITERIA DEVELOPMENT BOARD

India has been nominated as the Chair of the Common Criteria Development Board for the period from April 2026 to April 2028, during the 1st Quarter Meeting of the Common Criteria Recognition Arrangement (CCRA) in Tokyo, Japan.

### About CCRA

- ➔ The CCRA is an international system where member countries mutually recognize IT security certificates.
- ➔ It sets common standards for evaluating secure IT products, allowing certified products to be accepted across countries without re-certification.
- ➔ It includes 20 authorizing and 18 consuming nations and maintains a global portal of certified products.
- ➔ **Common Criteria Development Board (CCDB):** The CCDB is the technical body of the CCRA that develops and maintains the Common Criteria standards and evaluation methods for IT security. It focuses on technical certification rules, while other groups handle policy matters.

### India's Participation

- ➔ India became a member of the CCRA in **2013** as a **Certificate Authorizing Nation**.

- India participates in the arrangement through the Ministry of Electronics and Information Technology and the **Standardisation Testing and Quality Certification (STQC) Directorate**.
- The **STQC Directorate** acts as India's official Certification Body for IT security evaluations.

## ABHAY: AI-POWERED VERIFICATION SYSTEM

The Central Bureau of Investigation (CBI) has launched an AI-based helpbot called "Abhay" for authentication of CBI notices.

### Background and Need

- Cyber-enabled fraud is rising in India, with AI and deepfakes making scams harder to detect.
- To raise awareness and protect citizens, the CBI launched "Abhay" via its official website.

### Abhay

- It is the AI-powered chatbot-style verification mechanism for the public to verify notices issued by CBI.
- It is designed to protect the citizens from the growing menace of cyber fraud and digital arrest scams.
- It has been designed keeping in mind data confidentiality and the requirement for a public-facing authentication mechanism.

### Do You Know?

- A digital arrest scam is an online fraud where scammers impersonate officials like police or tax authorities to falsely accuse victims of crimes and pressure them into paying money.
- They use calls, video apps, and fake setups to appear real, then disappear after receiving payments, causing financial loss and possible identity theft.

## EBOLA OUTBREAK

The World Health Organization (WHO) has declared an international health emergency after an Ebola outbreak in the Democratic Republic of Congo killed over 80 people.

### Ebola Virus Disease (EVD)

- It is a **zoonotic disease** caused by the **eponymic Ebola virus** that can be severe and often fatal in humans. Ebola was first identified in **1976** in Central Africa.
- **Types:** According to the WHO, three different viruses are known to cause large Ebola disease outbreaks: Ebola virus, Sudan virus and Bundibugyo virus.
  - ♦ The current outbreak involves the **Bundibugyo variant**.
- **Transmission:** The virus spreads from infected wild animals like bats and primates to humans, and then between people through contact with blood, body fluids, or contaminated surfaces.

- **Symptoms** of the disease include fever, haemorrhaging and vomiting.
- **Treatments:** Licensed vaccines and treatments are available for Ebola Virus Disease (EVD). However, no approved vaccines or therapies currently exist for Sudan Virus Disease (SVD) and Bundibugyo Virus Disease (BVD).

## SMILE MISSION

A joint mission of the European Space Agency and the Chinese Academy of Sciences named Solar Wind Magnetosphere Ionosphere Link Explorer (SMILE) is being developed to study how Earth's magnetic shield responds to solar storms and space weather events.

### About SMILE Mission

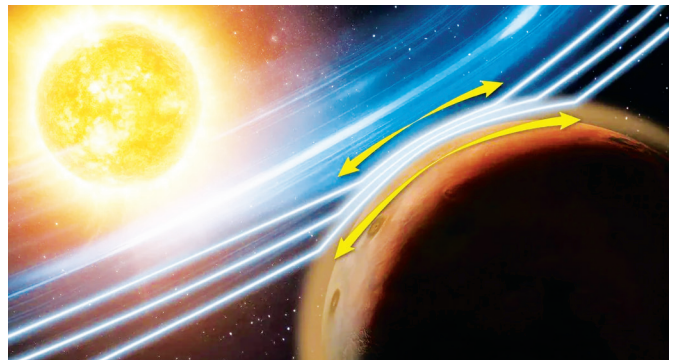
- SMILE is a space mission that studies how solar wind from the Sun interacts with Earth's magnetosphere and ionosphere.
  - ♦ It aims to understand space weather events like substorms and solar storms (CMEs) to improve forecasting.
- It is the **first mission designed** to image Earth's magnetic environment, specifically the **magnetopause and polar cusps**, in soft X-rays.
  - ♦ It will also capture ultraviolet images of the northern lights.
- **Instruments:** The payload includes a Soft X-ray Imager (SXI), an Ultraviolet Imager (UVI), a Light Ion Analyser (LIA), and a Magnetometer (MAG).

## ZWAN-WOLF EFFECT

A recent study published in Nature Communications has provided evidence of the Zwan-Wolf effect at Mars using data from NASA's MAVEN spacecraft.

### What is the Zwan-Wolf Effect?

- The Zwan-Wolf effect is a space weather phenomenon where **electrically charged particles (plasma) are compressed and squeezed** along magnetic field lines when a planet's magnetic boundary interacts with the solar wind. The solar wind is a continuous stream of charged particles emitted by the Sun.
- First identified in **1976 by scientists B.J. Zwan and R.A. Wolf**, the phenomenon creates a plasma "depletion layer" near the planetary boundary, helping deflect solar wind flows.





## Significance of Discovery

- Mars lacks a strong global magnetic field unlike the Earth.
- The discovery shows that even relatively “unmagnetised” planets can experience complex magnetic interactions.
- The findings may help explain atmospheric loss processes on Mars over geological timescales.
- The study also enhances understanding of space weather effects on planets without strong magnetic protection.

### MAVEN Mission

- MAVEN stands for Mars Atmosphere and Volatile Evolution Mission. It is a NASA mission launched in 2013 to study the Martian atmosphere and its interaction with the solar wind.
- The mission investigates how Mars lost much of its atmosphere and water over time.

## EASE OF DOING RESEARCH & DEVELOPMENT

The report “Ease of Doing Research & Development in India” is released by NITI Aayog focuses on improving India's research ecosystem.

### Status of R&D in India

- **Low Expenditure on Research and Development:** India's Gross Expenditure on Research and Development (GERD) has remained around 0.64% of GDP for many years. This level is significantly lower than major economies:
  - ♦ Israel and South Korea spend more than 4% of GDP on R&D. The US and China spend above 2% of GDP on R&D.
  - ♦ The report notes that India's R&D expenditure has remained stagnant despite rapid economic growth.
- **Dominance of Public Sector in R&D:** India's R&D funding is heavily dependent on public funding (with about 64% contribution), unlike the case in several leading innovation economies which have more than 60% of the R&D budget contributed by the private sector.

### Major Challenges as per the Report

- **Low investment:** Limited public and private funding weakens R&D infrastructure and global competitiveness.
- **Administrative burden:** Heavy bureaucracy slows down research and reduces efficiency.
- **Rigid rules & fragmentation:** Strict procurement norms and poor coordination lead to delays and duplication.
- **Human resource issues:** Shortage of researchers, limited career growth, and brain drain.
- **Weak commercialization:** Research output is high, but conversion into patents and market products is low.

### Recommendations

- **Simplify procedures:** Use digital single-window systems and flexible funding to reduce administrative and procurement delays.

- **Strengthen collaboration:** Promote industry-academia-government partnerships using research parks and joint projects.
- **Improve research careers:** Offer better fellowships, pay, and stable funding to attract and retain researchers.
- **Boost postdocs:** Increase Science & Technology postdoctoral fellowships by about 20% annually.
- **Vigyan Nidhi platform:** Create a digital system for quick fellowship transfers and industry-linked support.
- **Integrated governance:** Improve coordination across agencies using unified databases and monitoring systems.

### Government Initiatives

- **Research, Development and Innovation (RDI) Scheme:** The RDI Scheme, with a ₹1 lakh crore corpus, aims to boost private-sector R&D and deep-tech startups through low/zero-interest loans, equity support, and a Deep-Tech Fund of Funds under the ANRF.
- **Indian Space Policy 2023:** It expands 2020 reforms by allowing private sector participation and aims to boost space capabilities, grow the commercial space industry, and encourage public-private collaboration.
- **National Quantum Mission:** Allocated ₹6,003.65 crore for 2023–31, to advance quantum technologies through scientific and industrial R&D.
- **National Supercomputing Mission (NSM):** Launched in 2015, the initiative empowers universities, research institutions, and government agencies with state-of-the-art supercomputing systems connected through the National Knowledge Network.
- **India Semiconductor Mission (ISM):** Established in 2021, the mission seeks to build a robust ecosystem for semiconductor and display manufacturing.
- **India AI Mission:** It promotes “Making AI in India and for India” and has expanded its computing power to 38,000 GPUs, improving AI access for startups, researchers, and industries.
- **Atal Innovation Mission (AIM):** To foster innovation at the grassroots level by providing support to students, startups, and entrepreneurs.

## CYBER WARFARE

Recent cyber operations linked to the Israel-Iran conflict highlighted how digital attacks now accompany conventional military strikes.

### About Cyber Warfare

- Cyber warfare is the use of digital attacks to disrupt, damage, or gain advantage over another country's critical systems and networks.
- It targets communication, financial, and defence infrastructure and is increasingly used alongside conventional military operations in modern conflicts.

- ♦ Reports during the US-Israel-Iran tensions indicated hacking of news portals and communication applications alongside military action.

### Components of Cyber Warfare

- ➔ **Cyber Espionage:** Stealing sensitive military or strategic information.
- ➔ **Cyber Attacks:** Disrupting networks, websites or infrastructure through malware, ransomware or DDoS attacks.
- ➔ **Information Warfare:** Manipulating public opinion through misinformation and propaganda.
- ➔ **Critical Infrastructure Targeting:** Attacks on power grids, banking systems, defence systems and healthcare networks.
- ➔ **Psychological Operations:** Influencing morale and public perception digitally.

### What are the Issues and Concerns Associated with Cyber Warfare?

- ➔ **Emerging Trends :** Cyber warfare is growing as the fifth domain of conflict, with attacks often hard to trace due to anonymity and multiple jurisdictions.
- ➔ **Ambiguity in International Law :** International law is unclear on when cyber actions count as “use of force,” and legal remedies are limited due to state consent and sovereign immunity.
- ➔ **Threat to Critical Infrastructure :** Cyber attacks can damage critical infrastructure like banking, energy, and healthcare, posing serious security and economic risks.
- ➔ **Escalation Risks :** They also increase escalation risks between states and often involve non-state actors, making attribution and accountability more complex.

### Related International Laws

- ➔ **UN Charter:** Article 2(4) prohibits the use or threat of force against other states, while Article 51 permits self-defence if an armed attack occurs.
- ➔ **Tallinn Manual:** Prepared by NATO experts, it interprets how international law applies to cyber warfare, though it is non-binding.
- ➔ **Budapest Convention on Cybercrime:** It promotes international cooperation against cybercrime. India is not a signatory due to concerns regarding sovereignty and non-participation in drafting.
- ➔ **UN Convention against Cybercrime:** It aims to strengthen global cooperation in combating cybercrime, though it inadequately addresses state-sponsored cyber warfare.

### How India is Tackling Cyber Warfare?

- ➔ **Institutional Measures:**
  - ♦ **CERT-In (Indian Computer Emergency Response Team):** Nodal agency for cyber incident response.
  - ♦ **National Critical Information Infrastructure Protection Centre (NCIIIPC):** Protects critical sectors.

- ♦ **Defence Cyber Agency (DCA):** Handles military cyber operations.

#### ➔ Policy Initiatives:

- ♦ National Cyber Security Policy, 2013.
- ♦ Digital Personal Data Protection Act, 2023.
- ♦ Cyber Surakshit Bharat Initiative for capacity building.

- ➔ **International Cooperation:** India actively participates in the **UN Open-Ended Working Group** on cybersecurity; and bilateral cyber cooperation with countries such as the U.S., Japan and Australia.

### Strengthening Measures Against Cyber Warfare

- ➔ Develop a strong national cyber security strategy with offensive and defensive capabilities.
- ➔ Improve cyberattack attribution using AI-driven forensics and intelligence sharing.
- ➔ Secure critical infrastructure through audits and indigenous technologies.
- ➔ Expand cybersecurity education and skilled workforce training.
- ➔ Promote global cyber norms for responsible state behaviour.
- ➔ Strengthen public-private partnerships to protect digital infrastructure.

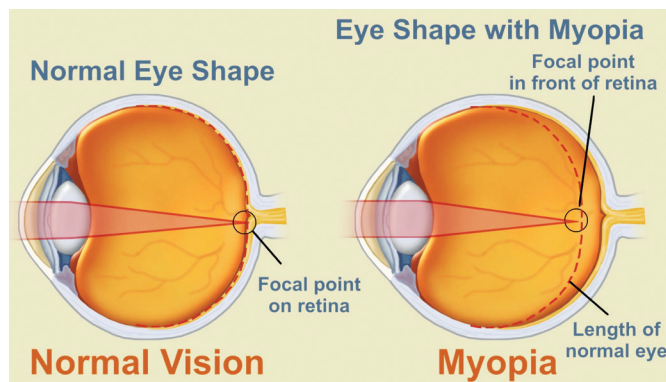
## MYOPIA PANDEMIC

By 2050, approximately 4.75 billion people, nearly half the world's population, are expected to be myopic. The prevalence of myopia among urban children in India has increased from 4.44% in 1999 to 21.15% in 2019 and is projected to rise to nearly 48% by 2050.

### About

- ➔ **Myopia** is primarily a **refractive condition** caused by **excessive axial elongation of the eye**.
  - ♦ In a myopic eye, the **axial length**, which is the distance between the front and back of the eye, **becomes too long**.
  - ♦ As a result, incoming light rays focus in front of the retina instead of directly on it, **causing distant objects to appear blurred**.
- ➔ **Concave lenses, either in the form of spectacles or contact lenses**, are used to shift the focus back onto the retina and restore clear vision.
- ➔ **Concerns:** As the axial length of the eye increases, the tissues of the eye, including the sclera, choroid, and retina, undergo stretching and thinning. This **increases the risk of retinal detachment, myopic macular degeneration, glaucoma, and early cataract formation**.
  - ♦ High myopia, generally defined as a refractive error of **-6 dioptres or greater**, is associated with **potentially irreversible visual impairment and blindness**.
- ➔ **Prevention:** Research suggests that **more outdoor time may help reduce progression risk**.

- ♦ Regular eye exams are important, especially in school-age children.



## GOOGLE'S 'INFORMATION AGENTS'

Google recently introduced "information agents" integrated into Search that can continuously monitor the web on behalf of users.

### What are Information Agents?

- Information agents are **AI-powered systems that continuously track online information** based on user preferences and instructions. These agents can **monitor housing listings, travel updates, stock prices, shopping deals, or other personalised queries** without requiring repeated manual searches.
- The agents **function as persistent digital assistants** that remain active in the background and automatically fetch updates.

### How Do Information Agents Work?

- Users provide detailed **personal preferences and requirements** to the AI system.
- The agent continuously **scans websites and databases** for relevant updates. It **integrates data across multiple digital platforms** such as email, calendars, maps, browsing history, and search behaviour.
- The system then **synthesises the collected information** into customised recommendations or alerts.
- Key Concerns Regarding Information Agents
- Information agents require extensive personal data, **raising concerns over privacy, surveillance, and targeted advertising.**
- Continuous AI-driven web crawling may **increase automated internet traffic** and burden publishers with higher infrastructure costs.
- AI-generated summaries could **reduce website visits and weaken the revenue model** of digital publishers and content creators.

## FRACTIONAL QUANTUM HALL EFFECT

Recent advances in quantum materials, especially in twisted multilayer graphene, have enabled physicists to recreate the Fractional Quantum Hall Effect (FQHE) without extremely strong magnetic fields.

### Hall Effect

- The Hall Effect was discovered in **1879 by Edwin Hall.**
- **Principle:** When electrons move through a conductor under a magnetic field, they experience a sideways force known as the Lorentz force.
  - ♦ This force causes electric charges to **accumulate on one side of the material**, producing a transverse voltage called the **Hall voltage.**
  - ♦ The Hall Effect helped scientists understand the nature of electric charge carriers in materials.

### What is the Quantum Hall Effect (QHE)?

- It is a quantum phenomenon observed in two-dimensional electron systems at very low temperatures and strong magnetic fields, where Hall resistance changes in discrete steps instead of continuously.
  - ♦ This quantisation shows that electrons follow quantum mechanics at microscopic scales.
- In the **Integer Quantum Hall Effect**, resistance takes whole-number values (1, 2, 3, etc) due to electrons occupying discrete Landau levels.
- In the **Fractional Quantum Hall Effect**, resistance takes fractional values ( $1/3$ ,  $2/5$ , and  $3/7$ ) due to strong electron interactions that form collective states and produce quasiparticles with fractional charge called anyons.

### Applications of the Quantum Hall Effect (QHE)

- The **Fractional Quantum Hall Effect** produces quasiparticles called **anyons**, which are considered promising for fault-tolerant quantum computing.
  - ♦ **Anyons can store quantum information in a more stable manner** than ordinary quantum particles.
- The Quantum Hall Effect provides **extremely precise measurements of electrical resistance.** It is used internationally to define resistance standards in metrology.
- QHE has contributed significantly to research on advanced quantum materials such as **Graphene.**

## CARBON-FREE FERROCENE BREAKTHROUGH

Researchers from IIT Madras and IISc have created a new carbon-free molecule resembling ferrocene, solving a long-standing 70-year-old chemistry challenge.

### What is Ferrocene?

- Ferrocene is a chemical compound discovered in the 1950s with a **unique sandwich structure.**
- It consists of an **iron atom placed between two carbon-ring molecules.**
- Ferrocene is an important compound in **organometallic chemistry** due to its **high stability and unusual bonding.**
- It is used in **medicines, batteries, catalysts, advanced materials, and electronics.**

### What is the new Discovery?

- Researchers **synthesized a completely carbon-free molecule** similar to ferrocene. In the new molecule, **Osmium replaces iron at the centre** and **Boron-based rings replace carbon rings**.
- The discovery solved a scientific puzzle that had remained unresolved for more than seven decades.

### Significance of the Discovery

- The breakthrough proves that stable ferrocene-like sandwich structures can exist without carbon. It expands scientific understanding of chemical bonding and molecular stability.
- The discovery opens new possibilities in advanced materials, nanotechnology, catalysis, and electronics.

## INDIA ENTERS WI-FI 7 ERA

TP-Link has started local manufacturing of Wi-Fi 7 devices in India, beginning with enterprise access points, marking India's entry into the Wi-Fi 7 era.

### About Wi-Fi 7

- Wi-Fi 7, officially called **IEEE 802.11be Extremely High Throughput (EHT)**, is the latest generation of wireless networking technology.
- Unlike Wi-Fi 6, which mainly focused on handling large numbers of connected devices, Wi-Fi 7 is designed to deliver **much higher speed, ultra-low latency, reduced congestion, and more reliable connectivity**.

|                                      |                |                 |                   |                 |
|--------------------------------------|----------------|-----------------|-------------------|-----------------|
|                                      | <b>Wi-Fi 4</b> | <b>Wi-Fi 5</b>  | <b>Wi-Fi 6/6E</b> | <b>Wi-Fi 7</b>  |
|                                      | <b>802.11n</b> | <b>802.11ac</b> | <b>802.11ax</b>   | <b>802.11be</b> |
| Max Speed with 1 Spatial Stream      | 150 Mbps       | 866.7 Mbps      | 1.2 Gbps          | 2.9 Gbps        |
| Max Speed with 2 Spatial Streams     | 300 Mbps       | 1.73 Gbps       | 2.5 Gbps          | 5.8 Gbps        |
| Max Speed with Max # Spatial Streams | 600 Mbps       | 6.92 Gbps       | 9.6 Gbps          | 46.4 Gbps       |

### Key Features

- Maximum theoretical speed up to **46 Gbps**, nearly **4.8 times faster** than Wi-Fi 6. Around **4x lower latency**, improving real-time communication and gaming.
- Uses India's licensed **5925–6425 MHz spectrum**, providing cleaner and less congested connectivity.
- Enhanced **Target Wake Time (TWT)** improves power efficiency and battery life.

### Applications

- Supports 4K/8K streaming, Augmented/Virtual Reality, cloud computing, online gaming, Industrial IoT, smart factories, smart homes.
- It also supports high-density public networks such as hospitals, airports, stations, hotels, offices, and campuses.

## INDIA-US CRITICAL MINERALS FRAMEWORK

India and the United States signed a major framework agreement to strengthen cooperation in the supply, mining, processing, recycling, and management of critical minerals and rare earth elements (REEs). The initiative follows concerns over China's 2025 export controls on REEs, which disrupted global technology supply chains.

### What are Critical Minerals?

- Critical minerals are minerals essential for a country's economic development, national security, and industrial growth.
- Supply disruptions or concentration of mining and processing in a few countries can create major strategic vulnerabilities.
- They are important for technologies such as **solar panels, semiconductors, wind turbines, batteries, medical devices, and electric vehicles**.
- These minerals are central to the green and digital economy and support India's energy transition and self-reliance goals.

### Rare Earth Elements (REEs)

- REEs are a **group of 17 metallic elements**, including the **15 lanthanides** along with scandium and yttrium.
- They are widely used in **consumer electronics, defence systems, renewable energy technologies**, EVs, communication systems, and nuclear energy.
- India has the world's third-largest rare earth reserves, mainly found in **monazite** minerals.

## UMMID PROGRAMME

The Union Minister for Science and Technology dedicated the UMMID (Unique Methods of Management of Inherited Disorders) Programme for Rare Genetic Disorders to the nation.

### What are Rare Genetic Disorders?

- Rare genetic disorders are inherited diseases caused by gene or chromosome abnormalities, affecting various body functions.
  - ♦ Though individually uncommon, they collectively pose a significant public health challenge.
- **Causes of Rare Genetic Disorders:**
  - ♦ **Inherited mutations in genes** are one of the major causes of rare genetic disorders.
  - ♦ **Chromosomal abnormalities** can lead to developmental and inherited disorders.
- **Examples:**
  - ♦ **Sickle Cell Disease** is a hereditary blood disorder that affects the shape and functioning of red blood cells.
  - ♦ **Thalassemia** is an inherited blood disorder that reduces the body's ability to produce healthy haemoglobin.
  - ♦ **Hemophilia** is a genetic disorder that impairs the blood clotting process.



- ◆ **Duchenne Muscular Dystrophy** is a genetic disease that causes progressive muscle degeneration and weakness.
- ◆ **Spinal Muscular Atrophy (SMA)** is a rare inherited disease that damages nerve cells controlling muscle movement.

### Challenges Associated with Rare Genetic Disorders

- ➔ Delayed diagnosis due to low awareness and limited genetic testing.
- ➔ High treatment cost, including expensive gene therapies and imported drugs.
- ➔ Weak healthcare infrastructure with few specialised centres, mostly urban.
- ➔ Shortage of skilled genetic counsellors and researchers.
- ➔ High social and financial burden on affected families.
- ➔ Limited research, data, and disease registries for policymaking.

### Government Initiatives

- ➔ **National Policy for Rare Diseases (NPRD), 2021:** It provides a framework for prevention and management of rare diseases in India.
- ➔ **Rashtriya Bal Swasthya Karyakram (RBSK):** It provides early screening and intervention services for children with birth defects and developmental disorders.
- ➔ **Sickle Cell Anaemia Elimination Mission:** It aims to eliminate sickle cell anaemia as a public health problem by 2047.
- ➔ **UMMID Programme:** The UMMID Programme by **Department of Biotechnology (DBT)** improves diagnosis and management of rare genetic disorders by making genetic services affordable and accessible

## MALARIA ELIMINATION

A study published in *The Lancet* found that the world's first approved malaria vaccine, RTS,S/AS01E, reduced overall child deaths by 13% in parts of Africa.

### About Malaria

- ➔ Malaria is a serious disease caused by **parasites** and spread mainly through the bite of infected female **Anopheles mosquitoes**.
- ➔ It is common in tropical regions and usually does not spread directly from person to person.
- ➔ Symptoms include **fever, chills, headache, confusion, seizures, breathing problems, jaundice, bleeding, and dark urine**.
- ➔ Prevention includes mosquito nets, repellents, protective clothing, and preventive medicines.
- ➔ Treatment depends on the parasite type and includes **Artemisinin-based Combination Therapy (ACTs)**, chloroquine, and primaquine.

### Malaria Situation in India

- ➔ Between **2015 and 2023**, India achieved:
  - ◆ **80.5% reduction** in malaria cases.
  - ◆ **78.3% reduction** in malaria deaths.
  - ◆ More than **122 districts** reported zero cases.
- ➔ India exited the **WHO High Burden to High Impact group** in 2024. India aims for **zero indigenous malaria cases by 2027** and complete elimination by **2030**.
- ➔ Most remaining cases are concentrated in **Odisha, Chhattisgarh, Jharkhand, and West Bengal**.
- ➔ **Plasmodium vivax** now forms nearly 40% of cases due to its relapse-causing dormant liver stage.

### Key Initiatives

- ➔ **National Framework for Malaria Elimination (2016–2030)** and **National Strategic Plan (2023–2027)** focus on the **Test, Treat, Track (3Ts)** strategy.
- ➔ Measures include **Long-Lasting Insecticidal Nets (LLINs)**, Indoor Residual Spraying (IRS), and research through **MERA India**.
- ➔ Globally, WHO supports elimination through the **Global Technical Strategy (GTS)** and malaria vaccines like **RTS,S** and **R21**.

## BABESIA INFECTION

Eight lion cubs have died in Gujarat due to a suspected Babesia infection, raising concerns about the health of the Asiatic lion population.

### About

- ➔ Babesia is a **parasitic disease** transmitted through **ticks** and can cause weakness, fever, coughing and nasal discharge in infected animals. It is a **zoonotic disease**, meaning it can transmit from animals to humans.
- ➔ Atovaquone plus azithromycin is used to treat most mild to moderate cases and is usually taken for 7 to 10 days.

### Asiatic Lion (Panthera Leo Persica)

- ➔ Asiatic Lion (*Panthera leo persica*) is one of India's five big cat species.
- ➔ It is smaller than the African lion, has a less developed mane with visible ears, and a distinctive fold of skin along the belly.
- ➔ **Distribution:** In India, concentrated in the state of Gujarat in and around the Gir Forest mainly in;
  - ◆ Gir National Park and Wildlife Sanctuary
  - ◆ Paniya Wildlife Sanctuary
  - ◆ Mityala Wildlife Sanctuary
  - ◆ Barda Wildlife Sanctuary
- ➔ **Conservation Status:**
  - ◆ **IUCN Red List status:** Endangered
  - ◆ **CITES:** Appendix I
  - ◆ **Wildlife Protection Act, 1972:** Schedule I

## SENIOR CARE SYSTEM IN AN AGEING INDIA

India's rapidly ageing population is exposing the limits of its hospital-centric healthcare system, creating an urgent need for a strong long-term care ecosystem for senior citizens.

### Need for a Senior Care System

- According to the **UNFPA India Ageing Report 2023**, India's elderly population will rise from nearly **149 million** to around **347 million by 2050**. This means **one in every five Indians** will be above 60 years of age.
- The **NITI Aayog 2024** report states that over **75% of elderly Indians** suffer from at least one chronic disease, while only **18%** have health insurance coverage.
- Elderly citizens increasingly suffer from multiple diseases such as **Hypertension, Diabetes, Arthritis, and Parkinson's disease** at the same time.
- These health conditions require **continuous care, regular monitoring, rehabilitation, and coordinated treatment**, which hospitals alone cannot provide.
- **Urbanisation** and the rise of **nuclear families** are reducing traditional family support systems for the elderly.

### Importance of Geriatric Care

- **Geriatric care** helps senior citizens maintain **dignity, independence, and better quality of life**.
- Early and continuous treatment prevents complications and reduces repeated hospitalisation.
- Proper elderly care improves the management of chronic diseases and lowers the burden on families.
- Strong senior care systems support **inclusive development** by protecting a vulnerable section of society.

### Structural Gaps in India's Senior Care System

- India's healthcare system mainly treats **acute illnesses**, while elderly people need **long-term and integrated care**.
- India has fewer than **1,000 certified geriatricians** for a senior population exceeding **150 million**.
- Mental health issues such as **Dementia, Alzheimer's, and depression** often remain undiagnosed among elderly citizens.
- **Tier-2 and Tier-3 cities** often face shortages of medicines, assistive devices, and rehabilitation equipment.
- Fragmented **digital health systems** weaken coordination between hospitals, clinics, and home-care providers.
- High **out-of-pocket expenditure**, low pension coverage, and economic dependence increase elderly vulnerability.
- The **feminization of ageing** makes elderly women more vulnerable due to lower assets and limited healthcare access.

### Government Measures

- **Ayushman Bharat – PMJAY** provides **₹5 lakh annual health coverage** to nearly **6 crore senior citizens aged 70 years and above**.
- **National Programme for Health Care of the Elderly (NPHCE)** provides accessible and affordable geriatric care.
- **Atal Pension Yojana (APY)** ensures old-age income security for unorganised workers.
- **Rashtriya Vayoshri Yojana (RVY)** provides assistive devices to senior citizens with disabilities.
- **Senior Care Ageing Growth Engine (SAGE) Portal** promotes innovation and start-ups in elderly care.
- The **Maintenance and Welfare of Parents and Senior Citizens Act, 2007** makes maintenance of parents a legal duty and mandates old-age homes.

### Way Ahead

- India should strengthen **Long-Term Care (LTC)** by developing trained caregivers, nurses, and physiotherapists.
- **Home-based care** and **community care systems** should be expanded to reduce unnecessary hospitalisation.
- **Telemedicine** and **remote monitoring systems** should be strengthened for chronic disease management.
- Elderly care services should be integrated with the **Ayushman Bharat Digital Mission (ABDM)** for seamless healthcare access.
- India should promote innovation in the **silver economy** by supporting assistive technologies and AI-based monitoring tools.
- Society must recognise **professional elderly care** as a responsible extension of family support.

## NHRC ADVISORY ON WELFARE OF TRANSGENDER PERSONS

The National Human Rights Commission (NHRC) has issued its second advisory to 11 Ministries, the Registrar General and Census Commissioner, and all States/UTs to strengthen the welfare and protection of transgender persons in India.

### Why the Advisory is Needed

- The NHRC identified several **persistent and emerging challenges** affecting transgender persons through its continued engagement.
- According to the **2011 Census**, nearly **4.87 lakh persons** identified under the **"other" gender category** in India.
- Transgender persons continue to face exclusion in **education, healthcare, employment, housing, and legal rights**.

- Their literacy rate is only **56.07%**, much lower than the national average of **74.04%**.
- Only about **6%** of transgender persons are formally employed, showing serious economic marginalisation.

### Challenges Faced by Transgender Persons

- **Societal discrimination** often leads to exclusion from families and communities.
- **Educational barriers** force many transgender students to drop out due to bullying and violence.
- **Employment discrimination** pushes many into unsafe and informal sectors like begging or sex work.
- **Healthcare exclusion** limits access to gender-affirming care, hormonal therapy, and surgical services.
- **Violence and abuse** remain common in both public and private spaces.
- **Political underrepresentation** reduces their participation in policy-making.

### Key Recommendations of NHRC

- The NHRC has recommended inclusion of separate categories such as **Intersex, Transmen, and Transwomen** in the upcoming **Census of India**.
- It has suggested reviewing laws such as the **Registration of Births and Deaths Act, Juvenile Justice Act, and succession laws** to recognise **self-identified gender**.
- The advisory seeks to ensure **equal inheritance, succession, housing, and property rights** for transgender and intersex persons.
- Educational institutions should admit students based on **self-identified gender** without medical proof and provide **gender-neutral facilities**.
- The NHRC has called for **ethical medical protocols** for gender-affirming care and regulation of **Sex Reassignment Surgery costs**.
- It has recommended the protection of **intersex children** from non-consensual medical procedures except in life-saving situations.
- It has proposed **inclusive workplaces** with gender-neutral facilities, HR policies, grievance mechanisms, and diversity disclosures.
- It has also recommended **legal aid cells, helplines, and grievance-redressal mechanisms** for transgender persons facing discrimination or violence.

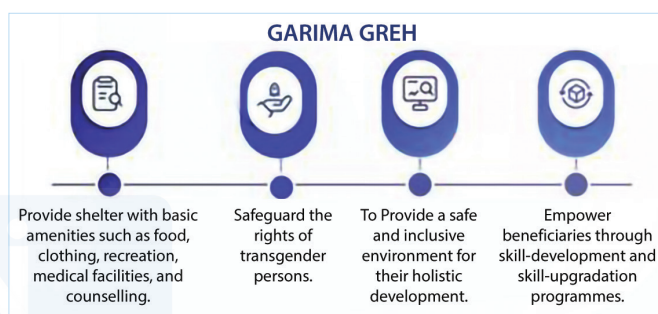
### Legal and Constitutional Position

- **LGBTQIA+** is an umbrella term covering diverse gender identities and sexual orientations.
- In **NALSA v. Union of India (2014)**, the Supreme Court recognised the right to **self-identify gender** and recognised transgender persons as the **third gender**.

- In **Navtej Singh Johar v. Union of India (2018)**, the Supreme Court decriminalised consensual same-sex relations under **Section 377. Articles 14, 15, and 21** guarantee equality, non-discrimination, and dignity.
- The **Transgender Persons (Protection of Rights) Act, 2019** provides legal recognition and protection.

### Government Measures

- The **National Portal for Transgender Persons (2020)** provides online identity certificates and welfare access.
- The **SMILE Scheme (2022)** provides livelihood support, shelter, and health coverage through **Garima Greh** and **Ayushman Bharat TG Plus**.



- The **National Council for Transgender Persons** works to protect and promote transgender rights.

### Way Forward

- India must strengthen **legal recognition, social inclusion, equal opportunities, and access to welfare** for transgender persons.
- Ensuring **dignity, autonomy, and justice** for transgender persons is essential for India's democratic and human rights commitments.

### JANANI PLATFORM

The Ministry of Health and Family Welfare launched **JANANI** to manage digital health records for women during their reproductive years.

#### About

- This tool serves as an upgraded version of the previous **Reproductive and Child Health portal**.
- It introduces **QR-enabled digital cards** to give families easy, portable access to maternal and child medical histories.
- The system provides real-time monitoring by generating supervisory dashboards, high-risk pregnancy alerts, and upcoming task lists.
- It **connects with U-WIN and POSHAN** to share data and coordinate tracking across national health programs.
- Users can sign up through self-registration or using mobile numbers and official identity systems.
- This unified tracking structure ensures continuity of care for moving families while completely stopping duplicate records.

## TRAFFIC ACCIDENTS IN INDIA

According to NCRB data, nearly 1.99 lakh people died in traffic accidents in 2024, averaging around 546 deaths every day. Road accidents accounted for around 88% of these deaths, making them one of the biggest causes of accidental mortality in India.

### Major Findings

- Traffic accidents include road accidents, railway accidents, railway crossing incidents, and accidents on railway tracks or premises.
- Around 1.75 lakh deaths occurred due to road accidents alone.
- Traffic accidents accounted for 42.6% of all accidental deaths in India during 2024.
- Uttar Pradesh, Tamil Nadu, and Maharashtra recorded the highest number of fatalities.
- Two-wheelers accounted for the largest share of road deaths, followed by pedestrians and cars.
- Overspeeding caused nearly 58% of road accident deaths and remained the single largest reason behind fatalities.
- National highways, despite forming a small share of the road network, accounted for a high proportion of accidents.
- Road crashes impose socio-economic losses amounting to nearly 3.14% of India's GDP.

### Major Causes

- **Overspeeding, reckless driving, drunk driving, and mobile phone usage** while driving remain major causes of accidents.
- **Poor road infrastructure**, potholes, weak lighting, and unsafe road engineering increase accident risks.
- **Weak enforcement of traffic laws** reduces compliance with safety rules.

- Rapid motorisation and traffic congestion have increased pressure on transport infrastructure.
- Weak emergency response systems and inadequate trauma care increase fatalities after accidents.

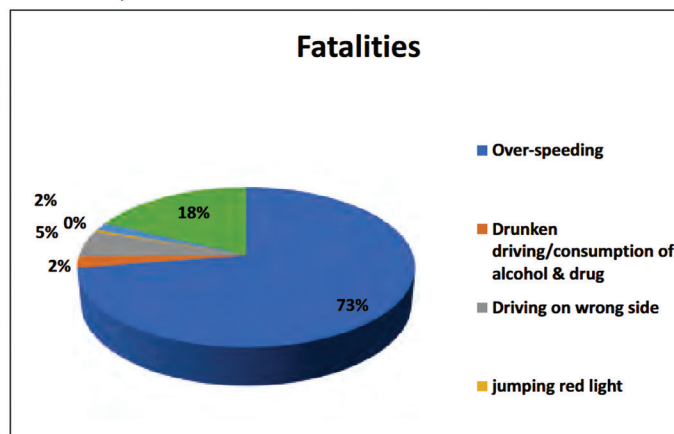
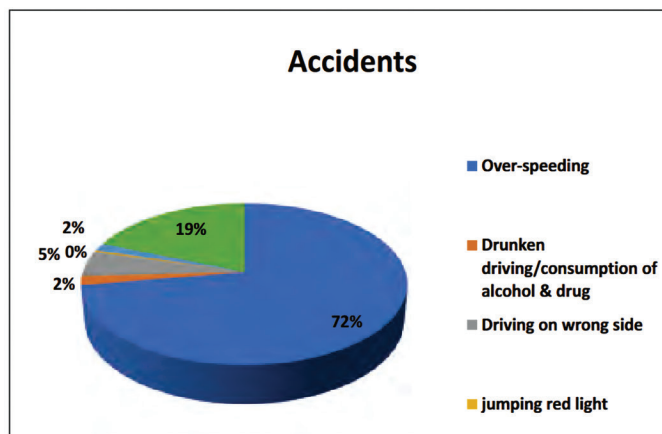
### Government Initiatives

- The Motor Vehicles (Amendment) Act, 2019 introduced **stricter penalties** for traffic violations.
- **iRAD and eDAR systems** were introduced for real-time accident reporting and analysis.
- The government launched measures such as **Good Samaritan rewards**, faster compensation, and simplified insurance procedures for accident victims.
- Bharat NCAP promotes **safer vehicle manufacturing** through safety ratings.
- **Black spot rectification**, road safety audits, and AI-based projects such as iRASTE aim to improve accident prevention.
- India is also a signatory to the **Brasilia Declaration** and is committed to reducing road deaths under **SDG Target 3.6**.

### Way Forward

- Strict enforcement of speed limits, helmet use, seat-belt rules, and drunk-driving laws is essential.
- Scientific road design, safer highways, and removal of accident-prone black spots should be prioritised.
- AI-based traffic management and digital enforcement systems should be expanded nationally.
- Better trauma care, ambulance services, and emergency response systems are necessary to reduce mortality.
- Long-term behavioural change through road safety awareness and responsible driving practices is equally important.

## Road Accidents and Fatalities on NH by Traffic Rule Violations







# CULTURE & HISTORY

## THE KOMAGATA MARU INCIDENT (1914)

Recently, a Punjabi singer compared his sold-out Canadian concert to the 1914 rejection of the Komagata Maru to show how much global attitudes toward Indians have changed.

### About

- In 1914, **Gurdit Singh Sandhu** chartered a Japanese steamship, the Komagata Maru (also called Guru Nanak Jahaz). It carried 376 passengers from Punjab, mostly Sikhs, with some Muslims and Hindus. These people were fleeing debt and famine to seek better lives in Canada.
- Although both India and Canada were under British rule, the ship was blocked in **Vancouver**.
  - ♦ Canada had a '**Continuous Journey Regulation (1908)**', which required immigrants to travel non-stop from their home country. Since such a trip from India was nearly impossible, it acted as a hidden ban fueled by anti-Asian sentiment following the **1907 Vancouver riots**.
  - ♦ Only 24 passengers were allowed to land. A local '**Shore Committee**' fought a legal battle, but the courts upheld the ban. Authorities denied those on board adequate food and water, eventually forcing the ship out under naval escort.
- **Budge Budge Tragedy:** Upon returning to India in September 1914, the ship was docked at Budge Budge near **Kolkata**.
  - ♦ British troops tried to force passengers onto a train to Punjab.
  - ♦ Resistance led to a riot where troops opened fire, killing 20 people. Gurdit Singh escaped but later served five years in prison after surrendering on Mahatma Gandhi's advice.
- **Historical Impact:**
  - ♦ The incident exposed the hypocrisy of the British Empire; while Indians were expected to fight for Britain in World War I, they were denied rights as British subjects.
  - ♦ This humiliation energized revolutionary groups like the **Ghadar Party**, shifting the focus from seeking reforms to demanding complete independence through armed struggle.
- In 2016, the Canadian Prime Minister offered a formal apology for the tragedy, marking it as a defining moment in Indo-Canadian history.

## TATYA TOPE

A rare handwritten and signed letter of Tatya Tope dating back to 1857 has been discovered in the archives of Madhya Pradesh.

### About

- **Early Life:** Born in 1814 in Nashik, Maharashtra, his original name was **Ramachandra Pandurang Tope**. His father was a high-ranking noble in the court of **Baji Rao II**, the last Maratha Peshwa. This connection led to a lifelong bond with **Nana Sahib** (*the adopted son of Baji Rao II*), which heavily influenced his future as a revolutionary.
- **The 1857 Revolt:**
  - ♦ Tatya Tope became one of the most brilliant military leaders of the Great Revolt.
  - ♦ He was a central figure in the resistance at **Kanpur** and **Gwalior** and formed a powerful partnership with **Rani Lakshmibai** to keep the rebellion alive against British pressure.
- **Military Genius:** He was famous for his mastery of guerrilla warfare, using incredible speed and surprise attacks to baffle the British army.
- After a long and difficult struggle, he was eventually captured by the British. Following a formal trial, he was executed in **Shivpuri** in **1859**.

## GIRMITIYA COMMUNITIES

Recently, the External Affairs Minister was on an official visit to Jamaica, Suriname, and Trinidad and Tobago. These nations maintain a unique and deep bond with India because they are home to the Girmitiya people.

### About

- This community consists of Indian laborers who moved to various British colonies during the mid-to-late 1800s. While they initially went there for work, many chose to stay and build lives in these new lands.
- The word "Girmitiya" comes from a local mispronunciation of the English word "**Agreement**." It refers to the specific labor contract they signed before migrating.
- These workers were sent to several colonies across the globe, including **Mauritius, Fiji, Trinidad and Tobago, and South Africa**.
- Most members of this community can trace their ancestry back to **Bihar and Eastern Uttar Pradesh**. Because of these roots, they share a rich heritage and often speak a dialect influenced by **Bhojpuri**.

## RABINDRANATH TAGORE

Prime Minister Modi recently paid tribute to Gurudev Rabindranath Tagore on Pochishe Boishakh (May 9, 2026), the traditional 25th day of the Bengali month marking his birth anniversary.

## About

- **Life and Honors:** Born on May 7, 1861, in Calcutta, Tagore was a polymath of the Bengal Renaissance. In 1913, he became the **first Asian and non-European** to win the **Nobel Prize in Literature** for *Gitanjali*. He was affectionately known as Gurudev, Kobiguru, and Biswokobi.
- **Literary and Musical Legacy:** Tagore reshaped literature through "Contextual Modernism."
  - ♦ Major works include novels like *Gora* and *Ghare-Baire*, and stories like *Chokher Bali* and *Kabuliwala*.
  - ♦ He is the only person to compose **two national anthems**: "Jana Gana Mana" (India) and "Amar Shonar Bangla" (Bangladesh).
  - ♦ His song "Banglar Mati Banglar Jol" is West Bengal's state anthem.
- **Nationalism and Activism:** Tagore supported the 1905 **Swadeshi movement** but criticized aggressive Western nationalism, favoring universal humanism.
  - ♦ He famously **renounced his British knighthood** after the 1919 Jallianwala Bagh Massacre.
  - ♦ In 1921, he founded **Visva-Bharati University** at Santiniketan to promote culturally rooted, holistic education.

## SOMNATH TEMPLE

The Somnath Swabhimana Parv commemorates two major milestones: 1,000 years since the first recorded attack by Mahmud of Ghazni (1026 CE) and the 75th anniversary of the temple's post-independence reopening in May 1951.

## About

- Located at **Prabhas Patan** on Gujarat's Saurashtra coast, Somnath is the first of the **twelve Aadi Jyotirlingas** (pillars of light).
- Ancient texts like the Rig Veda, Skanda Purana, and Bhagavat revere it as a meeting point for Shaivism, Vaishnavism, and Shaktism.
- Tradition says **Chandra Dev** (the Moon God) built the temple to worship Lord Shiva and break a curse; "Somnath" means "Lord of the Moon." The Arab traveler **Al-Biruni** also recorded its fame.
- **Architecture:** Rebuilt in the **Chaulukya style** (Kailash Mahameru Prasad), the sandstone structure features a **150-foot Shikhar** topped with a **10-tonne Kalash**.
  - ♦ The complex includes a **Garbhagriha**, **Sabha Mandap**, and **Nritya Mandap**. Notably, the **Baan Stambh** (Arrow Pillar) points directly toward the South Pole.
- **The Cycle of Destruction and Rebirth:** Between the 11<sup>th</sup> and 18<sup>th</sup> centuries, the temple was repeatedly destroyed by invaders, including the Portuguese. However, it was restored by:
  - ♦ **12<sup>th</sup> Century:** Kumarapala.
  - ♦ **13<sup>th</sup> Century:** The King of Junagarh.

- ♦ **18<sup>th</sup> Century:** Queen **Ahilyabai Holkar**, who consecrated a new temple nearby.
- **Post-Independence Restoration:** In 1947, **Sardar Vallabhbhai Patel** resolved to rebuild the ruins. The project was completed in 1951, and the **Pran Pratishtha** (consecration) was performed by India's first President, **Dr. Rajendra Prasad**, on May 11, 1951.
- **Modern Initiatives:** Today, the temple utilizes 3D laser technology for a **Light and Sound Show** (started 2003) and hosts the **Vande Somnath Kala Mahotsav** to revive ancient dance forms. In 2018, it was designated a "Swachh Iconic Place" for its sustainability efforts.

## Veer Hamirji Gohil

- He was a regional warrior and is remembered in tradition for sacrificing his life while defending the **Somnath Temple in 1299 A.D. during Zafar Khan's invasion**.
- He is remembered through local tradition and collective memory, rather than official historical records.
- His life reflects the idea of **rājadharma**, which means the duty to protect sacred places, society, and cultural heritage, even when victory is uncertain or support is limited.

## MAHARANA PRATAP

Prime Minister Modi recently paid tribute to the legendary warrior Maharana Pratap on his birth anniversary.

## About

- **Birth and Early Life:** Born on **May 9, 1540**, at **Kumbhalgarh Fort**, Rajasthan, he was the eldest son of **Maharana Udai Singh II** and Maharani Jaiwanta Bai of the **Sisodia Rajput** dynasty. He became the ruler of **Mewar** in 1572.
- **Resistance Against Mughals:** Pratap is revered for his unwavering patriotism, refusing to accept **Emperor Akbar's** authority to protect Mewar's independence.
- **Military History:**
  - ♦ **Battle of Haldighati (1576):** Fought against Mughal forces led by **Raja Man Singh I**. Despite being outnumbered, Pratap showed heroic resistance. His legendary horse, **Chetak**, famously saved his life during the battle. Though not a decisive victory for the Mughals, Pratap retreated to the hills to continue his struggle.
  - ♦ **Battle of Dewair (1582):** A major turning point where his forces decisively defeated the Mughal army, allowing him to regain most of his territory through **guerrilla warfare**.
- **Legacy:**
  - ♦ Known for a life of hardship in forests and mountains, he never compromised his self-respect.
  - ♦ British antiquarian Col. Tod titled him the '**Leonidas of Rajasthan**'. He passed away on **January 19, 1597**, from hunting injuries, remaining a national symbol of sacrifice and leadership.

## BAIGA TRIBE

Children belonging to the Baiga tribe rescued from bonded labour in Chhattisgarh.

### About

- The word 'Baiga' means '**sorcerer-medicine man**'. The Baigas reside primarily in **Madhya Pradesh**, with smaller groups in Chhattisgarh, Uttar Pradesh, and Jharkhand.
- They speak **Baigani**, a dialect influenced by Chhattisgarhi, Gondi, and Hindi.
- Traditionally semi-nomadic, they practiced "**Bewar**" (shifting cultivation) but now rely on forest produce and the **Mahua tree** for food and intoxicants.
- Their culture features common live-in relationships and a unique **tattooing** tradition using **Ramtilla seed kaja**.
  - ♦ If marriage occurs, the man compensates the woman's family for her lost labor.

### Particularly Vulnerable Tribal Groups (PVTGs)

- In 1973, the **Dhebar Commission** set up a separate category for **Primitive Tribal Groups (PTGs)**.
  - ♦ In 1975, the Union identified 52 tribal groups as PTGs.
  - ♦ In 1993, 23 more groups were added to the list. Later, in 2006, these groups were named PVTGs.
- PVTGs are a **more vulnerable group** among tribal groups in India.
  - ♦ These groups have primitive traits, geographical isolation, low literacy, a zero to negative population growth rate, and backwardness.
  - ♦ Moreover, they are largely dependent upon hunting for food and a pre-agriculture level of technology.
- Out of more than 700 tribal communities, there are **75 tribal communities identified as PVTGs** residing in 18 States and the Union Territory of Andaman and Nicobar Islands.
  - ♦ As per the Ministry of Tribal Affairs, the PVTG population is estimated to be **45.56 lakh**.
  - ♦ **Madhya Pradesh, Maharashtra, and Andhra Pradesh** are the top three in terms of PVTG population.

## SARDAR VALLABHAI PATEL

Recently, the Prime Minister paid tribute to Sardar Vallabhbhai Patel at Somnath Temple during the 75th anniversary celebrations of the temple's reconstruction.

### About

- Born on **October 31, 1875**, in Nadiad, he studied law in England to become a barrister before starting a successful practice in India.
- **Freedom Struggle:** Inspired by Mahatma Gandhi, he became a top leader in the independence movement.

- ♦ He famously led the **Kheda Satyagraha (1918)** and **Bardoli Satyagraha (1928)** against British taxes. His brilliant leadership in these movements earned him the title **Sardar**.
- ♦ He was a key figure in the **Quit India Movement (1942)**.
- **Post-Independence Role:** In 1947, he became India's first **Deputy Prime Minister and Home Minister**. His monumental achievement was the peaceful **integration of over 560 princely states** into the Indian Union. He also helped build the nation's administrative system and ensured national security.
- **Death and Legacy:** He passed away on **December 15, 1950**. Known as the "**Iron Man of India**," he is honored by the **Statue of Unity**, the world's tallest statue, and remains a symbol of national strength and dedication.

## BHOJSHALA COMPLEX

The Madhya Pradesh High Court declared the Bhojshala-Kamal Maula complex in Dhar as a temple of Goddess Vagdevi (Saraswati).

### About Bhojshala

- The complex was founded by **Raja Bhoja** of the **Paramara dynasty** around **1000–1055 AD**. It was an important **centre of Sanskrit learning** dedicated to **Goddess Saraswati**.
- Later, during Muslim rule, it was converted into the **Kamal Maula Mosque**. The structure still preserves **carved pillars, ceilings, and inscriptions** from the original temple.

### Historical Significance

- The site contains **Sarpabandha inscriptions**, which explain the **Sanskrit alphabet, grammar, tenses, and moods**.
- It has **hymns to Vishnu**, praises of **Paramara kings**, and parts of the Sanskrit drama **Karpuramanjari**.
- It also preserves **Prakrit odes** dedicated to **Kurma Avatar**.
- The idol of **Goddess Saraswati (Vagdevi)** found here is now kept in the **British Museum, London**.
- The **Imperial Gazetteer (1908)** records that the mosque was built using remains of an older Hindu temple.

### High Court Judgment

- The Court quashed the **ASI's 2003 order** that allowed shared worship. It held that the **Places of Worship (Special Provisions) Act, 1991** does not apply to the site.
- This is because **Section 4(3)** of the Act exempts monuments protected under the **Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958**.
- The Court rejected the **1935 Ailan**, as the related law came into force only in **1937**. It clarified that this case was a **writ petition under Article 226**, unlike the **Babri Masjid title suit**.
- The **Archaeological Survey of India (ASI)** was given full control for preservation, management, and regulation of worship.
- The State was directed to consider **alternative land for a mosque** in Dhar.

## VEERA PASI

A statue of Veera Pasi, remembered as a "forgotten hero" of the Revolt of 1857, was recently unveiled in Raebareli, Uttar Pradesh.

### About

- **Veera Pasi** (born **Shivdeen Pasi**) was a **Dalit freedom fighter** from the **Pasi community**. He was born on **11 November 1835** in **Lodhwari village**, Raebareli.
- He lost his parents at an early age and later lived with his sister's family.
- In local dialect, a man living with his sister's family was called "**Veerna**", which later became **Veera**.
- He became a trusted commander and loyal associate of **Rana Beni Madhav Baksh Singh**, ruler of the **Shankarpur Estate** in **Awadh**.

### Role in the Revolt of 1857

- Veera Pasi actively fought against British rule in the **Awadh region**. According to local folklore, he rescued **Rana Beni Madhav** after the British captured him.
- His resistance was so strong that the British announced a reward of **₹50,000** for information on him.
- Oral traditions suggest he later died while protecting **Rana Beni Madhav**.
- His contribution received little place in mainstream history. His legacy survived mainly through **folk songs, oral traditions, and community memory**.

## PADMA AWARDS

The President of India conferred Padma Awards 2026 to 66 personalities at the first Civil Investiture Ceremony held at Rashtrapati Bhavan. For 2026, a total of 131 Padma Awards were approved: 5 Padma Vibhushan, 13 Padma Bhushan, and 113 Padma Shri.

### About

- Instituted in **1954**, these are among India's highest civilian honours.
- They were restructured in **1955** into three categories:
  - ♦ **Padma Vibhushan** – for **exceptional and distinguished service** (second-highest civilian award after Bharat Ratna).
  - ♦ **Padma Bhushan** – for **distinguished service of high order**.
  - ♦ **Padma Shri** – for **distinguished service in any field**.
- They are given annually in fields like **art, social work, public affairs, science, medicine, literature, sports, trade, civil services**.
- Awards are announced every year on the **eve of Republic Day** and formally conferred by the President.

### Eligibility and Rules

- Open to **all persons**, including **foreigners, NRIs, and OCIs**, irrespective of race, occupation, or gender.

- Can be awarded **posthumously**.
- **Government servants** (except doctors and scientists) are not eligible while in service.
- Awardees cannot use Padma titles as a **prefix or suffix** to their names.

### Selection Process

- Recommendations come from **State Governments, Central Ministries, previous awardees, and the public**.
- The **Padma Awards Committee** is constituted annually by the **Prime Minister**.
- It selects awardees based on **lifetime achievement, public service, and excellence**.
- Final approval is given by the **Prime Minister** and the **President of India**.

### Constitutional and Judicial Aspect

- Under **Article 18(1)**, titles are abolished, but **Padma Awards are not treated as titles**.
- In **Balaji Raghavan v. Union of India (1996)**, the Supreme Court upheld their constitutional validity.

## ALGOZA

Taga Ram Bheel of Jaisalmer, Rajasthan was awarded the Padma Shri 2026 for preserving and promoting traditional Thar Desert folk music through the Algoza.

### About Algoza

- **Algoza** is a traditional **folk wind instrument** associated with **Rajasthan, Punjab, Sindh, and western parts of India and Pakistan**.
- It is considered one of the **oldest surviving folk wind instruments** in India.
- The name means "**two flutes**", as it consists of **two wooden pipes** played together.

### How It Is Played

- One pipe produces the **melody**.
- The other pipe creates a **continuous drone or rhythmic base**.
- Together, they produce a **layered and hypnotic sound**, unique to desert music.
- It is played using **circular breathing**, a difficult technique that allows uninterrupted airflow.
- Quick recapturing of breath on each beat creates its **swing-like rhythm**.

### Cultural Importance

- It is often called the **soul of Thar Desert music**.
- Traditionally played in **festivals, weddings, storytelling, and devotional gatherings**.



## PAI 2.0 REPORT

On April 24, 2026, the Ministry of Panchayati Raj released the Panchayat Advancement Index (PAI) 2.0 Report (FY 2023–24) to track rural progress toward the 2030 sustainability targets.

### About PAI 2.0

- ➔ PAI 2.0 is the world's first nationwide, data-driven framework assessing over 2.5 lakh Gram Panchayats. It translates global Sustainable Development Goals into nine localized themes, including **health, water, and women's empowerment**.
  - ♦ **Assessment Framework:** The system uses 150 indicators and 230 data points linked to the National Indicator Framework. Data is auto-ported from ministry portals and requires Gram Sabha validation to ensure accuracy.
  - ♦ **Performance Grading:** Panchayats are scored from 0–100 and tiered into five grades: **Achiever (A+: ≥90)**, **Front Runner (A: 75–89)**, **Performer (B: 60–74)**, **Aspirant (C: 40–59)**, and **Beginner (D: <40)**.
- ➔ **Key Highlights:**
  - ♦ 97.3% participation was recorded across 33 States/UTs.
  - ♦ 3,635 Panchayats reached the **"Front Runner"** stage, but none reached the **"Achiever"** category.
  - ♦ Tripura leads nationally, followed by Kerala and Odisha.
  - ♦ Strongest themes were Poverty Free Livelihoods and Healthy Panchayats.
- ➔ **Impact:** The index identifies **"Panchayat Learning Centers"** for peer replication and directly guides resource allocation and Gram Panchayat Development Plans (GPDs).

#### Thematic Framework

PAI assesses Gram Panchayat/Equivalent to GP performance across the following nine LSDG themes:

| Theme 1                                            | Theme 2           | Theme 3                  | Theme 4                    | Theme 5                   | Theme 6                                       | Theme 7                                      | Theme 8                        | Theme 9                  |
|----------------------------------------------------|-------------------|--------------------------|----------------------------|---------------------------|-----------------------------------------------|----------------------------------------------|--------------------------------|--------------------------|
| Poverty Free and Enhanced Livelihoods in Panchayat | Healthy Panchayat | Child-Friendly Panchayat | Water Sufficient Panchayat | Clean and Green Panchayat | Panchayat with Self-Sufficient Infrastructure | Socially Just and Socially Secured Panchayat | Panchayat with Good Governance | Women Friendly Panchayat |

## PULITZER PRIZE 2026

Indian journalists Anand RK and Suparna Sharma, along with Natalie Obiko Pearson, won the 2026 Pulitzer Prize for Illustrated Reporting and Commentary. Their Bloomberg project, 'trAPPed', was praised as a "riveting account" that uses visual storytelling to expose "digital arrest" and cyber fraud in India.

### The Project

- ➔ **'trAPPed'** investigates the story of an Indian neurologist targeted by cybercriminals using phone-based surveillance and intimidation.

- ➔ It highlights the global rise of technology-driven crimes, online scams, and the power of graphic narratives to simplify complex social issues.

### The Prize

- ➔ Established in **1917** in honor of **Joseph Pulitzer**, the awards are managed by **Columbia University**.
  - ♦ They recognize excellence in 23 categories across **journalism, literature, and music**.
  - ♦ While 22 categories receive a certificate and \$15,000, only the Public Service winner receives a gold medal.
- ➔ **Previous Indian Winners:**
  - ♦ **Gobind Behari Lal (1937):** First Indian winner (Journalism); member of the Ghadar Party.
  - ♦ **Siddhartha Mukherjee:** Won for General Non-Fiction (The Emperor of All Maladies).
  - ♦ **Danish Siddiqui:** Two-time winner for photography (2018 Rohingya crisis and 2020 COVID-19 coverage).

## WORLD MIGRATION REPORT 2026

The International Organization for Migration (IOM) released its 13th biannual report (May 5, 2026), highlighting that India's migration corridors to the UAE and U.S. are now among the top 10 globally.

### Global Trends

- ➔ By mid-2024, international migrants reached 304 million (3.7% of the global population).
- ➔ While the Mexico–U.S. route remains the largest (11 million), India features twice in the top 10.
- ➔ **India–UAE (5th):** Over 3 million Indians live here, forming the largest migrant group in a country where 74% of the population are migrants.
  - ♦ It is dominated by sectors like construction and services.
- ➔ **India–U.S. (6th):** Home to 3.2 million Indian migrants, making them the second-largest foreign-born group in the U.S.
  - ♦ This corridor is driven by IT professionals, students, and healthcare researchers.

### Economic Impact

- ➔ Global remittances are expected to hit \$905 billion in 2024, with India remaining the top recipient (\$137.7 billion).
- ➔ These funds now exceed combined foreign investment and development aid, drastically improving healthcare and education for recipient families.

## Challenges & Displacement

- The report warns of the "**weaponization of migration**" in politics and narrowing legal pathways. By late 2024, over 120 Mn people were forcibly displaced (*83.4 Mn inside countries*) due to conflicts in places like Sudan, Gaza, and Ukraine.

## NATIONAL FLORENCE NIGHTINGALE AWARDS 2026

President Droupadi Murmu presented the 2026 National Florence Nightingale Awards at Rashtrapati Bhavan.

### The Award

- This is India's highest national honor for nursing professionals, recognizing their exceptional compassion and dedication.
- Established in **1973** by the Ministry of Health and Family Welfare, these awards are presented annually on **May 12**, marking Florence Nightingale's birth anniversary.
- A total of **15 awards** are given across three categories:
  - ♦ Registered Nurses and Midwives,
  - ♦ Auxiliary Nurses & Midwives (ANM), and
  - ♦ Lady Health Visitors.
- Winners from government, private, or voluntary sectors receive a **Certificate of Merit, a medal, and a cash prize.**

### Florence Nightingale (1820–1910)

- Known as the "**Lady with the Lamp**," she was a British reformer and the founder of modern nursing.
- **Contributions:**
  - ♦ **Crimean War:** She drastically cut death rates by improving hygiene and sanitation.
  - ♦ **Innovation:** A pioneer in statistics, she created the **Coxcomb diagram** to visualize data on preventable deaths.
  - ♦ **Legacy:** She opened the world's first secular nursing school in London (1860) and wrote *Notes on Nursing*, which remains a global foundation for the profession.

## INTERNATIONAL BOOKER PRIZE 2026

Taiwan Travelogue won the International Booker Prize 2026. It became the first novel translated from Mandarin Chinese to receive this award.

### About the Winning Book

- The novel is written by **Yang Shuang-zi**.
- It is translated into English by **Lin King**.
- The book explores **forbidden love, identity, and food culture.**

### About the International Booker Prize

- It is awarded every year for a work of **fiction** originally written in a language other than English.
- It can be a **novel** or a **collection of short stories.**
- The work must be translated into English and published in the **U.K. and/or Ireland.**

- The prize was started in **2005** as the **Man Booker International Prize**. At first, it was a **biennial award** for an author's lifetime body of work.
- In **2016**, it was changed into an **annual award** for a single translated work.
- The award carries **£50,000**. The prize money is divided equally between the **author** and the **translator**. It recognises the important contribution of translators.

### Previous Winner

- In **2025**, **Heart Lamp** by **Banu Mushtaq**, translated by **Deepa Bhashti**, won the award.
- It became the **first book translated from Kannada** to receive this honour.

### Do You Know?

The **Booker Prize** is a separate award for the best novel written in **English**. Past Indian Booker Prize winners include **Arundhati Roy**, **Kiran Desai**, and **Aravind Adiga**.

## GENDER ADVOCATE OF THE YEAR AWARD

Major Abhilasha Barak of the Indian Army received the United Nations Military Gender Advocate of the Year Award 2025.

### About the Awardee

- She is serving with the Indian Battalion in the United Nations Interim Force in Lebanon (UNIFIL).
- She is also the Indian Army's first woman combat helicopter pilot.

### About the Award

- The award was instituted in **2016** by the **Office of Military Affairs** under the **UN Department of Peace Operations**.
- It recognises a military peacekeeper for exceptional commitment to **gender equality**.
- It also honours efforts to implement **UN Security Council Resolution 1325 on Women, Peace and Security**.

### India's Achievement

- Major Abhilasha Barak is the **third Indian peacekeeper** to receive this honour.
- **Earlier recipients were:**
  - ♦ Major Suman Gawani (2019)
  - ♦ Major Radhika Sen (2023)

### India and UN Peacekeeping

- Since the **1950s**, India has deployed over **290,000 peacekeepers** in more than **50 missions** across the world.
- This makes India the **largest contributor** to UN peacekeeping efforts.
- In **1988**, the **Nobel Peace Prize** was awarded to the **UN Peacekeeping Forces**.

## CHANGING WEATHER PATTERNS

India is witnessing increasing weather extremes such as unseasonal rainfall, heatwaves, and humidity due to climate phenomena like Western Disturbances, El Niño, and La Niña.

### What are Heat Waves?

- A heat wave is a period of **unusually high temperatures** departing from the normal, and varies from region to region depending on the historical temperatures observed in the region.
- The basic criteria for IMD to declare a heatwave are when a place's temperature exceeds **40°C** in the plains, **37°C** in coastal areas, and **30°C** in the hills.

### Feels Like Temperature, Heat Index and Wind Chill Index

- **'Feels like' temperature** or apparent temperature accounts for wind and humidity conditions to determine what the outdoor air temperature will feel like in relation to your body temperature.
- **Heat index**, a type of apparent temperature, measures how hot a human body feels when combining relative humidity with the actual temperature.
- **Wind chill index**, another type of apparent temperature which combines temperature and wind speed.
  - ♦ It measures how cold it actually 'feels' on exposed skin as wind takes away the thin layer of warm air your body naturally produces to insulate itself.

### Wet Bulb Temperature and Dry Bulb Temperature

- **Wet Bulb Temperature** measures the lowest temperature achievable through evaporation. It reflects the combined effect of heat and humidity.
  - ♦ **Importance:** Human bodies cool through sweating and evaporation. High humidity reduces evaporation efficiency, making it difficult for the body to cool itself.
- **Dry Bulb Temperature** refers to the actual air temperature measured using a standard thermometer. It does not account for atmospheric moisture.

### What is a Western Disturbance?

- It is an **extra-tropical weather system** that originates outside India and moves from west to east, bringing rain, snowfall, and storms to northern parts of the Indian subcontinent, especially during winter and early spring.
- **Origin and Formation:**
  - ♦ Originate over the **Mediterranean region, Black Sea, or Caspian Sea**, and form when **cold polar air interacts with warmer, moist air**, creating **low-pressure systems**.
  - ♦ These systems are **carried eastward by westerly winds** in the upper atmosphere, particularly the subtropical westerly jet stream.
- **Regions Affected in India:** Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Rajasthan and Western Uttar Pradesh.

### Significance of Western Disturbances:

- ♦ About 30% of annual **precipitation over the North West Indian region** (J&K, Ladakh, Himachal Pradesh & Uttarakhand) is received during winter.
- ♦ It **influences Himalayan climate, glaciers**, snow-water storage, flora, fauna, agricultural crops and human inhabitants etc.
- ♦ Vital for rabi crops, especially **wheat, Mustard, Barley**. Adequate rainfall **improves soil moisture, crop yield, and food security**.

### What is ENSO (El Niño–Southern Oscillation)?

- ENSO is a **periodic fluctuation** in sea surface temperatures and atmospheric pressure in the equatorial Pacific Ocean. It has **two opposite phases: El Niño and La Niña**.
- ENSO **influences** Indian Monsoon, cyclone patterns, droughts and floods and global temperature variability.

### What is El Nino?

- El Niño is the **warming of seawater** in the central-east Equatorial Pacific that occurs every few years.
- During El Niño, surface temperatures in the **equatorial Pacific rise**, and trade winds, east-west winds that blow near the Equator, weaken.

### What is La Nina?

- La Niña is the opposite of El Niño. La Niña witnesses **cooler than average sea surface temperature (SST)** in the equatorial Pacific region.
- Trade winds are stronger than usual, pushing warmer water towards Asia.
- **Impact:** This leads to **drier conditions in the Southern U.S.**, and heavy rainfall in Canada. It has also been associated with heavy floods in Australia.

### How does it affect the Indian Monsoon?

- In **El Niño years**, India faces **warmer temperatures and less rainfall**, causing droughts in some regions.
  - ♦ This affects agriculture, water resources, and ecosystems.
  - ♦ The El Nino phenomenon led to **1.4% decrease** in food grain production for the 2023-24 (July-June) crop year.
- **La Niña** brings cooler sea surface temperatures, leading to increased rainfall in certain parts of India.

### Way Forward

- India needs to strengthen **climate forecasting and early warning systems**.
- **Climate-resilient agriculture and water conservation** measures should be promoted. **Urban planning** should include green infrastructure and heat mitigation strategies.
- **Public awareness** regarding heat stress and disaster preparedness must be enhanced.

# DATA RECAP

- India has consolidated 29 central labour laws into four Labour Codes for simplifying labour governance.
- India's Total Fertility Rate has declined to 2.0, indicating a near replacement-level fertility.
- India's Maternal Mortality Ratio declined to 88 per one lakh live births during 2021–23.
- The Forest Rights Act, 2006 grants title rights up to four hectares per household to eligible forest dwellers.
- The Forest Rights Act, 2006 overrides the provisions of the Indian Forest Act, 1927.
- Article 46 of the Constitution directs the State to protect the educational and economic interests of Scheduled Tribes.
- The Supreme Court ordered eviction of nearly 1.8 million rejected claimants under the Forest Rights Act in 2019, but later stayed the order.
- India achieved 94 percent targeting accuracy during Operation Sindoor using Artificial Intelligence-enabled systems.
- India declared 2026 as the Year of Networking and Data Centricity for defence modernization.
- The Defence Artificial Intelligence Council and Defence Artificial Intelligence Project Agency are India's institutional mechanisms for defence Artificial Intelligence.
- India generated 6.19 million metric tonnes of electronic waste in 2024, making it the world's third-largest generator.
- India's electronic waste is projected to rise to 14 million metric tonnes by 2030.
- India is a party to the Basel Convention of 1989 on hazardous waste.
- Around 90 to 95 percent of electronic waste in India is processed by the informal sector.
- The Visible Emission Line Coronagraph onboard Aditya-L1 studies the solar corona and coronal mass ejections.
- The Solar Ultra-violet Imaging Telescope onboard Aditya-L1 studies the solar photosphere and chromosphere.
- Mission MITRA stands for Mapping of Interoperable Traits and Response Assessment and was launched in Leh, Ladakh.
- The National Crime Records Bureau was established in 1986 under the Ministry of Home Affairs.
- The Indian Computer Emergency Response Team functions under the Ministry of Electronics and Information Technology as India's nodal cyber emergency response agency.
- The National Critical Information Infrastructure Protection Centre is the nodal agency for protection of critical cyber infrastructure.
- Section 21(3) of the Representation of the People Act, 1950 empowers the Election Commission to conduct a Special Intensive Revision of electoral rolls.
- Section 16 of the Representation of the People Act, 1950 disqualifies non-citizens from being enrolled as voters.
- The Overseas Citizen of India scheme was introduced through the Citizenship (Amendment) Act, 2005.
- The Overseas Citizen of India and Person of Indian Origin schemes were merged in 2015.
- The Fugitive Economic Offenders Act, 2018 applies to economic offences involving at least 100 crore.
- India remained the world's largest remittance recipient in 2024, receiving 137.7 billion United States dollars.
- The World Migration Report is published by the International Organization for Migration.
- The Somnath Temple is regarded as the first among the twelve Aadi Jyotirlingas.
- The Baan Stambh at Somnath Temple points directly toward the South Pole without any landmass in between.
- Rabindranath Tagore became the first Asian Nobel laureate in Literature in 1913.
- The Padma Awards are not considered titles prohibited under Article 18(1) of the Constitution.
- In *Balaji Raghavan v Union of India* (1996), the Supreme Court upheld the constitutional validity of Padma Awards.
- The Algoza is a traditional double-flute musical instrument played using circular breathing.
- The National Education Policy, 2020 replaced the National Policy on Education, 1986 after 34 years.
- The National Education Policy, 2020 introduced the 5+3+3+4 curricular structure in place of the old 10+2 structure.
- The Academic Bank of Credits enables multiple entry and exit options in higher education.
- Multidisciplinary Education and Research Universities are proposed as model institutions under the National Education Policy, 2020.
- The Panchayat Advancement Index 2.0 assesses more than 2.5 lakh Gram Panchayats.
- The Panchayat Advancement Index 2.0 uses 150 indicators and 230 data points for rural governance assessment.
- The Haymarket Affair of 1886 in Chicago became the basis for International Labour Day.
- Institutional deliveries in India increased to 90.6 percent, reflecting improvements in maternal healthcare.
- Female sterilisation accounts for 37.9 percent of family planning methods in India.
- Women constitute 13.65 percent of Members of Parliament in India, reflecting gender representation in Parliament.
- India's formal electronic waste recycling rate is only 10 percent, much lower than the global average.



# TEST YOURSELF

## Objective Questions

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## SUBJECTIVE QUESTIONS

1. Paper leaks in examinations undermine not only meritocracy but also public trust in educational institutions and the credibility of governance mechanisms. Critically examine.
2. India's labour market remains characterised by high informalisation, weak social security and jobless growth despite sustained economic expansion. Examine.
3. India's demographic transition presents a complex interaction of gender justice, human capital and economic transformation. Discuss.
4. Unpaid care work remains one of the most significant structural barriers to women's economic empowerment in India. Examine.
5. Artificial Intelligence is transforming warfare from manpower-centric combat to data-centric intelligent warfare. Discuss.
6. Strategic autonomy in defence increasingly depends on technological sovereignty. Analyse in the context of India's indigenous AI ecosystem.
7. Tensions between conservation priorities and tribal rights continue to define India's forest governance architecture. Analyse.
8. E-waste has emerged not merely as an environmental challenge but as an issue of strategic resource security and circular economy governance. Discuss.
9. India's Extended Producer Responsibility (EPR) framework suffers from structural and institutional weaknesses. Critically evaluate.
10. The Indian Ocean has emerged as the most strategically contested geoeconomic space in the contemporary global order. Examine.
11. India's water crisis is increasingly becoming a structural crisis driven by over-extraction, cropping distortions and climate stress. Discuss.
12. Reservoir depletion in India reflects deeper weaknesses in water governance and resource management. Examine.
13. Increasing the sanctioned strength of the Supreme Court alone may not resolve India's deeper judicial pendency crisis. Critically examine.
14. India-South Korea relations are increasingly being shaped by technology cooperation, strategic convergence and supply chain resilience. Examine.
15. Large-scale demographic changes caused by migration can have implications for national security, resource distribution and social stability. Discuss.
16. Balancing national security concerns with constitutional protections remains the central challenge in migration governance in India. Analyse.
17. India's declining fertility and improving health indicators signal demographic stabilisation, but regional and structural inequalities remain. Discuss.
18. The debate on Uniform Civil Code represents a constitutional balancing act between legal uniformity and religious freedom. Critically examine.
19. Climate change has intensified the operational and safety challenges of dam governance in India. Discuss.
20. National Education Policy 2020 seeks transformational reforms in India's education system, but implementation gaps remain significant. Examine.