

CIVIL SERVICES EXAMINATION focus

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CURRENT AFFAIRS ANALYSIS

logical . simple . targeted
analysis & explanation
of relevant news

ETHICS, INTEGRITY & APTITUDE

Coverage from
varied
sources

ESSAYS OF THE MONTH

Selected essays
from Rau's
GSI students

**JULY
2025**



**RAU'S IAS
STUDY CIRCLE**

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focus

CRITICAL NOTES FOR THE PREPARATION OF GENERAL STUDIES PAPERS

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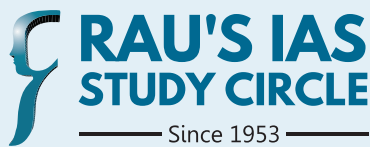
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The purpose of Focus is to expound the applied nature of General Studies to Civil Services aspirants thereby making them aware of the real demand of UPSC exam.

The sources relied for selection and analysis of issues are:

1. The Hindu, The Hindu (Sun.)
2. The Indian Express
3. The Times of India
4. Asian Age
5. The Tribune
6. The Economic Times
7. Hindu Business Line
8. Frontline
9. Economic and Political Weekly
10. IDSA
11. BBC
12. Yojana
13. Kurukshetra
14. Down to Earth



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Dear Students,

FOCUS is the Study Circle's monthly publication of contemporary issues and current affairs analysis. It is in fact a collective effort, by experienced educators in varied themes, of identifying current affairs in light of the UPSC syllabus, supplementing them with background information, explaining their related dimensions, lending them a generalist viewpoint and thus producing critical notes for the preparation of General Studies' syllabus.

The publication, as the name suggests, focuses solely on issues which are relevant to the **factual** as well as **applied** aspects of the General Studies' syllabus. That is how Focus covers all anticipated issues and themes for the upcoming Civil Services Examination (CSE).

Features

PART ONE | CURRENT AFFAIRS ANALYSIS

- This month's edition covers analysis of news from the immediately preceding month.
- All news/issues are categorized and clubbed syllabus-wise (International Relations, Polity & Governance, Science & Technology, Ethics, Integrity & Aptitude and so on) for efficient study.
- Background information has been added to provide context.
- Related and Additional information-dimensions have been explained to add depth to your understanding.
- Maps and figures have been provided for associative and retentive learning.
- Practice Questions

PART TWO | ETHICS, INTEGRITY & APTITUDE

- Coverage from varied sources

PART THREE | ESSAYS FOR YOU

- Selected essays from Rau's GSI students

For further understanding or discussion in any topic, please consult your respective professors.

Good Luck!
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PART ONE

CURRENT AFFAIRS

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ECONOMIC DEVELOPMENT

GS PAPER (PRELIMS) & GS PAPER III (MAIN)

INDIA'S GOLDILOCKS MOMENT

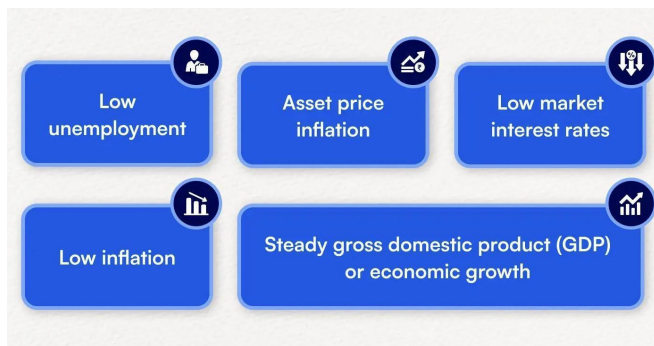
#GROWTH AND DEVELOPMENT

PRIMARY SOURCE THE HINDU BUSINESS LINE

The Ministry of Finance in India, in its June 2025 Monthly Economic Review (MER), described the Indian economy as being in a "Goldilocks Moment".

GOLDILOCKS MOMENT IN ECONOMY

- Goldilocks scenario for an economy refers to a point where it is running just perfectly - neither too hot (high inflation) nor too cold (faltering GDP growth).
- A steady economic growth, accompanied by low inflation and a market-friendly monetary policy, creates a 'goldilocks' moment for an economy.



FACTORS RESPONSIBLE FOR INDIA'S GOLDILOCKS MOMENT

- **Accommodative Monetary Policy:**
 - RBI's Monetary Policy Committee (MPC) has **reduced the policy repo rate** by 100 basis points to **5.50%**, over the last three meetings. Lower interest rates encourage borrowing, investment, and consumption.
 - **RBI has cut the Cash Reserve Ratio (CRR)** by 100 bps to 3% in a phased manner to inject Rs 2.5 lakh crore liquidity into the banking system.
- **Inflation under Control:** Retail inflation based on the Consumer Price Index (CPI) has dipped to a 75-month

low of 2.82% in May 2025. This is well below the RBI's medium-term target of 4%. Inflation control boosts consumer purchasing power and reduces input cost pressures on industry.

- **Strong growth momentum:** India's GDP grew 6.5% in 2024-25, making India the fastest growing major economy. Robust growth momentum is reflected by economic indicators like- rise in indirect taxes and GST collections; rise in E-way bill generation; surge in air passenger traffic and fuel consumption etc.

CHALLENGES

- Signs of slowdown in areas like construction inputs, real estate and automobiles sales.
- Rising household debt-to-GDP ratio (~42%) and falling household savings (~18% GDP in FY24) could curb medium-term consumption.
- Brief Israel-Iran tensions led to a spike in crude oil prices, posing risks to India's current account and fiscal deficit. Though prices have eased after a ceasefire, shipping insurance and supply route risks remain high.
- Global growth continues to face headwinds with persistent trade frictions, heightened policy uncertainty and geopolitical conflicts.

The government aims to boost the economy through agriculture reforms, manufacturing and tech missions and deregulation to increase productivity. India can leverage geopolitical shifts to attract investment and manufacturing.

INDIA BECOMES THE WORLD'S FOURTH LARGEST ECONOMY

#GROWTH AND DEVELOPMENT

PRIMARY SOURCE The Indian EXPRESS

NITI Aayog CEO B.V.R. Subrahmanyam recently claimed that India has overtaken Japan to become the **world's fourth-**

largest economy, sparking debate as others questioned the accuracy of this data.

INDIA'S RISE IN THE NOMINAL GDP- IMF DATA

As per the new estimates of the Gross Domestic Product (GDP) of various countries for 2024 by the International Monetary Fund (IMF):

- **India's GDP in 2025** is likely to be **\$4.18 trillion**, marginally higher than the GDP of Japan.
- This makes India the fourth largest economy of the world in 2025 after the U.S., China and Germany. It is estimated that India could grow to be the third largest economy of the world in 2028.

India's actual position in the global economic order can be understood by distinguishing between **Nominal GDP** and **Purchasing Power Parity (PPP)**.

NOMINAL GDP

- Nominal GDP is the total value of goods and services produced in a country, measured at current market prices in US dollars. It does not adjust for inflation or differences in cost of living in different countries.

Nominal GDP is not always the right metric because of:

- **Exchange Rate Distortions:** Recent claims that India has overtaken Japan are based on nominal GDP data, which is **vulnerable to short-term currency movements**. Changes in exchange rates can artificially inflate or deflate a country's GDP without any real change in economic output. E.g., a weaker rupee can make India's GDP appear smaller in dollar terms even if domestic production increases. This makes it an unreliable metric for comparing economies across countries.
- **Ignores differences in Cost of Living:** Nominal GDP does not reflect how much people can actually buy with their incomes. E.g., \$1 buys a lot more in India than in the U.S. or Japan due to lower costs of goods and services.
- **Overlooks Per capita disparities:** A higher nominal GDP does not mean higher income per person. E.g., In 2025, India ranks 4th and the UK ranks 6th in nominal GDP. Yet, India's per capita income is just \$2,879, while the UK's is \$54,949.

Nominal GDP comparisons are not as meaningful because they miss out on the purchasing power aspect. It is for this reason that the **IMF also calculates GDP based on Purchasing Power Parity**.

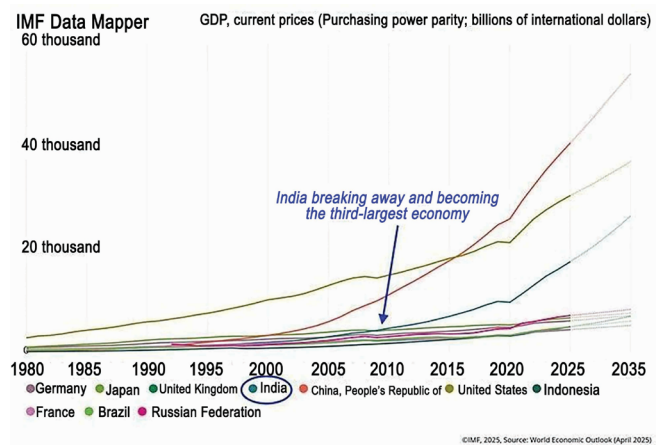
PURCHASING POWER PARITY (PPP)

- GDP at PPP compares the relative value of currencies by measuring what the same amount of money can buy in different countries. E.g., A person working in Delhi may earn less than a friend working in Paris, but the Delhi resident can afford many services- like cooking, cleaning, or dental care- at much cheaper rates.

PPP offers more accurate picture of economy as:

- Unlike nominal GDP, PPP is not affected by changes in exchange rates, giving a more stable and fair comparison over time.
- PPP adjusts for differences in cost of living and inflation between countries, providing a more accurate picture of real purchasing power.
- PPP better reflects the true economic well-being of people, as it compares income based on local prices, not just dollar values.

IMF data shows that **India became the third-largest economy by PPP as early as 2009**, overtaking Japan.



CHALLENGES

- In GDP in PPP terms, even though India has improved over the years, its rank or relative position has not changed.
- In terms of per capita GDP based on PPP, India languishes far below the world average. In terms of market exchange rates, **India's rank in per capita GDP in 2024 was 144th among 196 countries**. Even in terms of PPP international dollars, India's rank in per capita GDP in 2024 was 127th among 196 countries.

A much better way to assess India's relative development may be to compare the set of indicators beyond GDP (like HDI Index, State of Multidimensional Poverty, Hunger

Index, Gender Inequality Index etc.) to get a meaningful measure of economic performance and social progress.

SCHEME TO PROMOTE MANUFACTURING OF ELECTRIC PASSENGER CARS IN INDIA

#MANUFACTURING #GOVERNMENT POLICIES

PRIMARY SOURCE THE HINDU

The Ministry of Heavy Industries (MHI) has notified the **Scheme to Promote Manufacturing of Electric Passenger Cars in India (SPMEPCI)** to boost EV adoption and manufacturing.

SCHEME TO PROMOTE MANUFACTURING OF ELECTRIC PASSENGER CARS IN INDIA

The scheme aims to:

- Boost domestic EV manufacturing by significantly reducing import duties for foreign manufacturers that commit to investing in local production.
- Attract global investments in electric vehicles (EV) and position India as a global automotive manufacturing hub.

KEY FEATURES OF SPMEPCI

- Approved companies will be allowed to **import up to 8,000 Completely Built Units (CBUs)** of electric four-wheelers (e-4W) annually at a reduced customs duty of 15% (subject to a minimum CIF value of USD 35,000 per unit) for a period of five years.
- To qualify for these benefits:
 - Applicants must commit to a **minimum investment of Rs 4,150 crore** within 3 years of receiving approval. They must establish manufacturing facilities and commence production within this period.
 - They must achieve **minimum domestic value addition (DVA)** of 25% within 3 years, and minimum DVA of 50% within 5 years from the date of issuance of approval letter.
 - They should have **global revenues** of ₹10,000 crore at the time of application to qualify and receive benefits.

- **Total duty** foregone will be limited to either Rs 6,484 crore or the actual investment made by the applicant, whichever is lower.

Foreign companies can invest in existing EV manufacturing setups in India (brownfield investments), instead of only setting up entirely new factories earlier (greenfield investments).

SIGNIFICANCE OF SPMEPCI GUIDELINES

- Attracts global EV companies to set up factories in India strengthening Make in India.
- Makes EVs more affordable to Indian consumers through reduced import duties.
- Promotes Investment & Technology Transfer: Ensures large-scale investments, local job creation, and introduction of advanced EV technologies.

ADDRESSING POLICY GAPS IN INDIA'S EV JOURNEY

#MANUFACTURING #GOVERNMENT POLICIES

PRIMARY SOURCE THE HINDU

India began its EV journey in 2015 about five years later than most large economies, and has made significant progress. However, few gaps exist in India's EV Policy framework.

EV POLICY IN INDIA: KEY SCHEMES

FAME Scheme:

- India began its EV journey in 2015 with the launch of Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME) scheme.
- It aims to promote the adoption of EVs and their components, reduce vehicular emissions, and foster domestic manufacturing capabilities.
- It has been implemented in two phases, **FAME-I** (2015-2019) and **FAME-II** (2019-2024).

FAME-I (2015-2019):

- **Focus:** Provide demand-side incentives for EVs, such as upfront reduction in purchase price, supporting technology development, pilot projects, and charging infrastructure.
- **Success:** Provided first impetus to EVs in India and supported about 278,000 EVs.
- **Criticism:** Subsidised environmentally-taxing technologies, such as lead-acid batteries and mild-

hybrid vehicles. Slow and limited progress of implementation.

FAME-II (2019-2024):

- Launched in 2019 with an outlay of ₹10,000 crore for 5 years.
- **Success:** Expanded the scope of incentives to electric buses, two-wheelers, and three-wheelers, enhanced minimum safety and technical standards, and introduced localisation norms for EV components.
- **Criticism:** Localisation implementation issues, inadequate incentives for charging infrastructure, and insufficient focus on R&D.

PM E-DRIVE (Electric Drive Revolution in Innovative Vehicle Enhancement)

- Launched in 2024 to accelerate EV adoption, establish charging infrastructure and foster development of the EV manufacturing ecosystem.
- This scheme has a budget of ₹10,900 crore for a two-year period. Of the total allocated budget, ₹2000 crore has been kept for the installation of Electric Vehicle Public Charging Stations.

SPMEPCI (Scheme to Promote Manufacturing of Electric Passenger Cars in India):

- Launched in 2025 to boost EV adoption and manufacturing.

KEY GAPS IN INDIA'S EV POLICY

- **Late payment of subsidies to OEMs:** In FAME-II, demand incentives were offered to customers as a price reduction upon the purchase of a new EV, based on the size of the battery. These incentives are reimbursed to original equipment manufacturers (OEMs) at a later date, when OEMs submit their reimbursement claims. This leads to late payment of subsidies and resultant shortage of working capital for OEMs.
- **Continuous reliance on demand incentives** might create dependency among consumers. E.g., When subsidies on two-wheeler EVs were reduced, the consumer demand waned by 25% in the month following the subsidy reduction.
- **Lack of clear guidelines for DVA:** FAME-II scheme did not prescribe the domestic value addition (DVA) metric to analyse whether a part is indigenous or imported (except for chargers). In the absence, it was unclear when components would qualify as indigenous,

especially when sub-components or sub-parts of a component may be imported.

- **Limited funds for charging infrastructure:** Only 10% of the total incentive outlay under FAME-II was reserved for charging infrastructure. In 2024, India had only one public charger per 135 EVs, far below the global average of one public charger per 6-20 EVs.
- **Limited R&D and technology transfer:** India lags behind in technological, scientific, and industrial innovation, and continues to rely on imports for its EV component needs.

WAY FORWARD

- **DBT to consumers:** Government should consider devising a direct benefit transfer mechanism to consumers to alleviate concerns of late payment of subsidies to OEMs.
- **Incentivise local manufacturing:** Emphasise on building robust supply chains and incentivising local manufacturing that can compete with traditional internal combustion engine-based vehicles. This can be done through inclusion of supply incentives including incentives on parts procurement costs.
- **Introduce clear minimum DVA (domestic value addition) thresholds** as prerequisite to avail incentives, as well as harmonisation of PLI and FAME schemes with respect to DVA calculation.
- **Expand incentives to other commercial vehicles** like trucks, tractors and industrial vehicles, thereby promoting a significant reduction in particulate matter emissions.
- **Expand charging infrastructure** to meet India's goal of 3.9 million charging stations by 2030. This is needed to accommodate increasing influx of EVs and alleviate concerns about range anxiety. Additionally, residential charging solutions are required.
- **Dedicated incentives for R&D** to refine existing technologies and develop local component manufacturing.

India needs to learn from the challenges faced in FAME-I and FAME-II, and to adopt a cohesive and comprehensive strategy, along with technology transfer to accelerate EV adoption in India.

FLIPKART SECURES NBFC LICENCE FROM RBI

#BANKING AND FINANCE

PRIMARY SOURCE THE HINDU

Walmart's *Flipkart* has secured an **Non-Banking Financial Company (NBFC) licence** from the Reserve Bank of India allowing it to directly disburse loans for EMIs and BNPL (Buy Now, Pay Later) schemes. This is the first time the RBI has granted a large e-commerce player in India a NBFC licence.

NBFC LICENCE TO FLIPKART

- The NBFC licence will allow Flipkart to **lend directly to customers** on its platform and through its fintech App- 'super.money'.
- Flipkart can **offer loans independently** rather than through partners, potentially boosting profitability.
- It may also offer **financing to sellers** on the platform.

Non-Banking Financial Company:

- NBFC is the Non-banking financial institution registered under the **Companies Act, 1956**, that provides diverse financial facilities like lending, pension and insurance.
- NBFCs **do not have a full banking license and cannot accept deposits** from the public. They cannot issue cheque books or open savings accounts.
- NBFCs have played a pivotal role in **making formal credit accessible** to MSMEs, retail sectors and underserved populations.
 - The sector contributes **12.5%** to the country's GDP.
 - The sector's credit share has grown from 15% in 2014 to 22.5% of total Scheduled Commercial Bank credit in 2024.
 - The growth of NBFCs has been supported by diverse funding streams like bank loans, commercial papers and other debt instruments- where term loans and debentures consist of **75%** of borrowings.
- **Regulation:** The working and operations of NBFCs are regulated by RBI within the framework of the Reserve Bank of India Act, 1934.

TYPES OF NBFCs

- **Based on Asset-Liability Structures:** Deposit-taking NBFCs (NBFCs-D) and non-deposit-taking NBFCs (NBFCs-ND).

- **Based on Systemic Importance:** Among non-deposit taking NBFCs, those with asset size of Rs 500 crore or more are classified as non-deposit taking systemically important NBFCs (NBFCs-ND-SI).

NBFCs VS. BANKS

The NBFC sector plays an important role in **supplementing credit creation** along with the Banks.

Difference between Banks and NBFCs		
Characteristics	Banks	NBFCs
Deposits	Accepts all types of deposits	Cannot accept demand deposits (some NBFCs can accept fixed deposits after RBI's approval)
Deposit insurance of DICGC	Applicable (up to Rs.5 lakh per depositor)	Non-Applicable
Payment and Settlement system of the RBI	Supports RTGS, NEFT, IMPS etc.,	Not supported. Cannot issue their own cheque books.
Foreign investment	Up to 74%	Up to 100%
Cash Reserve Requirement	Applicable	Not Applicable
Capital Adequacy Norms	Applicable	Applicable only to Deposit-taking NBFCs and Systematically Important NBFCs (CRAR - 15%)
SLR	Applicable	Applicable only to Deposit-taking NBFCs (SLR - 15%)
Incorporated under	Banking Regulation Act, 1949	Incorporated under Companies Act 2013; and regulated under RBI and various

		bodies depending on category.
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PRIMARY SOURCE THE HINDU

As per RBI, the value of the Central Bank Digital Currency (CBDC) or E-rupee in circulation has increased 334% to ₹1016 crore in FY25, from ₹234 crore in FY24.

ROLE OF NBFCs IN ECONOMY

- **Credit access** to the underserved sectors like small businesses, rural areas, and the informal sector & MSMEs.
- **Promoting financial inclusion** by institutionalisation of the lending market in India, eliminating the unregulated lenders.
- **Driving infrastructural growth** by funding the long-term and risky infrastructure projects, as banks lack the capacity to fund large projects due to their asset-liability mismatch.
- **Strengthening the financial market** through the activities like leasing, hire-purchase and securitisation, improving the overall efficiency of the financial system.
- **Contributing capital formation** as the NBFCs mobilises the resources, savings and investments to foster economic growth.

CENTRAL BANK DIGITAL CURRENCY

- CBDC is a tokenised digital version of Indian rupee launched by the Reserve Bank of India in 2022.
- Just like currency notes issued by the Central Bank, the CBDC is a **legal tender** and accepted for the payment of various transactions within a country.

KEY FEATURES OF CBDC

- CBDC is a sovereign currency issued by the central bank in alignment with its monetary policy.
- It appears as a liability on the central bank's balance sheet.
- Must be accepted as a medium of payment, legal tender, and a safe store of value by all citizens, enterprises, and government agencies.
- Freely convertible against commercial bank money and cash.
- Fungible legal tender for which holders need not have a bank account.
- Expected to lower the cost of issuance of money and transactions.

CENTRAL BANK DIGITAL CURRENCY

#BANKING AND MONETARY POLICY

	Fiat Currency	CBDC	Crypto currency	Stable Coin
Issuer	Central Bank	Central Bank	Private Entity	Private Entity
Value	Derives its value from the guarantee provided by Central Bank	Derives its value from the guarantee provided by Central Bank	None	Value pegged to other currency such as Diem, TruelNR (Refer to Budget Video for more details)
Legal Tender	Yes	Yes	May be given status of Legal Tender Example: El Salvador	May be given status of Legal Tender
Medium of Payment	Yes	Yes	May be allowed	May be allowed.
Examples	Physical Currency Notes	eDINAR, Sistema, Petro, e-krona etc.	Bitcoin, Ethereum, dogecoin etc.	Diem, TruelNR, Tether etc.

TYPES OF CBDC

- **Retail CBDC:** CBDC that can be used for people for day-to-day transactions.

- **Wholesale CBDC:** CBDC that can be used only by financial institutions such as Banks, NBFCs etc.

LEGAL FRAMEWORK FOR ISSUANCE OF CBDC

Finance Act 2022 has amended the RBI Act, enabling it to introduce Central Bank Digital Currency. The definition of bank note was amended wherein RBI was allowed to issue both physical and digital currency by amending Section 2 of RBI Act, 1934.

BENEFITS OF CBDC

Subhash Chandra Garg Committee (2019) has recommended a ban on private cryptocurrencies on account of concerns such as volatility, instability, security risk and risk of funding illegal activities. However, the committee highlighted that an **official digital currency** can have number of advantages such as:

- Promote cashless economy by reducing Cash-to-GDP ratio.
- Increase in Financial Inclusion.
- Promote competition in the payment system and ensure that no single company dominates the payment ecosystem.
- Push to develop the Fintech sector.
- Provide a real time picture of economic activity, and hence better GDP estimates and efficient monetary policy formulation.
- Traceability of transactions would crack down on corruption and money laundering.
- Enable a more real-time, cost-effective seamless integration of cross border payment systems.
- Could ease current frictions in cross-border payments. As it being a sovereign currency, ensures settlement finality, and thus reduces settlement risk in the financial system.
- Counter the monopoly of private sector issued cryptocurrencies.

ONGOING USE CASES OF CBDC

- **Funds settlement** of secondary market transactions in Government Securities
- **Settlement of inter-bank lending** and borrowing in the call money market.
- **Direct benefit transfers** to farmers against generation of carbon credits and loans to tenant farmers under Kisan Credit Card.

CHALLENGES AND CONCERNS

- **Potential disintermediation of banks** as people may shift from depositing money in the bank to CBDC. This can force banks to increase their deposit rates to attract customers and may lead to a rise in lending rates.
- **Accelerate bank runs:** By providing depositors a safe and liquid alternative to bank deposits, CBDCs may accelerate bank runs during a period of financial stress.
- **Security risks and financial system abuses:** CBDC may be susceptible to cyber-attacks and other security breaches. Security breaches on the CBDC may dent public confidence in the RBI.
- **Competition to private payment service providers:** Introduction of CBDC could lead to direct competition with private payment providers (such as Paytm, Google pay etc). This may reduce their incentives to invest in innovation.
- **Higher burden on the RBI:** If the RBI adopts "Direct Model", it will have to directly engage with the public for opening accounts and hence overall burden on the RBI could increase. This may in turn lead to neglect of its core activities.
- **Data privacy issues:** Traceability feature of CBDC would have impact on Right to Privacy of the Individuals. Hence, the need for strong data regulation law in India.

EMPOWERING WOMEN IN AGRICULTURE

#AGRICULTURE #WOMEN EMPOWERMENT

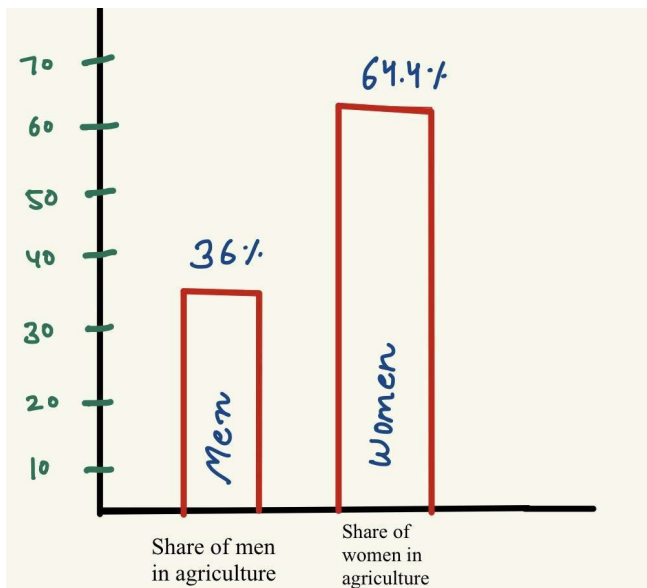
PRIMARY SOURCE THE HINDU

*The United Nations General Assembly has declared **2026 as the International Year of the Woman Farmer**. The resolution celebrates the essential role of women in global agriculture while raising awareness of their challenges, which include property rights and market access.*

WOMEN IN AGRICULTURE

- Women contribute 60-80% of food production in developing countries and form 39% of the agricultural labour force in South Asia.
- In India, approximately 80% of all economically active women are employed in agriculture.

- According to Periodic Labour Force Survey (PLFS) 2023-24, 64.4% of India's agricultural workforce are women.



Feminisation of Agriculture

These figures highlight the vital role of women in agriculture. Yet, their contribution remains undervalued due to systemic gender biases in land ownership, access to credit, and representation in policy making.

KEY CHALLENGES FACED BY WOMEN FARMERS

- **Land Ownership Disparity:** In India, the percentage of women who own agricultural land is significantly lower than that of men, despite women constituting a substantial part of the farm workforce. Only 14% of agricultural landholders in India are women; NFHS-5 puts this figure even lower at 8.3%.
- **Limited access to formal credit:** Lack of land ownership makes it difficult to obtain credit and limits their access to financial institutions. While microfinance and self-help groups provide some access, such loans are often insufficient for significant investments. Less than 15% of female farmers access institutional credit (NABARD All India Rural Financial Inclusion Survey 2016-17). Consequently, they rely on informal sources, leading to exploitative debt cycles.
- **Invisibility in Agricultural Policy:** Agricultural policies and schemes are often male-centric. As per MS Swaminathan, "The female face of farming is missing from policy frameworks."

- **Double Burden and Time Poverty:** Time Use Survey (2019) shows women spend 3-5 hours more daily on unpaid care work, reducing their capacity for skill-building or secondary livelihoods.
- **Limited access to technology:** Regular access to information on agricultural planning and advisory is essential for farmers, but women have more limited access to technology, such as mobile phones.
- **Mechanisation Gap:** Mechanised tools are predominantly designed for male farmers.
- **Climate Change** disproportionately affects women farmers by increasing their domestic responsibilities and elevating their exposure to agricultural risks like crop failure.

These obstacles hinder investments, technology adoption and improvements in livelihoods.

GOVERNMENT INITIATIVES FOR WOMEN IN AGRICULTURE

The Government of India supports small women farmers to enhance skills and promote sustainable agriculture.

- **Mahila Kisan Sashaktikaran Pariyojana (MKSP):** Upgrades skills and increases resource access for women.
- **Sub-Mission on Agricultural Mechanisation:** Offers 50-80% subsidies on farm machinery for women.
- **National Food Security Mission (NFSM):** 30% fund allocation for women in some states and UTs.
- **Self-Help Groups (SHGs) and DAY-NRLM:** Promote group farming, micro-financing, and entrepreneurship.

WAY FORWARD: POLICY RECOMMENDATIONS

- **Gender-Sensitive Agricultural Policies:** Policy design and implementation should take into account the unique needs of women farmers. E.g., Designing Women-Centric Farm Tools.
- **Granular data with a gender lens** are needed to develop solutions tailored to women's needs.
- **Focus on agri-value chains that support women farmers** and are managed by women.
- **Enhance women's access to financing mechanisms and information** while supporting their collective action and networks, such as women's self-help groups.
- **Secure Land Ownership** through joint or individual land titles.

Women are the backbone of agriculture, yet they remain marginalised in land rights, credit access, and decision-making. As M.S. Swaminathan aptly said, "If agriculture is to be sustainable and equitable, the invisible face of the woman farmer must become visible."

NEED TO REVISIT FOOD AND FERTILISER SUBSIDIES

#AGRICULTURE #SUBSIDY

PRIMARY SOURCE THE HINDU

With poverty levels now at historic lows, India needs to revisit food and fertiliser subsidies.

DECLINE IN EXTREME POVERTY IN INDIA

Over the past decade, India has achieved significant macroeconomic growth and a sharp decline in extreme poverty.

- **Nominal GDP increased** from \$2.04 trillion (2014) to \$4.19 trillion (2025)
- **GDP (PPP) increased** from \$6.45 trillion to \$17.65 trillion- 3rd largest globally.
- **Per Capita Income (PPP) increased** from \$4,935 to \$12,131.
- **Inequality (Gini Index)** - remained moderate (0.34 in 2014 to 0.33 in 2020)

With extreme poverty now at just 5.3%, there is a need to revisit inefficient subsidies- **especially food and fertiliser subsidies**. These subsidies claim the largest resources in the agri- food space and yet sub-optimal results.

ISSUES WITH SUBSIDIES

- **High Fiscal Burden:** The food subsidy budget for FY26 is set at Rs 2.03 lakh crore. India is giving free food (rice or wheat, 5kg/person/month) to more than 800 million people. The fertiliser subsidy budget for FY 2025-26 is set at ₹1.56 lakh crore.
- **Exclusionary:** Fertiliser subsidies often benefit large farmers disproportionately, while small and marginal farmers struggle with access.
- **Distortionary:** PDS and MSP regime's wheat-rice focus distorts cropping patterns, leading to regional monoculture and neglect of pulses, oilseeds, and millets.

- **Promote Environmentally unsustainable practices:** E.g., Unbalanced utilisation of fertilisers, over-consumption of water etc.
- **Leakages and Corruption:** Food subsidies under PDS suffer from diversion, ghost beneficiaries, and low-quality delivery. Fertiliser subsidies go to manufacturers, not directly to farmers- creating scope for over-invoicing, black marketing, and cross-border smuggling (e.g., to Nepal and Bangladesh).
- **Does not address structural issues** such as poor irrigation, low R & D, poor marketing infrastructure etc.

WAY FORWARD

- Food subsidy can be rationalised by giving beneficiaries **food coupons** (digital wallet) to buy nutritious food-pulses, milk, eggs from designated stores. This will help plug leakages, diversify diets, promote nutrition, and diversify the production basket.
- Fertiliser subsidy can be rationalised by giving **fertiliser coupons** to farmers and deregulating the prices of fertiliser products.
- Farmers can use these coupons to buy chemical fertilisers or bio-fertilisers or do natural farming. This will help fix the imbalance in the use of nitrogen (N), phosphorus (P), and potassium (K), reduce leakages, and encourage better products and farming methods.

There is a need to move from universal, input-based subsidies to targeted, output-oriented support that improves nutritional security, efficiency, and environmental sustainability.

FROM FARM TO SHELF: FOOD PROCESSING SECTOR

#AGRICULTURE #FOOD PROCESSING

PRIMARY SOURCE The Indian EXPRESS

*Food Processing has emerged as a **sunrise sector accounting for 11% of GVA in agriculture and 10% of GVA in manufacturing.***

FOOD PROCESSING SECTOR

- **Food processing** is a technique of manufacturing and preserving food substances in an effective manner with a view to enhance their shelf life; improve quality as well as make them functionally more useful.

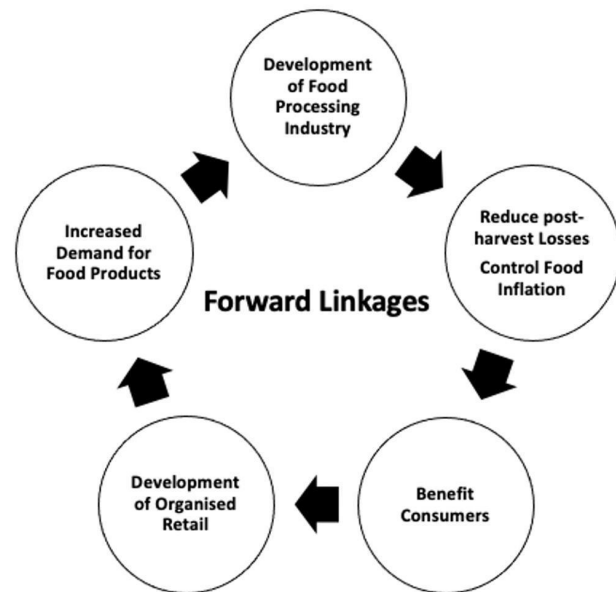
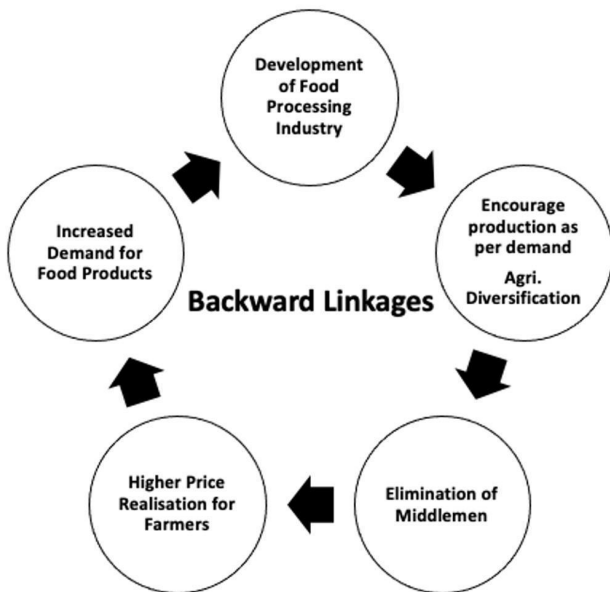
- Once characterised by unorganised production and high post-harvest losses, the sector has now emerged as a key pillar of rural empowerment, entrepreneurship, and agri-industrial integration.

Sectors	Products
Diary	Whole milk Powder, Condensed Milk, Ice cream Butter and Ghee, Cheese
Fruits and vegetables	Beverages Juices, Concentrates, Pulp, Slices, Frozen and Dehydrated Products, Potato wafers / Chips etc.
Grains and Cereals	Flour, Bakeries, Starch Glucose, Cornflakes, Malted Foods, Vermicelli, Beer and Malt extracts, Grain based Alcohol
Fisheries	Frozen and Canned products mainly in fresh form

Meat and Poultry	Frozen and packed-mainly in fresh form
Consumer Foods	Snack food, Namkeens, Biscuits, Ready to eat food Alcoholic and Non-Alcoholic beverages.

SIGNIFICANCE OF FOOD PROCESSING SECTOR

- Promote agricultural diversification** by increasing demand for raw material. E.g., Tribal women in Bastar transformed Mahua flowers into chocolates and herbal tea.
- Reduce post harvest losses** (about Rs 92000 Crore) through Cold chain infrastructure.
- Boost agricultural exports** E.g., Makhana of Bihar has turned into a global snack brand and now exports to the US and Canada.
- Address nutritional insecurity** through food fortification.
- Promote inclusive growth** through secondary agriculture and job creation.
- Establish forward and backward linkages.**



With following government initiatives, the food processing sector has emerged as one of the most potent instruments of inclusive growth, agricultural integration, and global engagement.

PRADHAN MANTRI KISAN SAMPADA YOJANA

- Objective:** Infrastructure creation, modernisation, and preservation of food products.

Key Outcomes:

- Created 250 lakh MT of annual processing and preservation capacity.
- Leveraged ₹22,000 crore private investment leveraged.
- 53 lakh farmers directly benefited and 7.6 lakh employment opportunities generated.

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

- **Launched under:** Atmanirbhar Bharat Abhiyan with an outlay of Rs 10,000 crore.
- **Objective:** Empower unorganised micro food enterprises through formalisation, credit, and skilling.
- **Key Achievements:**
 - Over 1.41 lakh loans sanctioned worth over ₹11,000 crore
 - 3.3 lakh SHG members supported it with seed capital.
 - Over 1 lakh individuals trained in entrepreneurship and skills
 - 75 incubation centres approved to foster innovation and support early stages enterprises.
 - 17 regional brands launched promoting local products.

PRODUCTION LINKED INCENTIVE (PLI) SCHEME FOR FOOD PROCESSING INDUSTRIES

- **Objective:** Catalyse large-scale investments, industrial capacity, and formal job creation
- **Achievement:** With committed investment of ₹8,900 crore, the scheme has led to the creation of over 3.3 lakh new jobs and added more than 67 lakh MT processing capacity.

BUDGETARY SUPPORT FOR INFRASTRUCTURE (UNION BUDGET 2024-25)

- 50 multi-product irradiation units to improve shelf life and reduce losses.
- 100 NABL-accredited food testing laboratories for improved quality control.
- Establishment of National Makhana Board to promote value addition, branding, and global recognition of Makhana.

INSTITUTIONAL SUPPORT AND INNOVATION ECOSYSTEM

- NIFTEM-Kundli and NIFTEM-Thanjavar, Institutes of National Importance, are training next-gen food technologists and entrepreneurs.
- New NIFTEM is coming up in Bihar to utilise the eastern region's potential.
- India's food tech startup ecosystem is thriving with over 5,000 food-tech start-ups working on Plant-based

foods, AI-enabled traceability, functional foods, sustainable packaging.

WORLD FOOD INDIA

- An international platform by the Ministry of Food Processing Industries to promote investment, innovation and global collaboration, showcasing India's strength across the agri-food value chain.

CABINET APPROVES GLOBAL POTATO RESEARCH CENTER IN AGRA

#AGRICULTURE #FOOD PROCESSING

PRIMARY SOURCE The Indian EXPRESS

The Union Cabinet approved a proposal to set up a regional wing of the **Peru-based International Potato Center (CIP) in Agra district, Uttar Pradesh.**

International Potato Centre



- A premier **research-for-development organisation** with a focus on the potato and sweet potato.
- **Founded** in 1971.
- **Headquarters** : Lima, Peru.
- It delivers innovative science-based solutions to enhance access to affordable nutritious food, foster inclusive sustainable business and employment growth, and drive the climate resilience of root and tuber agri-food systems.
- CIP has a research presence in more than 20 countries in **Africa, Asia and Latin America.**
- CIP is a CGIAR research centre. CGIAR science is dedicated to transforming food, land and water systems in a climate crisis.
- Its research is carried out by 13 CGIAR Centers/Alliances in close collaboration with hundreds of partners, including national and regional research institutes, civil society organizations, academia, development organizations and the private sector.

CIP-SOUTH ASIA REGIONAL CENTRE (CSARC)

- The proposed CSARC will be set up at Singna in Agra district, Uttar Pradesh to strengthen India's research and productivity in potatoes and sweet potatoes.
- **Objective:** To increase food and nutrition security, farmers income, and job creation by improving potato

and sweet potato productivity, post-harvest management and value-addition.

- The project costs Rs 171 crore, with India contributing Rs 111.5 crore and the remaining Rs 60 crore funded by the CIP. The UP government has provided 10 hectares of land for it.
- It will cater not only to farmers in India's potato belt states, like Uttar Pradesh, Bihar and West Bengal, but also to South Asian countries.

FUNCTIONS OF CSARC

- To develop climate-resilient, disease-free, and processing-suitable potato & sweet potato varieties.
- It will bring global science expertise, an extensive global innovation network and global genetic resources.

SIGNIFICANCE OF CSARC

- **Boost Productivity:**
 - India is the second largest potato producer in the world, followed by China. But its average yield is 25 tonnes per hectare, about half of its potential of over 50 tonnes/ hectare.
 - India's sweet potato yield is just 11.5 tonnes per hectare, which is much less than the potential of 30 tonnes per hectare.
 - A major reason for these low numbers is a lack of availability of high-quality seeds. With CSARC, India will have access to the **largest global collection of germplasm** (the cells or tissues from which a new organism can be generated) available with the CIP.
- **Boost domestic potato seed production**, thereby reducing India's dependence on seed imports from neighbouring countries.
- **Help increase export potential** of potato and sweet potato products from India to international markets.
- **Aid local food processing industries** in increasing investments in processing and value addition.

CSARC will be the **second major international agricultural research institution** to set up operations in India. In 2017, the Agriculture Ministry supported the establishment of a regional centre of the Philippines-based International Rice Research Institute (IRRI). The IRRI-SARC is established in Varanasi.

MODIFIED INTEREST SUBVENTION SCHEME

#AGRICULTURE #FINANCIAL INCLUSION

PRIMARY SOURCE The Indian EXPRESS

*The Cabinet Committee on Economic Affairs (CCEA) approved continuation of the **Modified Interest Subvention Scheme (MISS)** for 2025-26. The government will allow 7.7 crore farmers to get short-term credit at a subsidised rate of interest through the Kisan Credit Card.*

MODIFIED INTEREST SUBVENTION SCHEME

- MISS is a **Central sector scheme**, under which farmers get **short-term loans of up to ₹3 lakh** through Kisan Credit Card at a **subsidised interest rate of 7%**, as the government covers 1.5% interest subvention to eligible lending institutions.
- Additionally, farmers repaying loans in time are eligible for an **additional 3% interest subsidy** as prompt repayment incentive (PRI), effectively reducing their interest rate on KCC loans to 4%.
- It also includes **post-harvest loans** against Negotiable Warehouse Receipts (NWRs) for small farmers with KCCs.
- In the Budget 2025-26, the government announced to **increase the loan limit under the MISS** from Rs 3 lakh to Rs 5 lakh.
- **Implementation and Monitoring** by the Reserve Bank of India (RBI) and National Bank for Agriculture and Rural Development (NABARD).

The continuation of the support is **critical in sustaining the flow of institutional credit to agriculture**, which is vital for enhancing productivity and ensuring financial inclusion of small and marginal farmers.

INDIA'S FIRST HOUSEHOLD INCOME SURVEY IN 2026:

MOSPI

#GROWTH AND DEVELOPMENT

PRIMARY SOURCE The Indian EXPRESS

*The Ministry of Statistics and Programme Implementation (MoSPI) has announced that it will conduct **India's first-ever***

dedicated Household Income Survey in 2026. To guide the survey's methodology, MoSPI has set up a Technical Expert Group led by Dr. Surjit Bhalla.

INDIA'S FIRST HOUSEHOLD INCOME SURVEY

- India has never conducted a national-level household income survey.
- Past attempts like the Consumer Expenditure Surveys (1950s) and the Integrated Household Survey (1960s) failed to produce reliable income data, as income estimates were found to be lower than combined consumption and savings.

OBJECTIVES OF HOUSEHOLD INCOME SURVEY

- To measure household incomes to understand the income distribution.
- To assess the impact of adoption of technology on wages.
- To understand the structural economic changes that occurred in the Indian economy over the past 75 years.

The Expert Group will guide key aspects such as definitions, survey methodology, sampling design, estimation techniques, and also ensure global best practices are followed.

SIGNIFICANCE & CHALLENGE

- The survey is an important initiative to generate vital information for deriving income distribution and welfare thereof.
- Challenges exist such as underreporting of incomes by the households, difficulty in accurately estimating incomes of households with seasonal employment.

INDIA RANKS 71ST ON ENERGY TRANSITION INDEX 2025: WEF

#ENERGY #INTERNATIONAL REPORTS



India has ranked **71 out of 118 countries** in the recently launched Energy Transition Index (ETI) by the **World Economic Forum**.

ENERGY TRANSITION INDEX

- **Launched by:** World Economic Forum

- ETI ranks countries based on their progress towards energy transition from fossil fuels to clean energy.
- The Index used 43 indicators under the broad categories (given below) using data from multiple sources and organisations, and **scored countries on a scale of 0 to 100.**

INDICATORS USED

The report benchmarked the performance of energy systems of 118 countries across:

- **Three system performance dimensions-** energy security, sustainability and equity.
 - **Energy security:** presence of a stable and resilient energy supply through developing a diversity of energy sources as well as grid and power supply reliability)
 - **Equity:** access to energy for all, including consumers and industries.
 - **Sustainability:** promoting energy sources that have lower impacts on the environment such as lower carbon footprints.
- **Five transition readiness factors-** political commitment, finance and investment, innovation, infrastructure, and education and human capital.

ENERGY TRANSITION INDEX 2025

Global Highlights:

- **Sweden** (score 77.5) topped the list of 118 countries. The share of countries advancing across all three energy dimensions was only 28% which reflects uneven progress.
- Energy demand rose 2.2% in 2024 driven by artificial intelligence, data centres, cooling and electrification.

INDIA-SPECIFIC HIGHLIGHTS

- **India's rank** has fallen from 63rd (2024) to **71 out of 118 countries** in 2025 with a score of 53.3.
- **India has made progress** in lowering energy intensity and CH4 emissions, favourable energy regulations and increasing clean energy investments.
- **India needs improvement** in grid reliability, energy access for rural areas and further reducing dependence on imported energy.

This requires further investment in infrastructure, renewables, labour force development and financing to boost the country's energy transition.

PRACTICE QUESTIONS

MCQS

Q1. Consider the following statements about GDP measurement:

1. Nominal GDP is adjusted for inflation.
2. GDP at Purchasing Power Parity (PPP) considers cost of living differences across countries.
3. PPP-based GDP is more stable over time compared to nominal GDP.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 2 only
- (d) 1, 2 and 3

Q2. With reference to the 2026 Household Income Survey in India, consider the following statements:

1. It will be conducted by the Ministry of Finance.
2. The Expert Group guiding the survey is chaired by Dr. Surjit Bhalla.
3. India has never conducted a nationwide household income survey before.

Which of the statements is/are correct?

- (a) 2 and 3 only
- (b) 1 and 2 only
- (c) 1 only
- (d) All of the above

Q3. Consider the following statements about the SPMEPCI scheme:

1. The maximum number of EVs allowed to be imported annually at concessional duty is 8,000 units.

2. To avail benefits under the scheme, the carmakers must commit to an investment of at least ₹4,150 crore in India.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q4. With reference to the Non-banking Financial Companies (NBFCs) in India, consider the following statements:

1. They cannot engage in the acquisition of securities issued by the government.
2. They cannot accept demand deposits like Savings Account.

Which of the statements given above is/are correct?

- (a) Only 1
- (b) Only 2
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q5. With reference to Central Bank Digital Currencies, consider the following statements:

1. It is possible to make payments in a digital currency without using the US dollar or SWIFT system.
2. A digital currency can be distributed with a condition programmed into it such as a time-frame for spending it.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

DESCRIPTIVE QUESTIONS

- Q1. Discuss the key challenges faced by women in agriculture and suggest policy measures to empower them.
- Q2. Discuss the significance of the food processing sector in promoting agricultural integration and inclusive growth in India. Highlight recent government initiatives that have contributed to its transformation.

Answers: 1-b, 2-a, 3-c, 4-b, 5-c

CONSTITUTION, POLITY AND GOVERNANCE

GS PAPER (PRELIMS) & GS PAPER II (MAIN)

NEW PROTECTIONS FOR LADAKH

#NEW REGULATIONS FOR LADAKH #6TH SCHEDULE

PRIMARY SOURCE *The Indian EXPRESS*

The Indian President notified the **Union Territory of Ladakh Reservation (Amendment) Regulation 2025**, a series of regulations for Ladakh's land, jobs, and cultural preservation, aimed at addressing concerns raised by the civil society in Ladakh over the past five years.

These regulations amend the **Jammu and Kashmir Reservation Act, 2004** in Ladakh's context and introduce a domicile-based job reservation system, recognition of local languages, and procedural clarity in civil service recruitment.

NEW REGULATIONS

LADAKH CIVIL SERVICES DECENTRALISATION AND RECRUITMENT (AMENDMENT) REGULATION 2025

- This regulation introduces a domicile requirement for recruitment in government posts under the Union Territory of Ladakh, for the first time.
- The domicile is defined as a person who has resided in Ladakh for 15 years; or a person who has studied for 7 years and appeared in either Class 10 or 12 examination in Ladakh; Children of Central Government employees who have served in Ladakh for at least 10 years; and children and spouses of domiciles.

LADAKH CIVIL SERVICES DOMICILE CERTIFICATE RULES 2025

- These rules lay out the procedure and documentation required to obtain a domicile certificate.

- The tehsildar is designated as the issuing authority, while the Deputy Commissioner is the appellate authority.
- Applications can be submitted both physically and electronically.

UNION TERRITORY OF LADAKH RESERVATION (AMENDMENT) REGULATION 2025

- This regulation caps the total reservation for Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), and other socially and educationally backward groups at 85%, excluding the 10% reservation for Economically Weaker Sections (EWS).
- Importantly, these reservations have also been extended to professional institutions, such as engineering and medical colleges in Ladakh.
- The quota for SC, ST and OBC for admissions into these colleges was earlier capped at 50% and has now been expanded to 85%.
- Total reservation for government jobs in the UT now stands at 95% , one of the highest in the country.

LADAKH OFFICIAL LANGUAGES REGULATION 2025

- This law recognises English, Hindi, Urdu, Bhoti, and Purgi as the official languages of Ladakh.
- It also mandates institutional support for the promotion of Shina, Brokskat, Balti, and Ladakhi, for preserving Ladakh's linguistic and cultural diversity.

LADAKH AUTONOMOUS HILL DEVELOPMENT COUNCILS (AMENDMENT) REGULATION 2025:

This amends the LAHDC Act of 1997 to reserve one-third of the seats for women in the Ladakh Autonomous Hill Development Councils of Leh and Kargil, through rotation.

HOW ARE THE NEW REGULATIONS DIFFERENT FROM EXISTING PROVISIONS?

CONSTITUTION, POLITY AND GOVERNANCE

- The 2025 regulations mark a significant shift from earlier laws borrowed from Jammu and Kashmir (Jammu and Kashmir Reservation Act, 2004 and the Civil Services Decentralisation and Recruitment Act, 2010).
- Previously, Ladakh lacked domicile criteria, local job protections, defined reservation limits, EWS exclusions, and official recognition of Ladakhi languages. The new rules introduce these elements, moving towards a region-specific governance framework tailored to Ladakh's unique needs.

WHY ARE THESE REGULATIONS SIGNIFICANT?

- This is the first comprehensive attempt by the Centre to tailor governance and administrative frameworks specifically for Ladakh, following its bifurcation from Jammu & Kashmir in 2019.
- By defining the domicile criteria and creating a legal filter for recruitment, the government has taken a significant step towards reserving jobs for the local population, a demand that has been at the heart of the protest movement.
- The language regulation offers long-awaited recognition to **Bhoti and Purgi**, which are mother tongues for large sections of the population. The **promotion of Ladakhi, Balti, and other minority dialects** reflects an understanding of the importance of cultural identity in political demands.

KEY DEMANDS IN LADAKH

The sustained campaign by the Ladakhis, both in Kargil and Leh, forced the government to form a high-powered committee in 2023, headed by Minister of State Nityanand Rai, to look into their demands.

- **Full statehood for Ladakh**
- **Creation of a Legislative Assembly:** To provide Ladakh with representative governance, as it currently remains under direct central rule.
- **Inclusion under the Sixth Schedule:** which provides tribal-majority areas in certain northeastern states with legislative and financial autonomy through autonomous district councils
- A second seat in the Lok Sabha and the **constitution of a public service commission.**

These demands have been jointly raised by the Leh Apex Body (LAB) and the Kargil Democratic Alliance (KDA).

LIMITATIONS OF THE NEW REGULATIONS FOR LADAKH

These measures fall short of the demands that civil society organisations in Ladakh have been raising.

- **No Constitutional Guarantee:** The new rules are made under Article 240, and are executive orders that lack constitutional guarantee and can be altered or revoked by the Centre anytime, unlike the Sixth Schedule's permanent safeguards.
- **No Land Ownership Safeguards:** No restriction on land ownership by outsiders, raising ecological and demographic concerns.
- **No Legislative Autonomy:** No local assembly or autonomous council with law-making powers like under the Sixth Schedule. LAHDCs, even with one-third seats now reserved for women, remain administrative bodies without legislative power.
- **Symbolic Cultural Protection:** Recognition of local languages without a clear plan for their official or educational use.
- **Short Domicile Period:** 15-year domicile condition seen as inadequate by locals, who demand 30 years.
- **Lack of Environmental Safeguards:** No legal framework to address concerns over climate-sensitive development.
- **No Representative Politics:** The demand for a legislative assembly remains unmet, leaving Ladakh without elected law-making representation.

Ladakh is strategically located at the junction of India, Pakistan and China, where both neighbours have border disputes with India. Recent developments have demonstrated that both these countries often act in tandem. It is imperative that India pays close attention to the sentiments of the region.

WHY IS THE ECI DE-LISTING POLITICAL PARTIES?

#CONSTITUTIONAL BODIES #ELECTION COMMISSION

PRIMARY SOURCE THE HINDU

The Election Commission of India (ECI) has initiated the process to de-list Registered Unrecognised Political Parties (RUPPs).

DE-LISTING POLITICAL PARTIES

- **ECI** has initiated steps to de-list 345 Registered Unrecognised Political Parties (RUPPs) that have not contested elections in the last six years and whose offices could not be physically located.
- These parties, often termed as '**letter pad parties**', exist only on paper and are typically inactive in electoral participation.
- In addition, political parties that have not updated their list of office bearers since 2014 have been declared '**inactive**'.
- The ECI has directed the Chief Electoral Officer of various States and Union Territories to issue show-cause notices to these RUPPs before deciding on de-listing them.
- These parties are **denied the benefit of:**
 - Putting up candidates with a common symbol in an election.
 - Tax exemptions under Income Tax Act and RP Act.

WHAT ARE REGISTERED PARTIES?

- Political parties are an association or body of individuals that can be formed by citizens. The right to form an association is a fundamental right guaranteed under **Article 19(1)(c) of the Constitution** to all citizens.
- **Section 29A of the Representation of the People Act, 1951** (RP Act) lays down the requirements for registration of a political party with the ECI.
- Any political party that seeks registration should submit a copy of its memorandum/constitution within 30 days of its formation stating:
 - Faith and allegiance to the Constitution of India.
 - Allegiance to the principles of socialism, secularism and democracy, and uphold the sovereignty, unity and integrity of India.
- The ECI examines a political party's constitution to ensure it includes provisions for internal democracy, such as regular elections for office bearers.
- Once registered, if it is not recognised as a state or national party, it is termed as a **Registered Unrecognised Political Party (RUPP)**.

BENEFITS ENJOYED BY RUPPS

The RUPPs enjoy the following benefits:

- Tax exemption for donations received under Section 13A of the Income Tax Act, 1961.
- A common symbol for contesting general elections to the Lok Sabha/State Assemblies.
- 20 'star campaigners' during election campaigns.

However there exists few conditions:

- RUPPs are required to maintain the details of individual donors who have donated above ₹20,000 in a financial year and submit these details to the ECI every year.
- As per Section 29C of the RP Act, failure to furnish these details will result in losing income tax exemption.
- The RUPPs under the Income Tax Act, 1961, are further required to accept donations in excess of ₹2000 only through cheque or bank transfers.

WHAT IS THE ISSUE ?

- The **RP Act does not confer explicit powers on the ECI to de-register any political party** if it fails to contest elections, conduct inner-party elections or lodge requisite returns.
- The Supreme Court in **Indian National Congress versus Institute of Social Welfare & Ors (2002)** had held that the ECI does not have the power to de-register any political party under the RP Act. It may de-register only under exceptional circumstances such as:
 - the registration being obtained by fraud or
 - the political party ceasing to have allegiance to the Indian Constitution or
 - if it is declared unlawful by the Government.

WAY FORWARD

- **The Law Commission in its 255th Report (2015)** had recommended amendments for de-registration of a political party if it fails to contest elections for 10 consecutive years.
- The **ECI** in its memorandum for electoral reforms (2016) had also suggested an amendment to the RP Act that would empower it to de-register a party.
- Another serious issue plaguing almost all political parties is the lack of inner-party democracy. As suggested by the **Law Commission in its 170th and 255th report**, the RP Act can be suitably amended to contain specific provisions for ensuring internal democracy in political parties.

Apart from the exercise of delisting RUPPs, these recommendations can also be implemented.

NO CONTEMPT IF PARLIAMENT AND LEGISLATURES MAKE LAWS: SC

#SEPARATION OF POWERS #ROLE OF JUDICIARY

PRIMARY SOURCE THE HINDU

In the *Nandini Sundar and Others vs State of Chhattisgarh case*, the Supreme Court dismissed a contempt petition against the State of Chhattisgarh for enacting the *Chhattisgarh Auxiliary Armed Police Forces Act, 2011*.

WHAT IS THE ISSUE?

- The petitioners alleged that Chhattisgarh violated the **Supreme Court's 2011 order** that prohibited the use of Special Police Officers (SPOs) in anti-Maoist operations.
- The Supreme Court held that Chhattisgarh's law on auxiliary forces did not violate its 2011 order banning Special Police Officers (SPOs), clarifying that valid legislation cannot be treated as contempt of Court.

BACKGROUND: THE 2011 SUPREME COURT ORDER

The Supreme Court in 2011 issued an order stating that :

- The State of Chhattisgarh shall cease and desist from using Special Police Officers (SPOs) in any activities, directly or indirectly, aimed at controlling, countering, mitigating or otherwise eliminating Maoist activities.
- The State was directed to prevent the operation of groups like **Salwa Judum and Koya Commandos**.
- The Court also directed the Union of India to cease and desist from using any of its funds in supporting, directly or indirectly, the recruitment of SPOs for the purposes of engaging in any form of counter-insurgency activities against Maoists.
- The Court concluded that the appointment of inadequately paid and ill-trained SPOs engaged in checking Maoism was violative of **Article 14 and Article 21 of the Constitution**

Consequent to the Supreme Court order of 2011, the State of Chhattisgarh enacted the **Chhattisgarh Auxiliary Armed Police Forces Act, 2011**.

KEY PROVISIONS OF CHHATTISGARH AUXILIARY ARMED POLICE FORCES ACT 2011

- **Section 4(1) of the Act** provides that an auxiliary force shall be constituted 'to aid and assist the security forces' in the maintenance of public order and preventing, controlling and combatting Maoist/Naxal violence and insurgency, etc.
- The members of the auxiliary force shall not be deployed in the front-line positions of an operation and shall always work under supervision of the security forces. The provision of compulsory training for a period not less than six months.
- Only those SPOs, who would be eligible as per these prescribed yardsticks, were to be inducted into the auxiliary force (by screening committee).

A petition was filed claiming that the enactment was not in consonance with the Court's order and therefore amounted to contempt of Court.

SC'S OBSERVATION IN NANDINI SUNDAR VS STATE OF CHHATTISGARH CASE, 2025

The Supreme Court rejected the contempt petition stating that the state of Chhattisgarh had complied with all directives from the 2011 ruling.

- **Every State legislature has plenary powers to pass an enactment** so long as the said enactment was not declared to be ultra vires of the Constitution.
- Any law made by Parliament or a State Legislature cannot be held as an act of contempt.
- Legislature has the power to pass a law, to remove the basis of a judgment or validate a law which has been struck down by a Constitutional Court. This is the core of the doctrine of separation of powers and must always be acknowledged in a constitutional democracy.
- Judiciary cannot invalidate legislation on contempt grounds unless the law is proven to be beyond legislative competence, or violative of the Constitution.

In Indian **Aluminium Co. versus State of Kerala (1996)**, the Supreme Court observed that Courts must maintain the delicate balance devised by the Constitution between the three sovereign functionaries (Legislature, Executive, Judiciary).

PREVENTIVE DETENTION LAWS MUST BE USED SPARINGLY: SC

#RIGHTS ISSUE

PRIMARY SOURCE THE HINDU

The Supreme Court recently held that the provision for preventive detention is an extraordinary power in the hands of the state that must be used sparingly. It curtails the liberty of an individual in anticipation of the commission of further offence(s), and therefore, must not be used in the ordinary course of nature.

ABOUT PREVENTIVE DETENTION

- Preventive detention is detention of a person by the State without trial and conviction by the court and merely on the suspicion.
- No law providing for preventive detention shall authorize the detention of a person for a longer period than three months except for the recommendations of the advisory board.

CONSTITUTIONAL PROVISIONS

- **Article 22:** It provides for protection against arbitrary arrest and detention.
- **Article 22(3)(b):** It provides for the exception to Article 22; it states that none of the safeguards provided in Article 22 are applicable "to any person who is arrested

or detained under any law providing for preventive detention."

- **Article 22(4) to Article 22(7):** Provide for procedure of operation of preventive detention.

PROCEDURE OF OPERATIONALISATION OF PREVENTIVE DETENTION LAWS

- **The District Magistrate issues an order to detain the person** when it is necessary to maintain public order. If the detention order is of more than 3 months, **Article 22(3)** states that such order requires approval of an Advisory Board.
- **Advisory Boards** are set up by respective states which consist of persons who are or have been or are qualified to be appointed as judges of High Courts. The detainee is generally not allowed representation before the board; however, the detainee can move to court against the detention order.
- **Article 22(5):** States that the authorities making order of arrest under preventive detention law shall communicate to the person the grounds of order for arrest at the earliest. This affords the detainee an opportunity of making representation against the order.
- **Article 22(6):** It provides an exception to Article 25, it states that the State need not provide the grounds of arrest in case the authorities consider that disclosure of such facts is against public interest. This exception is generally used for denying the grounds for arrest in case of preventive detention.

DIFFERENCE BETWEEN PUNITIVE AND PREVENTIVE DETENTION

Criteria	Punitive Detention	Preventive Detention
Objective	To provide punishment to a person who is found guilty of an offense.	To stop a person from inflicting any harm to society.
Nature of offense	It is given after trial and conviction in court of law.	It means detention of a person without trial and conviction by court.
Duration	Its duration is determined by the sentencing guidelines for the specific crime committed. It is determined at the time of sentencing and can range from a few months to life imprisonment or even the death penalty.	Preventive detention is usually imposed for a fixed period, as specified in the relevant preventive detention laws. It is meant to be temporary and can be extended in certain cases, subject to legal requirements and periodic reviews by the Advisory board .

CONSTITUTION, POLITY AND GOVERNANCE

Right to Bail	Individuals have the opportunity to seek bail while awaiting trial or during the appeals process in most cases, depending on the nature of the offense and other factors.	It is typically non-bailable, it means individuals detained preventively do not have the automatic right to seek bail during their detention period.
Judicial review	Individuals have the right to appeal their conviction.	There are very narrow grounds of judicial review in case of preventive detention.
Examples	Punishment for murder; Punishment for cruelty against wife.	Central legislations: National Security Act, Unlawful Activities Prevention Act. State Legislations: Telangana Preventive Detention Act. Bihar Control of Crimes Act.

JUDICIAL REVIEW OF PREVENTIVE DETENTION

- There is very narrow ground of judicial review in preventive detention because the constitution has emphasised on the State's subjective satisfaction when ordering detention.
- This means that the test on which order is examined is subjective opinion of the state rather than Fundamental rights enshrined in the constitution.
- Judicial review is limited to whether the Advisory board applied its mind and whether the state showed mala fide in ordering detention.

ASSAM TO FOLLOW 1950 LAW TO EXPEL ILLEGAL IMMIGRANTS WITHOUT TRIAL

#RIGHTS ISSUE #SECURITY

PRIMARY SOURCE THE HINDU

The Chief Minister of Assam has said that the state was actively considering using the **Immigrants (Expulsion from Assam) Act, 1950** to directly expel illegal migrants without going through the courts.

IMMIGRANTS (EXPULSION FROM ASSAM) ACT 1950

Following the Partition in 1947, Assam witnessed a massive influx of immigrants from East Bengal, which later became East Pakistan and then Bangladesh. The migration was largely driven by communal violence, displacement and the open border.

- The Parliament enacted the Immigrants (Expulsion from Assam) Act in 1950 to address the pressing crisis of illegal immigration in Assam.
- It gave the Central Government the **power to remove any person or group from Assam** if their presence harmed public interest or affected the rights of Scheduled Tribes.
- It allowed the government to give these powers to local officers, such as district commissioners, so they could **issue expulsion orders directly**, without going through the courts.
- **The Act predates several key legislations** that are currently used to deal with immigration issues in India, such as:
 - Foreigners Act 1946
 - Section 6A of the Citizenship Act
 - Foreigners (Tribunals) Order 1964
 - Passport (Entry into India) Act 1920
 - Passport Act 1967
- The law was applicable across India but tailored to Assam. Over time, the law was mostly ignored.

IS THE ACT STILL VALID?

- In 2024, the Supreme Court of India upheld Section 6A of the Citizenship Act and clearly said that the **1950 Act was still valid**.
- A Constitution Bench of five judges pointed out that the **law allowed even a district commissioner to order the removal of illegal immigrants**.
- The court said this **Act can work alongside** the Citizenship Act and the Foreigners Act to detect and deport illegal migrants.

When the Assam Movement started in 1979, led by the All Assam Students' Union (AASU), people again raised strong concerns about illegal migration. This **led to the Assam Accord in 1985**, which decided that anyone who came into Assam after March 24, 1971, would be treated as a foreigner.

The process of identifying foreigners which had slowed down due to complications around the National Register of Citizens (NRC) will now be sped up by using the legal powers available under the 1950 Act.

- **Minority religions enjoy positive discrimination** by way of special rights to run educational and cultural institutions. The same rights are not available to the majority Hindu religion.
- India is the only country where people of **all religions**, including several Christian denominations and Muslim sects, **coexist in harmony**.
- Despite its vast diversity and historical religious strife, India has largely **succeeded in maintaining religious harmony, showcasing its strong commitment to religious freedom**.

REFRAMING RELIGIOUS FREEDOM: USCIRF ANNUAL REPORT

#INTERNATIONAL REPORTS #RIGHTS ISSUE



The recently released USCIRF annual report has **placed India on its list of Countries of Particular Concern (CPC)** which highlights a Eurocentric bias.

UNITED STATES COMMISSION ON INTERNATIONAL RELIGIOUS FREEDOM (USCIRF) CONTROVERSIAL ANNUAL REPORT

- USCIRF's annual report recently placed India on its list of "Countries of Particular Concern (CPC)".
- The commission was created under the International Religious Freedom Act passed by US Congress in 1998. It monitors, analyses, and reports on violations of religious freedom worldwide.
- India strongly rejected this, calling the body an "entity of concern" and refusing to acknowledge its findings.

FREEDOM OF RELIGION IN INDIA

- Freedom of Religion is a Fundamental Right enshrined in **Articles 25 to 28** of the Indian Constitution.
- **Articles 25 to 30** of the Indian Constitution offer various freedoms to religions including the freedom of conscience, the right to freely profess, practice, and propagate, and the freedom to manage their affairs without state intervention.
- India ensures religious freedom while allowing the state to impose reasonable **restrictions** to protect public order, health, and morality.

FREEDOM OF RELIGION IN INDIA

- **Article 25:** Grants all individuals the right to freely profess, practice, and propagate their religion, subject to public order, morality, and health.
 - However forced religious conversions are not allowed.
 - In a landmark judgment in **Rev. Stainislaus vs State of Madhya Pradesh (1977)**, the Supreme Court held that the **right to propagate does not include the right to proselytise**, and hence there is no fundamental right to convert another person.
- **Article 26:** Allows every religious group to establish and manage religious institutions, own property, and handle religious affairs independently.
- **Article 27:** No person can be forced to pay taxes that are used specifically for the promotion of any religion.
- **Article 28:** Prohibits religious teaching in state-funded educational institutions, but allows it in privately managed or trust-based institutions, with certain conditions.
- **Article 29:** Protects the right of any group with a distinct language, script, or culture to conserve it; also prohibits discrimination in state-funded educational institutions.
- **Article 30:** Gives religious and linguistic minorities the right to establish and administer their own educational institutions, with protection from state discrimination in aid.

INDIA'S RESPONSE

- Despite India's constitutional commitment to religious freedom, it continues to face criticism from USCIRF due

CONSTITUTION, POLITY AND GOVERNANCE

to its **Eurocentric lens** and reliance on allegedly biased scholars, ignoring India's unique cultural and societal context.

- Global bodies like USCIRF need to **reassess their approach** to religious freedom by moving beyond Eurocentric frameworks and embracing culturally rooted models like the concept of **Integral Humanism**. USCIRF must adopt a more nuanced, locally sensitive perspective when evaluating religious freedom in a **pluralistic democracy** like India.

Integral Humanism:

- Inspired by thinkers like Jacques Maritain and Deendayal Upadhyaya. It emphasises rising above religious divisions to ensure the material, ethical, moral, and spiritual well-being of all, rooted in India's pluralistic and civilisational ethos.

UMEED PORTAL FOR WAQF PROPERTY MANAGEMENT

#DIGITAL GOVERNANCE

PRIMARY SOURCE THE HINDU

Recently, the government has launched the **UMEED portal** to create a digital inventory after geo-tagging all Waqf properties.

ABOUT UMEED PORTAL

- UMEED is a **centralised digital platform** for real-time uploading, verification, and monitoring of Waqf properties.
- UMEED is short for Unified Waqf Management, Empowerment, Efficiency and Development Act, 1995.
- **Initiative of:** Ministry of Minority Affairs.

KEY FEATURES OF THE UMEED PORTAL

- Creation of a digital inventory with geo-tagging of all Waqf properties. It generates a **17-digit unique identification number** for each property.
- Online grievance redressal system for better responsiveness
- Transparent leasing and usage tracking
- Integration with GIS mapping and other e-Governance tools
- Public access to verified records and reports

MANDATORY REGISTRATION IN THE UMEED PORTAL

- All Waqf properties across the country are required to be registered on the portal **within 6 months** from the date of launch (June 2025).
- Registrations will be carried out by the **respective state Waqf boards**.
- Properties that **remain unregistered** beyond the deadline, and extension (if any) will be **classified as disputed** and referred to the Waqf tribunal.
- The portal will **mandate submission of official documents** for registering a Waqf property aiming to prevent the inclusion of illegal or encroached land.
- For properties lacking such documentation, the **mutawalli** (manager or caretaker of a waqf) will be required to approach the waqf tribunal for verification.
- The portal also includes a field that asks whether the waqf property is located on government land. Since land is a state subject, it will ultimately be up to the state government to confirm or deny whether the land in question is indeed waqf.

SIGNIFICANCE

- Introduces greater transparency, accountability, and public participation in the administration of Waqf assets.
- Ensures that every Waqf property is accounted for and used effectively for the endowed purpose, and in the benefit of poor Muslims.

The portal launch comes in the backdrop of the enactment of the **Waqf (Amendment) Act 2025** in April 2025. UMEED Portal is expected to become the backbone of digital Waqf governance.

DIGIPIN: INDIA'S NEW DIGITAL ADDRESS SYSTEM

#DIGITAL GOVERNANCE

PRIMARY SOURCE pib

The **Department of Posts** has unveiled a **novel digital addressing system** called DIGIPIN. This new system is set to revolutionise how locations are identified across the country.

ABOUT DIGIPIN

- DIGIPIN stands for **Digital Postal Index Number**.
- It is a **unique 10-digit alphanumeric code** that precisely indicates the location of a property,

contrasting to the existing six-digit PIN code system that covers larger areas.

- **Aim:** To enhance service delivery, particularly in remote and underserved areas, by providing accurate geographic coordinates essential for various services.
- **Developed in collaboration with:** IIT Hyderabad and the National Remote Sensing Centre, ISRO.
- It is part of a broader push under the **National Geospatial Policy 2022** to enable digital-first governance, accurate last-mile delivery, and efficient emergency response systems.

KEY FEATURES

- Each unique Digipin corresponds to a **4x4 square metre grid** on the Indian landmass, based on its exact latitude and longitude coordinates.
- It is a **geospatial reference system** which is geo-coded and grid-based. DIGIPIN is directly tied to the precise geographic coordinates of a location on a map.

KEY BENEFITS

- **Precision:** Exact location identification within a 4-metre square.
- **Open-source and privacy-centric:** Encodes only location, with no personal data stored.
- **Nationwide coverage:** Applies to urban, rural, remote, and even maritime areas.
- **Streamline services** such as last-mile delivery for e-commerce. Aid police, ambulance, and fire services in improving their emergency response times owing to geographical accuracy.

HOW IS IT DIFFERENT FROM THE TRADITIONAL POSTAL ADDRESS OR PIN CODE?

- While a regular postal address depends on locality, street, and house numbers, DIGIPIN points to the exact coordinates of a location using the 10-character alphanumeric code.
- **DIGIPIN will not replace** the existing PIN code system. Instead, two systems will coexist with DIGIPIN enhancing the accuracy and functionality of traditional addresses, especially in use cases that demand high spatial precision.

Designed to function as a foundational component of **Address-as-a-Service (AaaS)**, Digipin can be integrated into the operations of government agencies, private organisations, and other institutions.

FASTag ANNUAL PASS SCHEME

#GOVERNANCE #GOVERNMENT SCHEMES

PRIMARY SOURCE The Indian EXPRESS

*The Union Ministry of Road Transport and Highways (MoRTH) has announced a **FASTag-based annual pass** for hassle-free-highway travel for a given duration.*

FASTAG ANNUAL PASS SCHEME

- The annual pass would cost **Rs 3000** and will allow free passage of **non-commercial private vehicles**- car, jeep or van at National Highway (NH) and National Expressway (NE) fee plazas for the given duration, without per-trip user fee charges.
- FASTag-based passes will be **effective from** August 15, 2025 and valid for **one year or 200 trips** or crossings, whichever comes earlier.
- The user may **re-purchase** the Annual Pass once the 200-trip limit is exhausted, even if the one-year validity period has not yet ended.
- The pass is **non-transferable** and is valid only for the vehicle on which the FASTag is affixed and registered.
- **Valid only** at National Highway and National Expressway fee plazas. At plazas on Expressways, State Highways managed by state governments or local bodies, the FASTag will operate as a regular FASTag.
- **Key Benefits:** Address the long-standing concerns regarding toll plazas; Economical as the average cost of crossing one toll plaza will be only Rs 15.

WHAT IS FASTag?

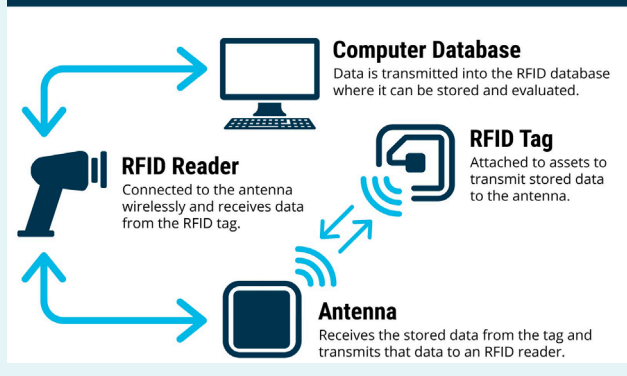
- FASTag is an **electronic toll collection system**. Launched in 2014 as a pilot project and made mandatory at every toll plaza in the country in 2021.
- **Managed by:** National Payments Corporation of India (NPCI) and the National Highways Authority of India (NHAI).
- FASTag uses **Radio Frequency Identification (RFID)** to collect toll tax payments on the road.
- A **FASTag sticker** is usually pasted on the windscreen of a car. When a FASTag-attached vehicle approaches a toll plaza, a scanner at the plaza

identifies the tag via RFID, and deducts tax from the linked bank account or the prepaid card.

RADIO FREQUENCY IDENTIFICATION (RFID) TECHNOLOGY

- RFID technology refers to a wireless system comprising two components: **tags and readers**.
- Reader** is a device that has one or more antennas that emit radio waves and receive signals back from the RFID tag. Readers can be mobile so that they can be carried by hand, or they can be mounted on a post or overhead.
- RFID Tag** is embedded on the windscreens of the vehicles for transporters. It can store a range of information from one serial number to several pages of data. The tags use **radio waves** to communicate their identity and other information to nearby readers.

Basic RFID System



The new FASTag annual pass is a step toward modernising India’s highway toll system with smarter mobility and efficient toll management.

QR CODES ON ROADS BUILT UNDER PM GRAM SADAK YOJANA

#DIGITAL GOVERNANCE #GOVERNMENT SCHEMES



The Ministry of Rural Development (MoRD) has directed all states and UTs to **install QR codes** on maintenance display

boards of roads built under the Pradhan Mantri Gram Sadak Yojana (PMGSY).

QR CODE INITIATIVE

- All states and UTs are required to **install QR codes on maintenance display boards** of roads built under the PMGSY.
- Aim:** To get public feedback about the quality and maintenance of roads using QR codes.
- Each road will have a QR code on a maintenance information board. Anyone can scan the code using a smartphone to view road details, submit feedback and photographs about poor maintenance or road damage.
- Integrated with the **existing e-MARG system** (used for routine maintenance monitoring).
- Photos submitted by citizens will be reviewed by engineers and will be analysed using AI/ML tools to assign Performance Evaluation (PE) marks.
- Trials were carried out in various states, including a pilot project in Himachal Pradesh. After this, the new facility was made fully functional.
- Substandard work under the scheme has been previously flagged through existing mechanisms. The QR Code Initiative provides a mechanism for citizens’ feedback.

PRIME MINISTER GRAM SADAK YOJANA

- Launched:** December 25, 2000 (PHASE- I)
- Aim:** To improve rural infrastructure through road construction.
- Phases:**
 - Second phase** was launched in 2013.
 - Another component, called the **Road Connectivity Project for Left Wing Extremism Affected Areas (RCPLWEA)**, was launched in 2016 for the construction of rural roads in LWE-affected areas.
 - Third phase** was launched in 2019.
 - Fourth phase** was approved in 2024 to provide **all-weather road connectivity** to 25,000 unconnected habitations of population size 500+ in plains, 250+ in northeastern and hill states/UTs, special category areas (Tribal Schedule V, Aspirational Districts/ Blocks, Desert areas) and 100+ in LWE-affected areas.
- Funding Mechanism:** Starting as a totally Centrally Sponsored Scheme, the funding pattern was modified

to 60:40 between the Centre and states (except for northeastern and Himalayan states).

- **Implementing Agency:** National Rural Infrastructure Development Agency (NRIDA), under MoRD.
- All roads after the completion of construction are maintained by the contractor for five years. This is done using a mobile-cum-web-based **e-MARG (electronic Maintenance of Rural Roads) system**. It is an e-governance solution for managing and monitoring rural road maintenance.

GOVT. EASES PROCUREMENT NORMS FOR RESEARCH LABS

#GOVERNMENT SCHEMES

PRIMARY SOURCE THE HINDU

*Amid complaints from scientists on sub-standard equipment affecting their research, the **government has relaxed procurement rules** and allowed select institutions to buy equipment outside the GEM portal.*

KEY REFORMS

Bypassing GEM Portal:

- Existing rules required all government purchases- from laptops to furniture to be made with the cheapest vendor identified through the Government e-marketplace (GEM) portal. GEM is an initiative of the Ministry of Commerce to prioritise made-in-India equipment.
- Updated rules allow Directors of select institutes and Vice-Chancellors or Chancellors of universities to

procure equipment outside the GEM portal, as it was unable to meet the requirement of high quality customised equipment needed by scientists.

AUTONOMY IN GLOBAL TENDERS

- Updated rules allow the heads of scientific institutions to approve global tender enquiry up to ₹200 crore.
- Earlier, departmental Secretaries were required to issue such clearances. This usually led to a pile-up of requests and concomitant procurement delays.

INCREASED PURCHASE LIMITS

Updated rules have doubled the ceiling on goods that can be procured by scientific departments without quotations from ₹1 lakh to ₹2 lakh.

MEANT FOR SELECT INSTITUTIONS

- However these concessions are strictly for scientific equipment and consumables, and meant only for Organisations affiliated to the Ministry of Science and Technology, Council of Scientific and Industrial Research, Department of Atomic Energy and Space, Indian Council of Medical Research, Indian Council for Agricultural Research and educational institutions conducting postgraduate research under various Ministries.

SIGNIFICANCE OF EASING THE RULES FOR PROCUREMENT

The reforms are being hailed as a landmark decision as reforms would:

- Enhance autonomy and flexibility for research institutions empowering them to innovate faster.
- Speeds up procurement for time-sensitive research.
- Ensures quality by allowing global sourcing.
- Reduces bureaucratic delays and red tape.

PRACTICE QUESTIONS

MCQS

Q1. Which of the following benefits is/are available to a Registered Unrecognised Political Party (RUPP)?

1. Tax exemption under Section 13A of the IT Act
2. Free air time on Doordarshan

3. Allotment of a common election symbol
4. Right to nominate star campaigners

Select the correct answer:

- | | |
|------------------|------------------|
| (a) 1, 2 and 3 | (b) 1, 3 and 4 |
| (c) 2 and 4 only | (d) 1 and 4 only |

CONSTITUTION, POLITY AND GOVERNANCE

Q2. The recent reforms in procurement rules for research labs in India allow which of the following?

1. Bypassing the GEM portal for scientific equipment
2. Global tender approvals up to ₹500 crore by institution heads
3. Increased ceiling for no-quotation purchases to ₹2 lakh
4. Applicability to all government departments including defence and railways

Choose the correct option:

- (a) 1 and 3 only (b) 1, 2 and 3 only
(c) 1, 3 and 4 only (d) All of the above

Q3. Consider the following statements:

1. According to the Constitution of India, the Central Government has a duty to protect States from internal disturbances.
2. The Constitution of India exempts the States from providing legal counsel to a person being held for preventive detention.
3. According to the Prevention of Terrorism Act, 2002, confession of the accused before the police cannot be used as evidence.

Which of the statements given above is/are correct?

- (a) 1 and 2 only (b) 2 only

- (c) 1 and 3 only (d) 2 and 3 only

Q4. Which of the following statements about the domicile criteria under the Ladakh Civil Services Decentralisation and Recruitment (Amendment) Regulation, 2025 is/are correct?

1. A person must have resided in Ladakh for at least 30 years.
2. Children of Central Government employees who served in Ladakh for 10 years are eligible.
3. Domicile certificates can only be issued by the District Magistrate.

Select the correct option:

- (a) 1 and 2 only (b) 2 only
(c) 2 and 3 only (d) 1, 2 and 3

Q5. Consider the following statements:

1. Article 25 guarantees the right to freely practice, propagate one's religion and the right to convert others.
2. Article 30 gives minorities the right to establish and administer educational institutions of their choice.

Which of the statements given above are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

DESCRIPTIVE QUESTIONS

- Q1.** Do the new domicile, reservation, and language regulations for Ladakh adequately address the region's political and cultural demands? Discuss in the context of the demand for inclusion of Ladakh under the Sixth Schedule.
- Q2.** Discuss the constitutional provisions related to religious freedom in India. In this context, critically examine the concerns raised by the United States Commission on International Religious Freedom (USCIRF) and India's response to them.

Answers: 1-b, 2-a, 3-a, 4-b, 5-b

INTERNATIONAL RELATIONS & SECURITY

GS PAPER (PRELIMS) & GS PAPER II & III (MAIN)

INDIA-EUROPE RELATIONS IN A SHIFTING WORLD ORDER

#BILATERAL RELATIONS

PRIMARY SOURCE THE HINDU

*India is **deepening strategic ties with Europe** enhancing prospects for a multipolar world. India's External Affairs Minister's visit to Europe, along with Prime Minister's participation in the 2025 G7 summit in Canada and his visits to Croatia and Cyprus highlight **India's renewed emphasis on deepening strategic ties with Europe.***

WHY DOES EUROPE MATTER TO INDIA NOW?

Europe, once on the periphery of India's foreign policy, is now emerging as a strategic partner due to key global shifts:

- **Trump-era volatility:** Trump's "America First" doctrine and his transactional approach to alliances like NATO and G7 has created uncertainty in the west, pushing India to diversify ties with Europe.
- **Europe as a Swing State:** As the US-China rivalry intensifies, Europe is emerging as a strategic swing state, it gives India a chance to build balanced, independent partnerships in trade, defence, and technology, supporting India's vision of a multipolar world.
- **Shared Outlook on Multipolarity:** Europe's push for strategic autonomy aligns with India's vision of a multipolar, de-hyphenated world order.
- **Security Realignments:** Post-Ukraine war, European nations like Germany, France, and Poland are taking more responsibility for their own security. This opens

space for India to collaborate on defence, especially in the Indo-Pacific.

The strategic alignment grounded in shared economic interests, democratic values, and the pursuit of enhanced national security.

HOW IS INDIA DEEPENING TIES WITH EUROPE?

- **High Level Engagements:** Indian PM's visit to the G7 Summit presents an opportunity to strengthen links with the broader Western bloc, and engage with the G7 on global issues like climate change, digital governance, and economic resilience.
- **Trade and Tech cooperation:**
 - **The EU-India Trade and Technology Council (TTC)**, established in 2023, advances cooperation in AI, quantum computing, outer space, and green technologies.
 - The once unlikely **India-EU Free Trade Agreement** is now back on track, reflecting growing mutual interest in deeper economic integration.
- **Connectivity Initiatives:** India-Middle East-Europe Economic Corridor (**IMEC**) aims to create alternative trade routes and reduce supply chain dependency on China.
- **Defence Collaboration:** Joint military exercises (E.g., with France), co-development talks, and Europe's €800 billion ReArm 2030 plan offer scope for defence industrial partnerships.

CHALLENGES

- **Russia remains a sensitive factor** in India-EU relations. India maintains long-standing defence ties with Russia and has refrained from criticising Russia's war in Ukraine.
- Europe is at the receiving end of Russia's ambitions to rearrange the regional order. However, both India and

the EU have prioritised pragmatic engagement over ideological arguments.

As the West grapples with internal divisions and the US-China rivalry grows, Europe offers India a reliable partner for balanced cooperation in trade, defence, and technology. Together, both can play a key role in shaping a stable, multipolar world order.

ABOUT G7

- G7 is an intergovernmental forum and a group of 7 advanced economies- the US, UK, France, Germany, Italy, Canada, Japan that meet **annually** to discuss global economic and political issues.
- Russia used to be a member of the G7, until it annexed the Crimean Peninsula from Ukraine in 2014. India is not a member, and is regularly invited as a guest member.
- The 51st G7 summit was held in June 2025 in Kananaskis, Alberta, **Canada**.

REVIEW OF INDIA-ASEAN AITIGA

#REGIONAL GROUPINGS



The government is collecting inputs from the industry to understand the possible reasons behind the underutilisation of the India-ASEAN Free Trade Agreement which is way below 50%, at present.

INDIA-ASEAN FREE TRADE AGREEMENT

- Formally known as the ASEAN-India Trade In Goods Agreement (AITIGA).
- **Signed in:** 2009, Bangkok. Implemented in 2010.
- **Aim:** To promote free flow of goods, enhance economic integration, and strengthen bilateral ties through: elimination or reduction of tariffs, improved market access, deeper economic cooperation.
- **Members:** Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar and Cambodia.

KEY FEATURES OF AITIGA

- **Coverage:** Only trade in goods (services & investment covered in later agreements)

- **Tariff Reduction:** Phased reduction/elimination on over 80% of tariff lines.
- **Sensitive List:** Countries can maintain “sensitive” and “exclusion” lists for protection.
- **Rules of Origin (RoO):** Minimum 35% value addition & change in tariff subheading is required.
- **Safeguard Mechanism:** Allows re-imposition of tariffs temporarily to protect domestic industry.
- **Dispute Settlement** through consultation and mutual resolution mechanisms.

EVALUATION OF AITIGA

- Resulted in a **steady widening of the trade deficit** between India and the 10-member ASEAN bloc. India’s exports to the ASEAN bloc declined 5.7% to \$38.96 billion in FY25. While imports increased 5.6% to \$84.16 billion, increasing the trade deficit to \$45.2 billion in FY25 from about \$8 billion in 2010.
- More than half the exports taking place from India to the ASEAN countries are **happening outside the free trade framework** with exporters paying regular import duties (MFN rates) and not the preferential or zero-duties agreed under the pact.

KEY CHALLENGES IN UTILISATION OF AITIGA

- **Underutilisation of Duty Benefits:** Less than 50% of Indian exporters use the FTA benefits.
- **Lack of Awareness:** Many small exporters are unaware of procedures or benefits under AITIGA.
- **Complex Rules of Origin (RoO):** Difficulty in understanding and meeting origin criteria for COO certification.
- **Procedural Delays:** Delays in obtaining Certificate of Origin (COO).
- **Conflicting interpretations of rules** between Indian and ASEAN authorities.
- **Difficulties in customs clearance process** and inconsistent guidance from logistics providers, agents, or consultants

GOVERNMENT REVIEWING AITIGA

- Exporters were asked about their awareness of COO procedures and challenges in interpreting Rules of Origin.
- Inputs sought on difficulties in tracing origin of raw materials and delays in obtaining COOs.

- Concerns regarding documentation costs, agency fees, customs clearance issues, and inconsistent guidance from intermediaries were also invited.

STRATEGIC SIGNIFICANCE OF ASEAN FOR INDIA

- Central to India's Act East Policy. ASEAN is India's 4th largest trading partner.
- Key to countering China in the Indo-Pacific region.

Association of Southeast Asian Nations



A regional grouping to promote political, economic, and security cooperation in Southeast Asia.

- Established** on 8 August 1967, via the Bangkok Declaration.
- Founding Members** Indonesia, Malaysia, Philippines, Singapore, Thailand
- Current Members** : Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar and Cambodia
- Headquarters** : Jakarta, Indonesia.
- 3rd largest economy in Asia

India-ASEAN Relations :

- Dialogue Partner since 1992
- Strategic Partner since 2012
- INDIA - ASEAN FTA signed in 2009

- South Asia, the most populous region of the world (25% of the world's population), represents a combined market of only \$5 trillion in GDP. On the other side, the EU, with 5.8% of the world's population, accounts for \$18 trillion in GDP, and NAFTA has a GDP of \$24.8 trillion. This clearly shows the underexploited capacity of the South Asian region.
- South Asian Free Trade Area (SAFTA)** was created under SAARC to foster trade Cooperation. Despite this, inter regional trade stands at just 5-7% of the total international trade - the lowest among all major regional blocs. The EU accounts for approximately 45% of total international trade, ASEAN accounts for 22% and NAFTA around 25%.
- Current trade among SAARC** countries is just around \$23 billion, far below the estimated \$67 billion. United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), estimates South Asia's trade potential at \$172 billion, with over 86% unexploited by 2020. Bangladesh has the highest unexploited proportion at 93%, followed by the Maldives, Pakistan, Afghanistan, and Nepal.

BARRIERS TO REGIONAL TRADE AND INTEGRATION

- High Intra-Regional Trade Costs:** Intra-South Asia trade costs 114% of the value of goods, making regional trade more expensive than global trade. E.g., it is about 20% more costly for a company in India to trade with Pakistan than with Brazil, which is 22 times farther away. Intraregional trade costs for ASEAN are some 40% lower than intra-SAARC trade costs, at 76%, creating high incentives for interdependence in that bloc.
- Underperforming SAARC and SAFTA:** SAARC had the aim of ending distrust and tension, but trust deficits and regional conflicts hinder the full implementation of agreements such as SAFTA. Despite SAFTA, trading with neighbours is not 'free'. As estimated by the UNESCAP, in spite of trade liberalisation under SAFTA, intraregional trade in South Asia is less than a third of its potential.
- Security and Trust Deficit:** Political diversity, regional disputes, minority issues and terrorism are major obstacles to regional cooperation. **E.g.,** Due to terror insurgencies and border disputes bilateral trade between India and Pakistan fell from \$2.4 billion in 2018 to \$1.2 billion in 2024.

DISMAL STATE OF SOUTH ASIAN ECONOMIC INTEGRATION

#INDIA AND ITS NEIGHBOURHOOD #REGIONAL GROUPINGS



Despite being home to 25% of the global population, South Asia remains one of the least economically integrated regions in the world. Border disputes among the nations significantly hamper trade and economic cooperation, preventing the region from achieving its full potential.

SOUTH ASIAN REGION IS ONE OF THE LEAST ECONOMICALLY INTEGRATED REGIONS

- **Absence of Strategic Vision:** Regional forums lack leadership, enforcement, and long-term planning. E.g., SAARC summits are irregular, and often unproductive.

IMPACTS OF POOR REGIONAL INTEGRATION

- Lesser trade opportunity means lesser capacity for innovation, production and investment in the people of the country.
- South Asia's trade-to-GDP ratio decreased from 47.30% in 2022 to 42.94% in 2024.
- World Bank reported a softened growth forecast of 5.8% for 2025, down from 6% in 2024.
- Trade deficit of the subregion has widened from \$204.1 billion in 2015 to \$339 billion in 2022.

Therefore, to exploit the full potential of the South Asian region, members must work actively to enhance intra-regional trade, keeping aside their bilateral conflicts.



- Established: 8 December 1985 (Dhaka, Bangladesh)
- Founding Members: 7 countries - India, Pakistan, Bangladesh, Nepal, Bhutan, Sri Lanka, Maldives
- Current Members: 8 (Afghanistan joined in 2007)
- Observer Countries: USA, China, EU, Japan, Iran, South Korea, Australia, Myanmar, Mauritius.
- Headquarters: Kathmandu, Nepal

Key Objectives:

- To promote regional cooperation and development among South Asian countries.

- Foster mutual trust and understanding.
- Strengthen collective self-reliance

Key Initiatives:

- South Asia Free Trade Agreement (SAFTA)
- SAARC Food Bank
- SAARC Development Fund (SDF)
- South Asian University (SAU)
- SAARC Disaster Management Centre

INDIA'S UNEASY BALANCING ACT IN BAY OF BENGAL OF BENGAL

#INDIA AND ITS NEIGHBOURHOOD

PRIMARY SOURCE THE HINDU

India has taken several strategic, infrastructural, and diplomatic steps to position itself as a regional integrator in the Bay of Bengal and broader South Asia. However, India risks undermining the idea of cooperative regionalism, if it begins to use trade access to signal political displeasure.



INDIA'S STRATEGIC STEPS IN THE BAY OF BENGAL REGION

India has taken several strategic, infrastructural, and diplomatic steps in the Bay of Bengal and broader South Asia. They include:

- **India has invested heavily in port infrastructure** through the **Sagarmala programme** to improve coastal logistics and connectivity.
 - India's port infrastructure remains the most extensive and efficient in the region. Cargo-handling capacity is expanding rapidly, and coastal shipping and multimodal linkages are more developed than those of any other BIMSTEC partner.
 - Regional countries like Bangladesh rely on Indian gateways for faster, cheaper access to global markets. Alternatives via Sri Lanka or Southeast Asia are costlier and less time efficient.
- **Policy changes such as Goods and Services Tax (GST)** cuts on bunker fuel and incentives for coastal shipping have doubled the cargo movement on the east coast in a decade.
- At the regional level, India is pushing for better integration through BIMSTEC. India has signed the **BIMSTEC Maritime Transport Cooperation Agreement** to harmonise customs procedures and foster multimodal linkages, with the broader goal of reducing the cost and friction of trade within the Bay.
- **Through Act East and Neighbourhood first policy**, India emphasis on building connectivity with ASEAN and South Asian neighbours, especially through the Northeast.

These steps aim to improve connectivity, economic ties, and trust among its neighbours.

CONCERNS ABOUT INDIA'S CREDIBILITY AS A REGIONAL TRADE FACILITATOR

- **India recently withdrew a key transshipment facility granted to Bangladesh.** India cited misuse of the facility and regulatory concerns as reasons for the withdrawal. This move, coupled with restrictions on Bangladeshi imports of some goods via land routes, has raised concerns about India's credibility as a regional trade facilitator in the Bay of Bengal.

Geopolitical Implications:

Infrastructure alone does not confer leadership. In a fragmented region like the Bay of Bengal, credibility matters as much as capacity.

- **Erosion of Trust:** If India's neighbours see trade routes being weaponised for political signaling, they will start hedging- possibly turning more towards China or Southeast Asia.

- **Impact on Regional Leadership:** India wants to be the economic and connectivity hub of the Bay of Bengal, but leadership requires predictable and rule-based behaviour.
- **Signal to smaller BIMSTEC Members:** Countries like Nepal, Bhutan, Myanmar, and Sri Lanka may begin to doubt India's commitment to neutral, cooperative regionalism.

BAY OF BENGAL IS AT AN INFLECTION POINT

- On one level, it is a zone of opportunity. With improved connectivity, it could emerge as a self-sustaining corridor between South and Southeast Asia.
- On another level, the region remains vulnerable to strategic anxieties.

WAY FORWARD

- **Clarify Policy:** Clearly state the reasons for suspending Bangladesh's transshipment facility and the conditions for its restoration.
- **Rules-Based Mechanism:** Establish transparent trade and transit rules to prevent political disruptions from affecting economic cooperation.
- **Strengthen BIMSTEC:** Use BIMSTEC to institutionalise regional trade norms, customs coordination, and dispute resolution.
- **Credibility over Coercion:** Maintain policy consistency to reinforce India's image as a dependable regional leader, not a reactive power.

INDIA SUPPORTS CYPRUS'S SOVEREIGNTY

#BILATERAL RELATIONS

PRIMARY SOURCE *The Indian EXPRESS*

Recently, the Prime Minister of India visited Cyprus. This is the first visit by an Indian PM to Cyprus in over 20 years. It is being seen by many as a strategic signal to Turkey which has steadily deepened its ties with Pakistan.

INDIA-CYPRUS TIES

- India has **backed the territorial integrity of Cyprus** and called for a resolution of the Cyprus issue under UNSC resolutions and international law.
- **Cyprus supports India's candidature** as a permanent member of the expanded UN Security Council.

- Cyprus has extended its full support for the **India-US Civil Nuclear Agreement**, within the Nuclear Supplier Group (NSG) and the International Atomic Energy Agency (IAEA).
- The small but **active Indian community in Cyprus** strengthens people-to-people ties and enhances India's soft power presence in the region.

WHY IS CYPRUS IMPORTANT TO INDIA?

- **Strategic location in Mediterranean:** Cyprus' geographic location makes it a crucial part of the India-Middle East-Europe Economic Corridor (**IMEC**), an infrastructure project that India expects multiple benefits from.
 - IMEC is supposed to boost trade and connectivity between India and Europe via the Middle East, and Cyprus, in the Mediterranean, has an important role to play.
- **Upcoming EU Presidency:** Cyprus is set to hold the Presidency of the Council of the EU in the first half of 2026. looks to build stronger trade and security ties with Europe, so Cyprus could be a crucial ally.
- **Counter Turkey:** Cyprus has a long-standing and unresolved conflict with Turkey, which occupies Northern Cyprus and recognises it as a separate state.



LOCATION OF CYPRUS

- Cyprus (Republic of Cyprus) is an island country in the **eastern Mediterranean Sea**.
- **Situated in West Asia**, it is located southeast of Greece, south of Turkey, west of Syria and Lebanon, northwest of Israel and Palestine, and north of Egypt.

POLITICAL BOUNDARIES

- Cyprus is divided into two main political entities.
- The **Republic of Cyprus** controls the southern two-thirds of the island. It is internationally recognised and a member of the European Union (EU).

- The northern part is administered by the **Turkish Republic of Northern Cyprus** (TRNC), which is only recognised by Turkey, with heavy Turkish military and economic backing.
- The **division of the island** dates back to 1974 following a Turkish invasion triggered by a Greek-led coup (aimed at annexing the island to Greece). The buffer zone is known as the **Green Line**, and is patrolled by United Nations peacekeepers.

By deepening engagement with Cyprus, a rival of Turkey, India is sending a subtle but firm diplomatic message- If Turkey continues to back Pakistan's anti-India agenda, India would not hesitate to build stronger ties with its adversaries in the region.

INDIA-CROATIA TO STRENGTHEN BILATERAL TIES

#BILATERAL RELATIONS #INDIA-CROATIA

PRIMARY SOURCE THE HINDU

Recently, the **Prime Minister of India visited Croatia**. He held official talks with the Croatian Prime Minister to enhance bilateral relations across defence, space, infrastructure, and digital sectors.

KEY HIGHLIGHTS OF THE VISIT

- **Defence Cooperation:** India and Croatia will make long-term plans for deepening the defence partnership, focusing on defence production alongside training and military exchange.
- **Joint Ventures in Space:** India and Croatia to jointly work on space technology and projects, reflecting India's growing soft power in tech diplomacy.
- **Economic Cooperation:**
 - India seeks to enhance investment into Croatia's critical industries like pharmaceuticals, agriculture, IT, clean technology, digital technology, and semiconductors.
 - Under the Sagarmala Project, the Indian PM invited Croatian companies to participate in port modernisation, coastal zone development, multimodal connectivity, and shipbuilding initiatives in India.

- **Connectivity:** Croatia can serve as India's gateway into Central and Southeastern Europe. Though not a formal stakeholder in IMEC (India-Middle East-Europe Economic Corridor) yet, Croatia would complement the corridor's European leg through regional logistics and port connectivity.

India has historical ties with the Adriatic region, further strengthened by people-to-people connections.



LOCATION OF CROATIA

- Croatia is situated in Central and Southeast Europe, on the **coast of the Adriatic Sea**.
- It borders Slovenia (northwest), Hungary (northeast), Serbia (east), Bosnia and Herzegovina and Montenegro (southeast), and shares a maritime border with Italy to the west.
- **Capital and largest city:** Zagreb

PRESIDENT OF PARAGUAY VISITS INDIA

#BILATERAL RELATIONS #SOUTH AMERICA



The **President of Paraguay was on a three-day state visit to India** in June, 2025. India and Paraguay are looking at new opportunities to strengthen economic partnership in several areas, including digital technology and critical minerals.

INDIA-PARAGUAY RELATIONS

- **Diplomatic Relations:** India-Paraguay bilateral diplomatic ties were established in 1961. The countries share cordial relations with **shared principles and values-** democracy, human rights, rule of law, freedom of expression, peace, respect for sovereignty and territorial integrity.
- **Bilateral Trade:** India-Paraguay bilateral trade stood at USD 477 million in FY23.
 - **India's imports:** soya oil and related products, iron and steel, aluminium, and animal products.
 - **India's exports:** motor vehicles, agrochemicals, auto parts and pharmaceutical products.
- **Economic cooperation:** The two countries can expand cooperation in areas such as digital technology (Digital Public Infrastructure), critical minerals, energy, agriculture (AgriStack), healthcare, defence, railways and space.
 - Paraguay is rich in natural resources and minerals and has the potential to be a reliable regional partner to India.
 - India can share the expertise in the Digital Public Infrastructure with Paraguay.
- **India has a Preferential Trade Arrangement** with South American trading bloc **MERCOSUR**. India and Paraguay can partner in expanding regional commerce in Latin America.

The two countries are integral parts of the **Global South** with shared challenges- such as cybercrime, organised crime, and drug trafficking.

MERCOSUR

- MERCOSUR is a Latin American **trade bloc** including Brazil, Bolivia, Argentina, Paraguay and Uruguay formed in 1991.
- MERCOSUR members agree to the free movement of goods and services between member countries.
- MERCOSUR-India Preferential Trade Agreement (PTA) signed in 2004.

LOCATION OF PARAGUAY

- Paraguay is a **landlocked country** in south-central **South America**.
- It shares its borders with **three countries:** Bolivia, Argentina and Brazil.

The President's first visit will add new strength to the pillars of trust, trade, and close cooperation in the relations and will also add new dimensions to **India-Latin America relations.**



INDIA NOT KEEN TO DENT TRADE TIES WITH TURKEY

#BILATERAL RELATIONS

PRIMARY SOURCE | The Indian EXPRESS

Amid the calls to curb the trade, India is not keen to dent the trade ties with Turkey, as the country runs a \$2.73 billion **bilateral goods trade surplus**, and any blockade could be counterproductive for India.

INDIA-TURKEY TRADE RELATIONS

- **India's exports to Turkey** have steadily grown, especially in industrial sectors. In FY25, the exports to Turkey totalled \$5.72 billion, largely driven by engineering exports which comprise over 50%. Notably, the Micro, Small and Medium Enterprises (MSME) sector dominated the segment.
- **India's Exports to Turkey:** Mineral fuels and oil, engineering goods, electrical equipment, auto and its parts, chemicals, pharma, tanning and dyeing items; plastic, rubber; cotton; man-made fibres and filaments, iron and steel.
- **Imports from Turkey:** Marble, mineral oil, fresh apples, gold, vegetables, lime, cement, chemicals, natural or cultured pearls and iron and steel.
- India runs a **\$2.73 billion bilateral goods trade surplus** and any blockade could be counterproductive.

India's trade relations with Turkey are facing new challenges after the country voiced "support for Pakistan" and criticised India's strikes on terror camps in Pakistan and Pakistan-occupied Kashmir.

Despite growing tensions and industry pressure, the government is **proceeding cautiously** on Turkish imports, balancing political messages with economic logic.

OPERATION SPIDER'S WEB: FIRST PERSON VIEW DRONES

#INTERNAL SECURITY #EMERGING THREATS

PRIMARY SOURCE | The Indian EXPRESS

Ukraine carried out large scale drone strikes on multiple Russian air bases, including one in Siberia some 4000 kms from the frontlines. Ukraine's drone strikes under Operation Spider's Web mark a new era in modern warfare- precise, deep attacks using **small specialised First Person view (FPV) drones.**

OPERATION SPIDER'S WEB OF UKRAINE

- **Ukraine carried out large scale drone strikes** on multiple Russian air bases. Specialised First Person view (FPV) drones struck at least five military air bases across- Murmansk, Irkutsk, Ivanovo, Ryazan, and Amur regions in Russia, and destroyed around 41 bomber aircraft including rare strategic bombers like the Tu-95 and Tu-22M3.
- **The operation used a Trojan horse-like tactic;** specialised FPV drones were smuggled into Russia inside mobile wooden cabins on trucks. The roofs opened remotely, allowing drones to launch and strike nearby bases precisely.



FIRST PERSON VIEW (FPV) DRONES

- FPV drones **transmit live footage to the operator** through a camera mounted on the drone. The feed

can be viewed using goggles, smartphones, or other devices.

- **FPV drones are often used** in various industries, including media, but are also increasingly being used in military operations.
- These drones **usually have a shorter range** compared to surveillance drones and are guided to targets after a reconnaissance drone surveys the area.

Key advantages of FPV drones:

- **Inexpensive:** The estimated cost of an FPV drone with a payload is at around \$500. This makes them cost-effective alternatives to conventional weapons.
- **Hard to detect:** FPV drones are harder to detect and can conduct deep strikes. This makes them useful for attrition-based strategies.

IMPLICATIONS OF CHANGING NATURE OF WARFARE

This significant raiding action in modern warfare demonstrates the effectiveness of deep-strike programs and takes the possibilities of drone warfare to the next level.

- **New Age Warfare:** Drones have made it possible to strike deep into enemy territory without using traditional fighter jets or missiles. The drones used for such operations are quite cheap as compared to conventional weapons, and reduces armed forces casualties.
- **Vulnerability of Critical Assets:** Traditional military bases, aircrafts, and infrastructure, which was previously considered secure, are now vulnerable to drone attacks and demand new defence strategies.
- **Need for Drone Defence systems:** This necessitates the urgent investment in anti-drone systems to protect critical infrastructure and defence assets.

**OPERATION RISING LION:
ISRAEL ATTACKS IRAN**

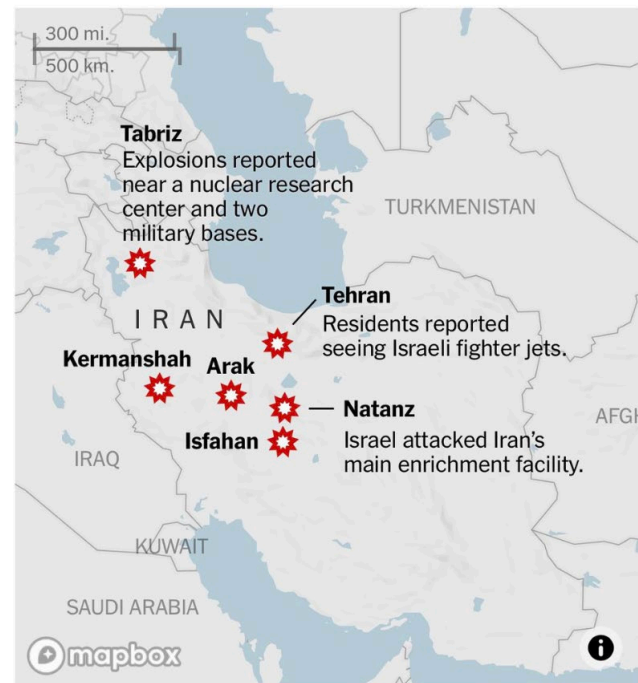
#WEST ASIA #GEOPLITICS



Israel launched a large-scale military operation named "Operation Rising Lion" against Iran. It involved a series of

airstrikes hitting more than 100 targets across Iran. The immediate trigger was a resolution passed by the International Atomic Energy Agency (IAEA) declaring Iran as non-compliant with its nuclear obligations. Israel views a nuclear Iran as an existential threat.

Where Israel attacked Iran



By Martín González Gómez and Julie Walton Shaver

OPERATION RISING LION: KEY TARGETS

- Iranian nuclear facilities, military infrastructure, missile sites, and top military and nuclear personnel.
- **Attacked Natanz Nuclear Facility-** the heart of Iran's uranium enrichment programme, located in the Central province of Isfahan.
- Israel's strikes **killed top military personnel** like:
 - Maj Gen Mohammad Bagheri, chief of staff of the armed forces
 - Gen Hossein Salami, chief of the Islamic Revolutionary Guards Corps (IRGC), arguably the most powerful institution in the country.
- Israel also **targeted a number of military sites across Iran.** These include:
 - a nuclear research centre and two military bases in **Tabriz** in northern Iran
 - missile development and production facilities in **Bid Kaneh**, on the southern edge of Tehran

- a missile base in **Kermanshah** in central Iran; and multiple military bases in and around Tehran.

This is by far Israel's **most extensive attack on a sovereign state since the 1967 war** and is likely to have far-reaching consequences for the region and the world.

IAEA DECLARES IRAN IN BREACH OF NUCLEAR NON-PROLIFERATION OBLIGATIONS

#INTERNATIONAL AGREEMENTS #WEST ASIA



Recently, the UN nuclear watchdog, the International Atomic Energy Agency (IAEA), **adopted a resolution declaring that Iran is in breach of its non-proliferation obligations**, for the first time since 2005. IAEA said that Iran had consistently failed to provide information about undeclared nuclear material and activities at multiple locations.

IAEA CENSURES IRAN

- The resolution comes after an IAEA investigative report which assessed that Iran was conducting secret nuclear activities at three locations. IAEA's Board of Governors declared that **Iran was non-compliant** with its non-proliferation obligations.
- According to the IAEA, Iran has **400 kg of uranium that is already enriched to 60%**, just a few steps away from further enrichment to weapons-grade level of 90% or more. The total stockpile of uranium and other nuclear material would be much more.
- **Possible ramifications:** The censure could pave the way for the UN Security Council and European states (the UK, France, and Germany) to snap back sanctions on Iran lifted under the 2015 Nuclear Deal (officially, the Joint Comprehensive Plan of Action).

JOINT COMPREHENSIVE PLAN OF ACTION (JCPOA)

- Also known as the Iran nuclear deal. Signed in 2015 between Iran and the P5+1 nations (USA, UK, France, Russia, China + Germany).
- It aims to restrict Iran's nuclear programme in exchange for sanctions relief.

Iran agreed to:

- Cap its uranium enrichment at 3.67% purity, far below the 90% level needed for weapons-grade material.
- Limit the number of centrifuges and reduce its stockpile of enriched uranium.
- Allow IAEA inspections and monitoring of nuclear sites.
- The US unilaterally withdrew in 2018 under President Trump, reinstating sanctions and Iran began violating enrichment limits in response.
- The JCPOA is set to expire in October 2025.

Iran has condemned the IAEA resolution as "politically motivated and biased" and threatened to **withdraw from the Nuclear Non-Proliferation Treaty (NPT)**. Iran announced plans to open a new uranium enrichment facility at a strategically secure site and significantly increase its enriched uranium stockpile.

WHAT IS THE NPT?

- The Nuclear Non-Proliferation Treaty (NPT), signed in 1968, aims to:
 - Prevent the spread of nuclear weapons,
 - Promote peaceful use of nuclear energy, and
 - Facilitate nuclear disarmament.
- **It defines nuclear weapon states (NWS)** as those that had manufactured and detonated a nuclear explosive device prior to 1 January 1967.
- **Five NSW are** China, France, Russia, the UK and the US. All the other states are non-nuclear weapon states (NNWS).
- Iran is a signatory, and is obligated to allow IAEA inspections and limit enrichment.
- **India, Israel, and Pakistan** possess nuclear weapons but have never accepted the NPT. India considers NPT as flawed and as it does not recognise the need for universal, non-discriminatory verification and treatment.

CAN IRAN LEAVE THE NPT?

The **United States has attacked three key nuclear installations in Iran**- Fordow, Isfahan and Natanz. This marked the entry of the US into the ongoing conflict

between Israel and Iran. Iran has the legal right to withdraw from the NPT owing to the US strikes.

- **Article 10 of NPT:** Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardised the supreme interests of its country.
- **A notice of withdrawal must be given** to other parties and the United Nations Security Council (UNSC), **three months** in advance, and such notice shall include a statement of the extraordinary events it regards as having jeopardised its supreme interests.

EXITING THE TREATY RAISES TWO MAJOR CONCERNS

- **Increased opacity in Iran's Nuclear program:** It will keep Iran out of the IAEA's purview and regular inspections. IAEA would lose access to visit nuclear-sites in Iran.
- **Set a precedent to exit NPT:** It could set a precedent for other states to leave the global framework and weaken cooperation on nuclear non-proliferation.

US ENTERS IN IRAN-ISRAEL CONFLICT

#WEST ASIA #GEOPOLITICS

PRIMARY SOURCE THE HINDU BUSINESS LINE

Recently, the **United States attacked three key nuclear installations in Iran- Fordow, Isfahan and Natanz**, with the US President claiming that all the three facilities had been completely and totally obliterated. This marked the entry of the US into the ongoing conflict between Israel and Iran.

ISRAEL-IRAN CONFLICT- RECENT DEVELOPMENTS

- All the three facilities targeted by the US are **key uranium enrichment sites** that house the infrastructure to convert natural uranium into highly enriched uranium (HEU) that is needed to make a nuclear bomb.
- The US attacks follow a **series of missile strikes by Israel** which had targeted Iran's nuclear installations, most notably **Natanz**.

Trump's gambit
The White House says the combination of strikes 'completely and fully obliterated' three nuclear sites in Iran

- **Fordow:** Iran's most heavily fortified nuclear site used for uranium enrichment, which is built deep beneath a mountain
- **Natanz:** Largest uranium enrichment facility in Iran
- **Isfahan:** Iran's largest nuclear research site, which was targeted by Israel 2 times since the crisis began on June 13

B-2 Spirit Stealth bomber

14 GBU-57 MOP 'bunker-buster' bombs used on at least 2 sites

War plans: U.S. President Donald Trump and Cabinet members in the White House on Saturday night. AFP

More than 2 dozen Tomahawk missiles

A satellite image shows craters at Iran's Fordow facility after the U.S. strikes. AFP/SATELLITE IMAGE ©2025 MAXAR TECHNOLOGIES

SOURCE: GRAPHIC NEWS

In retaliation, Iran launched missile attacks at the **al-Udeid Air Base in Qatar**, the largest American base in West Asia. Qatar said it successfully intercepted the missiles and that there were no deaths and injuries.

Iran's attack on US military base in Qatar



What bombs did the US use to strike Iran?

- The US forces used six **B-2 stealth bombers** to drop 12 **bunker-buster bombs** on Fordow.
- Navy submarines fired 30 **Tomahawk cruise missiles** at Natanz and Isfahan, while a B2 dropped two bunker busters on Natanz.
- These B-2 stealth bombers are equipped with the GBU-57 Massive Ordnance Penetrator, a **30,000-pound bunker-buster bomb** designed to dismantle heavily fortified underground targets. This type of bomb is **unique to the US arsenal** and is considered the only weapon capable of effectively targeting Iran's most protected nuclear facilities.

US ENTERS IN IRAN-ISRAEL CONFLICT- SIGNIFICANCE & IMPLICATIONS

- **Stronger US-Israel bond:** The strikes marked the first full-fledged demonstration of US's "iron-clad" support for Israel. Israel claims that Iran is developing nuclear weapons and posing an existential threat to it. It has long sought to target Iran's nuclear program, but lacked the capability to take out the facility in Fordow.

- **Weakened Iran:** Israel has claimed to have destroyed about one-third of Iran's missile launching capabilities. The US B-2 bombers came in and out of Iranian airspace unchallenged is proof of the degraded capacity of Iran. The strikes have eliminated top Iranian military officials and over 600 civilians. Iran is now at its weakest, politically and militarily.
- **Ghosts of Iraq:** Iran has criticised the US for violating international law and attacking its territorial sovereignty. The premise for the US attacks (that Iran was close to building a nuclear bomb) is being compared/criticised to US invasion on Iraq in 2003, when it made claims about the country possessing Weapons of Mass Destruction. This led to a bloody war over 8 years, destabilisation of the region, and emergence of **Daesh** in Iraq in around 2012.

The shared threat from Iran has brought Arab states closer to Israel. The **Abraham Accords** may further deepen as Gulf countries and Israel enhance their security cooperation.

WIDER GEOPOLITICAL IMPLICATIONS

- **Potential Nuclear Disaster in Iran:** The attacks by Israel and the US have led to fears of a potential nuclear disaster, in the form of a nuclear explosion, or large-scale nuclear radiation leaks. However, the International Atomic Energy Agency (IAEA) has not seen any increase in off-site radiation levels following the US's attack.
- **Disruption of Trade via Strait of Hormuz:** Iran's parliament (the Majlis) has approved the closure of the Strait of Hormuz in response to the attacks by the US. Further instability in Gulf and West Asia will affect global trade routes and security.
- **Iran could exit NPT:** Iran has the legal right to withdraw from the nuclear Non-Proliferation Treaty (NPT) owing to the US strikes. Exiting NPT will keep Iran out of the IAEA's purview and regular inspections, and it could set a precedent for other states to leave the treaty.
- **Iran's threats to increase enrichment:** Iran announced that it will inaugurate a new enrichment facility at a secure, undisclosed location and replace its first-generation centrifuges at the Fordow enrichment facility with sixth-generation centrifuges. The move aims at a significant increase in the production of enriched materials.

INDIA'S STAND

- The Indian Prime Minister spoke with the President of Iran and called for **immediate de-escalation**, hours after the US struck three prominent nuclear sites in Iran.
- India launched **Operation Sindhu** to bring back Indians from Iran and Israel in view of increasing hostilities between the two nations.
- India **increased its purchases of Russian oil** in June, importing more than the combined volumes from West Asian suppliers such as Saudi Arabia and Iraq, amid market volatility triggered by Israel's attack on Iran.

SIGNIFICANCE OF IRAN FOR INDIA

#BILATERAL RELATIONS



*The recent conflict between Israel and Iran, leaves India in a difficult spot in **balancing its policy with Iran and Israel**. Iran has been a long-standing diplomatic and economic partner to India.*

INDIA'S RELATIONS WITH IRAN

- India and Iran share ancient **civilisational ties**- common cultural, linguistic, and ethnic roots.
- India signed a **Friendship Treaty with Iran** in 1950, committing to perpetual peace and friendship.
- **Two landmark agreements:**
 - **Tehran Declaration (2001):** Aimed at boosting cooperation in energy, trade, and security.
 - **New Delhi Declaration (2003):** Covered various areas of bilateral cooperation, including economic collaboration, hydrocarbons, science and technology, education, reconstruction of Afghanistan and combating international terrorism.

SIGNIFICANCE OF IRAN TO INDIA

- **Strategic Location in West Asia:** Iran lies at the crossroads of West Asia, Central Asia, and South Asia. It is located near the Strait of Hormuz, a critical choke point through which about 20% of global oil passes.
- **Gateway to Central Asia and Afghanistan:** Iran offers an alternative land and sea route to access Afghanistan (bypassing Pakistan) and Central Asian Republics like Turkmenistan, Uzbekistan, Kazakhstan, etc.

- **Infrastructure Projects:** India and Iran signed an MoU in 2015 to develop the Shahid Beheshti terminal at **Chabahar Port**. Chabahar port project being jointly developed in Iran is of crucial importance to India, as:
 - It would provide **connectivity to Afghanistan** and the resource-rich Central Asian countries, bypassing Pakistan.
 - Chabahar is a key link in the **International North South Transport Corridor (INSTC)**, connecting India with Iran, Russia, Central Asia, and Europe, reducing transit time and cost while boosting trade with Eurasia.
 - It would **counter China's growing influence** in the region, particularly its Belt and Road Initiative.

IMPORTANT OIL SUPPLIER TO INDIA

- Before Western sanctions over its alleged nuclear program, **Iran was one of India's top three oil suppliers for many years**. Critical infrastructure, such as the Mangalore Refinery and Petrochemicals Ltd, was built with the capability to process Iranian crude oil.
- Iran was a preferred supplier for India as it used to extend favourable terms, including discounted prices and extended credit periods. Oil supplies continued irrespective of the UN sanctions against Iran. In 2018, when the US reimposed its sanctions after getting out of the nuclear deal, India used the rupee payment mechanism to partly pay for the oil in Indian rupee, to get past the US sanctions.

IMPORTANT EXPORT DESTINATION

- Iran was an important export destination for certain items from India including semi/wholly milled rice, black tea, fertilisers, organic/inorganic/agro chemicals, pharmaceuticals, yarns and fabric.
- Exports to Iran were as much as \$5.3 billion in 2013. However, the fall was sudden and sharp since 2019, after India stopped buying oil from the country, with exports in FY25 at \$1.24 billion.

Exporters hope for a return to normal relationship with Iran, as the country holds a lot of potential for growth.

WHY IS THE STRAIT OF HORMUZ CRITICAL FOR INDIA?

#LOCATIONS IN NEWS #IRAN-ISRAEL WAR

PRIMARY SOURCE The Indian EXPRESS

In response to the recent US military strikes on Iranian nuclear facilities, **Iran's Parliament has approved the closure of Strait of Hormuz.** However, the final decision will be taken by Iran's Supreme National Security Council. As of July, no decision of closure has been taken.



ABOUT STRAIT OF HORMUZ

- Critical narrow waterway between Iran and Oman. It connects the Persian Gulf with the Gulf of Oman and the Arabian Sea.
- Provides the only sea passage from the Persian Gulf to the open ocean and is one of the world's most critical energy chokepoints.
- Around 20% of the global oil and gas supply- including shipments from Saudi Arabia, Iraq, the UAE, Qatar, and Iran- transit this narrow channel daily. If it is closed by Iran, oil prices could jump to over \$120, or even \$150 per barrel from \$74 per barrel.
- At just 33 kilometers wide at its narrowest point, with shipping lanes only 3 kilometers wide in each direction, the strait is particularly vulnerable to disruption.

HAS THE STRAIT EVER BEEN CLOSED?

Despite past threats, Iran has never closed the Strait of Hormuz- even during major conflict- due to its global energy importance and the risk of strong retaliation from regional powers and the US. Iran might refrain from choking the Strait of Hormuz as:

- **Rupture Iran's relationship with Oman** (which owns the southern half of the strait) and the Gulf Cooperation Council (GCC States).
- **Heavily impact China**, Iran's largest trading partner. China is the number one importer of oil, accounting for nearly three-quarters of Iran's oil export.

- **Impact Iran:** Closure of its oil exporting terminal and associated economic hit would fuel popular discontent, which might impact both regime stability, and reformist tendencies for Iranian President.

IMPORTANCE OF THE STRAIT OF HORMUZ

The Strait of Hormuz is vital for India due to its energy dependence in the region with most of this energy coming via the Strait of Hormuz.

- **Strategic Energy Chokepoint:** India's oil supply is heavily reliant on the region, with around 40% of its crude oil imports and 54% of its liquefied natural gas (LNG) imports travelling through the Strait of Hormuz. Any threat or blockade increases freight and insurance costs (risk premium), raising the landed price of oil and gas in India.
- **Global Price Surge Impact:** Even without direct supply cuts, tensions cause global oil price spikes, which hurt India due to its heavy dependence on energy imports. This can affect India's trade deficit, foreign exchange reserves, rupee stability, and inflation levels.
- **Indirect Impact via China:** Even if India does not import Iranian oil (due to US sanctions), any disruption in Iran's supply to China will push Chinese demand to India's suppliers, tightening global supply and raising prices.

Conclusion: The Strait of Hormuz is a lifeline for India's energy security. While immediate disruption is unlikely, continued tension in the region poses serious economic risks.

RESURGENCE OF BOKO HARAM IN NIGERIA

#TERRORISM

PRIMARY SOURCE The Indian EXPRESS

Boko Haram insurgency is witnessing a resurgence in Nigeria, Africa in 2025 with repeated attacks on military outposts, civilian settlements, and local militia groups.

WHAT IS BOKO HARAM?

- Boko Haram is a self proclaimed jihadist militant group mainly based in northeastern Nigeria.
- **Founded by** Mohammed Yusuf in 2002, in Borno state, Nigeria.

- Boko Haram translates to 'Western Education is forbidden'. They took up arms in 2009 to fight Western education, secular governance and modern institutions, and to impose a radical version of Islamic law.
- The group is also active in Chad, Niger, northern Cameroon and Mali.

Nigeria Boko Haram

Key | ■ Nigerian territory under control of Boko Haram



GUARDIAN GRAPHIC

BOKO HARAM HAS SPLIT INTO TWO FACTIONS OVER THE YEARS

- **Islamic State West Africa Province (ISWAP):** Backed by the **Islamic State** group, it targets military positions and overrunning outposts across Nigeria's northeast.
- **JAS (Jama'atu Ahlis Sunna Lidda'awati wal-Jihad):** resorted to attacking civilians and perceived collaborators, and thrives on robberies and abductions for ransom.

BOKO HARAM INSURGENCY

- Despite earlier gains, Nigeria's armed forces are struggling to maintain control, particularly in the crisis-ridden **Borno state**. Over 2 million people have been displaced and 35,000 civilian deaths have occurred due to the insurgency.

At the height of its terror in 2013-14, Boko Haram controlled an area nearly the size of Belgium. Though Nigeria's military reclaimed much of this territory over the past decade, the new wave of attacks has raised fears about a possible return to the gloomy past.

INDIA'S NUCLEAR ARSENAL INCREASED: SIPRI REPORT 2025

#INTERNATIONAL REPORTS

PRIMARY SOURCE | THE HINDU

According to the latest **Stockholm International Peace Research Institute (SIPRI) yearbook 2025**, India has slightly expanded its nuclear stockpile in 2024, and continues developing new nuclear delivery systems.

STATE OF WORLD NUCLEAR ARSENAL

- **India** had nuclear 172 warheads in 2024 and **increased it to 180 in 2025**. These warheads are in the country's stockpile, i.e., they are available to be deployed for operational use. India continues the development of new delivery systems, including **canisterised missiles** that may carry multiple warheads.
- There are 12,241 nuke warheads globally, spread across nine nuclear-armed countries. The US and Russia own 90% of nuclear warheads. In comparison to India, China has 600 warheads and Pakistan has 170.
- **Nine nuclear-armed countries** are the US, Russia, the UK, France, China, India, Pakistan, North Korea, and Israel.

WORLD NUCLEAR FORCES, JANUARY 2025

	Military stockpile ^a			Retired warheads ^d	Total inventory ^e
	Deployed warheads ^b	Stored warheads ^c	Total		
USA	1 770	1 930	3 700	1 477	5 177
Russia	1 718	2 591	4 309	1 150	5 459
UK	120	105	225	-	225
France	280	10	290	..	290
China	24	576	600	-	600
India	-	180	180	..	180
Pakistan	-	170	170	..	170
North Korea	-	50	50	..	50
Israel	-	90	90	..	90
Total	3 912	5 702	9 614	2 627	12 241

.. = not applicable or not available; - = nil or a negligible value.

SIPRI's Report cautions that **if no new agreement is reached** to cap nuclear stockpiles, the number of warheads deployed on strategic missiles might increase after the expiry of the bilateral **2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START)** in 2026.

INDIA'S CHANGING COUNTER-TERRORISM STRATEGY

#INTERNAL SECURITY #TERRORISM

PRIMARY SOURCE The Indian EXPRESS

Operation Sindoor marks a turning point in India's counter-terrorism strategy and military posture towards Pakistan. It reflects **India's new assertive doctrine of swift, escalated retaliation** against cross-border terrorism.

SHIFTS IN INDIA'S RESPONSE POST THE PAHAGAM TERROR ATTACK

- **Shift from strategic restraint to Proactive Retaliation:** In the past, India often exercised strategic restraint. India's current posture on cross-border terrorism is proactive retaliation, strategic assertiveness, and zero tolerance.
- **Expanded Military Engagement:** Kargil conflict of 1999 was limited to a small area in Jammu and Kashmir. During Operation Sindoor, India hit targets up to 100 km inside Pakistan and Pakistan occupied Kashmir (PoK).
- **Zero Tolerance Doctrine:** India's new posture treats both terrorist groups and their state sponsors as equal threats. Military action now targets infrastructure, command centers, and even state-protected assets.
- **Establishment of a New Normal:** Indian Prime Minister clearly stated that military action was suspended, not ended. India has lowered its threshold for initiating military action in response to terror.
- **International Message and Narrative Control:** By linking Pakistan-based groups like the Lashkar-e-Taiba and Jaish-e-Mohammed to major terrorist attacks in the US and UK, India framed Operation Sindoor as India's war on terrorism, similar to what NATO launched in Afghanistan after 9/11. The multi-political party outreach by the Indian government, travelling the world and explaining Pakistan's links to terrorism and India's 'zero-tolerance policy towards such aggression.

India did strike at nine terror locations in Pakistan and Pakistan-occupied Kashmir, and successfully thwarted Pakistani drone attacks along the western border. The conflict de-escalated with a ceasefire on May 10.

FIRST BATCH OF WOMEN GRADUATES FROM NDA

#WOMEN EMPOWERMENT #SECURITY FORCES

PRIMARY SOURCE The Indian EXPRESS

In a historic first, 17 women cadets graduated alongside male counterparts from the Pune-based **National Defence Academy (NDA)**, marking the successful passing out of the first co-ed batch from the tri-services institution.

Inclusion of 17 women cadets in the recently graduated 148th batch of NDA is a watershed moment for the armed forces, opening a realistic path for women to reach the highest echelons of the Indian military in the coming decades. This is a major milestone in the long quest for **gender equality in the armed forces.**



HISTORY OF INCLUSION OF WOMEN IN ARMED FORCES

- **1888:** British initiated the Military Nursing Service in India.
- **1958:** Women doctors were granted regular commissions in the Army Medical Corps.
- **1992:** Women Special Entry Scheme (WSES) allowed women to join non-combat branches as Short Service Commission (SSC) officers.
- **2008-2019:** Limited expansion of roles under Permanent Commission (PC), but without command roles.
- **2020:** In a landmark judgment, the Supreme Court of India upheld gender equality by granting women PC and command roles across ten non-combat streams.
- **2021:** The apex court directed the NDA to open admissions to women, ensuring equal entry opportunities.
- **2022:** The NDA began admitting women in 2022.

Women are now being fully integrated into the NDA's 18 squadrons, the basic units of life and leadership at the academy, undergoing the same rigorous training as men.

SIGNIFICANCE OF WOMEN INCLUSION INTO NDA

- **Break the gender stereotypes:** Inclusion of women in combat and command roles breaks the gender stereotype that women only belong to pink collar jobs.
- **Breaking Institutional Patriarchy:** NDA training was long exclusive to men. Women's inclusion challenges the entrenched military patriarchy.
- **Building Future Leaders:** Women's inclusion in NDA ensures equal access to elite training and command experience, enabling them to become future military leaders and service chiefs.
- **Catalyst for Social Change:** Women joining NDA lead to new norms of equality, and encourage wider acceptance of women in leadership and non-traditional careers across society.

CHALLENGES AHEAD

- Recent progress in women's inclusion is encouraging but requires deeper cultural change within the armed forces. A change that would normalise having women in leadership positions. Some combat and command streams still remain closed to women.
- Armed forces will have to make further efforts on work-life infrastructure and mechanisms for maternity policy, childcare support, spousal postings.
- The criteria for promotion boards and evaluation, command postings will need upgrades.

EXERCISE KHAAN QUEST

#BILATERAL RELATIONS #MILITARY EXERCISE

PRIMARY SOURCE THE HINDU

Exercise Khaan Quest 2025, a multinational military exercise, was hosted by Mongolia in Ulaanbaatar in June.

EXERCISE KHAAN QUEST

- It is an **annual joint military exercise** that brings together military forces from around the world. This year's exercise involves military contingents from over 20 countries, including India.
- **Objective:** To collaborate and enhance their peacekeeping capabilities.

- The exercise focuses on a high degree of physical fitness, joint planning and joint tactical drills.

INDIA-MONGOLIA JOINT MILITARY EXERCISE: NOMADIC ELEPHANT

#BILATERAL RELATIONS #MILITARY EXERCISE

PRIMARY SOURCE THE HINDU

17th edition of the joint military exercise 'Nomadic Elephant 2025' between India and Mongolia was undertaken at the Special Forces Training Centre in Ulaanbaatar, Mongolia in June.

NOMADIC ELEPHANT 2025

- This **annual exercise** is conducted alternately in India and Mongolia.
- **Objective:** To enhance operational readiness of both armies, deepen defence relationship and strengthen the ability to respond effectively to contemporary security challenges.

INDIA AND EU CONDUCT JOINT NAVAL EXERCISE IN INDIAN OCEAN

#BILATERAL RELATIONS #MILITARY EXERCISE

PRIMARY SOURCE THE HINDU

India and the European Union Naval Force (EUNAVFOR) held a joint major naval exercise in the Indian Ocean in June. This exercise was undertaken to boost maritime security cooperation between the two forces.

INDIA-EU NAVAL EXERCISE

- The exercise involved forces from the EUNAVFOR Operation ATALANTA and the Indian Navy.
- **Focus:** To improve interoperability between the naval forces, advance counter-piracy tactics and maritime cooperation.
- Indian ship included- Indian frigate **TRIKAND** supported by the respective air assets; Indian Maritime Patrol aircraft.

The boosting of Indian-EU cooperation is necessary for a **secure, free and open Indian Ocean and Indo-Pacific.**

PRACTICE QUESTIONS

MCQS

Q1. Consider the following statements regarding the ASEAN-India Free Trade Agreement (AITIGA):

1. AITIGA covers trade in goods, services, and investment.
2. India's trade deficit with ASEAN has increased significantly since the agreement's implementation.
3. One of the key challenges in utilising AITIGA is the complexity of the Rules of Origin.

Which of the statements given above are correct?

- | | |
|------------------|----------------|
| (a) 1 and 2 only | (b) 3 only |
| (c) 2 and 3 only | (d) 1, 2 and 3 |

Q2. Consider the following statements:

1. The Strait of Hormuz separates Iran and Oman.
2. The Strait of Hormuz connects the Persian Gulf to the Red Sea.

Which of the above is/are correct?

- | | |
|------------------|---------------------|
| (a) 1 only | (b) 2 only |
| (c) Both 1 and 2 | (d) Neither 1 nor 2 |

Q3. Consider the following countries:

- | | |
|-------------|-----------|
| 1. China | 2. France |
| 3. India | 4. Israel |
| 5. Pakistan | |

Which among the above are Nuclear Weapons States as recognized by the Treaty on the Non-Proliferation of Nuclear Weapons, commonly known as Nuclear Non-proliferation Treaty (NPT)?

- (a) 1 and 2 only
- (b) 1, 3, 4 and 5 only
- (c) 2, 4 and 5 only
- (d) 1, 2, 3, 4 and 5

Q4. Which of the following is true about Boko Haram?

- (a) It is a group from Nigeria that opposes Western education.
- (b) It started in South Africa to fight racism.
- (c) It supports democratic elections in Africa.
- (d) It works with the United Nations for peacekeeping.

Q5. What is the primary feature of First-Person View (FPV) drones used in military operations?

- (a) They are satellite-guided autonomous drones
- (b) They are underwater surveillance drones
- (c) They are operated using real-time video feed for precise manual control
- (d) They carry nuclear payloads for strategic missions

DESCRIPTIVE QUESTIONS

Q1. Evaluate the strategic significance of India's growing engagement with Europe amidst the changing global order. Discuss key areas of cooperation and challenges in the partnership.

Q2. India's relationship with Iran goes beyond oil. Examine the key dimensions of this bilateral partnership and how recent geopolitical developments affect it.

Answers: 1-c, 2-a, 3-a, 4-a, 5-c

SOCIETY AND SOCIAL JUSTICE

GS PAPER I & GS PAPER II (MAIN)

MATERNITY BENEFIT IS A FUNDAMENTAL RIGHT: SC

#WOMEN AND WOMEN ISSUES #MATERNITY RIGHTS

PRIMARY SOURCE THE HINDU BUSINESS LINE

In the landmark **K. Uma Devi vs State of Tamil Nadu (2025)** judgment, the Supreme Court has recognised maternity rights as a **fundamental right under Article 21** of the Constitution.

K. UMA DEVI VS STATE OF TAMIL NADU- KEY HIGHLIGHTS

- The SC affirmed that maternity benefits are not just welfare measures but legal rights essential to a woman's dignity, health, and livelihood.
- The SC referred to International Conventions and instruments i.e.,
 - Universal Declaration of Human Rights
 - United Nations Economic and Social Council
 - Convention on the Elimination of All Forms of Discrimination Against Women
 - Maternity Convention C183 (2000) of the International Labour Organisation (ILO) to highlight the requirement of 'special assistance and social protection' to working women before and after childbirth.
- The SC cited that the **state is obligated to protect their reproductive and maternity rights** in order to ensure their equal participation in the workforce. The Court treated the **Maternity Benefits Act 1961**, as a normative framework.

India with a **maximum paid leave of 26 weeks** has joined the league of 42 nations that provide **maximum paid leave** exceeding 18 weeks i.e., surpassing C183 of ILO. Maternity Protection Convention 2000 (C183 of ILO) sets a minimum standard of 14 weeks.

ASSOCIATED CHALLENGES

Despite being a landmark judgment, K Uma Devi Vs State of TN case also raises several pertinent questions:

- **Scope of Application:** Will maternity rights as a fundamental right apply beyond public sector jobs to all forms of employment?
- **How will women in the informal sector be brought under its protection?** Over 90% of India's female workforce is in the informal sector. These women are often excluded from formal maternity benefit schemes.
- **Funding Challenges: Who will bear the financial burden?** Large corporations may absorb maternity costs easily. But MSMEs struggle with the financial burden of both paid leave and temporary replacement. India lacks a national maternity financing system, unlike many developed economies.

WAY FORWARD

- **Adopt Mixed Financing Models** combining social insurance, national social security systems, and tax-funded schemes to reduce the burden on individual employers- especially for informal and self-employed women.
- **Establish a Universal Maternity Fund** aligned with ILO guidelines to ensure inclusive and sustainable maternity benefits financing.
- **Draw from global best practices** outlined in the ILO's World Social Protection Report 2024-26 to strengthen India's maternity financing framework.

MATERNITY BENEFITS ACT 1961

- Provides 26 weeks of paid leave for women with less than two surviving children.
- For women with two or more children, 12 weeks of paid leave is allowed.
- Allows for work-from-home arrangements after maternity leave, depending on mutual agreement between employer and employee.

- Since the 2017 amendment, adoptive and commissioning mothers are entitled to 12 weeks of paid maternity leave.
- Establishments with 50 or more employees must provide a creche facility.
- Applies to establishments with 10 or more employees, including factories, mines, plantations, shops, and private companies.
- A woman is eligible if she has worked in the establishment for at least 80 days in the 12 months preceding her expected delivery.

TRANSGENDER COUPLE TO BE LISTED AS GENDER-NEUTRAL PARENTS: KERALA HC

#RIGHTS ISSUES #VULNERABLE SECTIONS

PRIMARY SOURCE 

The Kerala High Court has allowed a transgender couple to be officially recognised as the 'legal parents' of their child on the birth certificate.

BACKGROUND

- The petitioners (Zahhad, a trans man, and Ziya, a trans woman) were a transgender couple with their biological child (Zahhad gave birth).
- Initially, the Kozhikode civic body issued a birth certificate listing Zahhad as the "mother" and Ziya as the "father," **ignoring their self-identified genders**, even though the couple had updated identity documents.
- Challenging this in the HC, the couple argued that the registration process violated their fundamental rights, including dignity, privacy, and equality.
- They also cited the **Transgender Persons (Protection of Rights) Act, 2019**, which upholds the right to self-perceived gender identity.

RULING BY THE KERALA HC

In the landmark judgement- '*Zahhad v. State of Kerala 2025*', a single-bench of Kerala High Court:

- Allowed the **use of gender-neutral terminology**, "parent" instead of assigning mother or father roles based on birth-assigned sex.
- The HC ruled that the **law must evolve in tandem with new concepts of human life and societal changes**. When a statutory provision on a particular point is not in line with such societal changes, the Court must intervene to address the genuine grievances of the parties concerned.

LANDMARK CASES CITED

In its reasoning, the Court relied on certain landmark judgements, such as:

- **Deepika Singh v. Central Administrative Tribunal:** guardians or caretakers of the child may change with remarriage, adoption, or fostering. The legal understanding of "family" may include manifestations like queer families as well as single parents.
- **NALSA v. Union of India:** Recognised the right of transgender persons to self-identify their gender, affirming their inclusion within the constitutional guarantee of dignity and autonomy.
- **Navtej Singh Johar v. Union of India:** Decriminalised same-sex relationships and upheld the rights of LGBTQIA+ persons right to life and personal liberty.
- **Badshah v. Urmila Godse:** Emphasised the doctrine of "social justice adjudication," urging the courts to bridge the gap between law and evolving societal needs.

TRANSGENDER PERSONS (PROTECTION OF RIGHTS) ACT 2019

- The act defines a transgender person as one whose gender does not match the gender assigned at birth. It includes trans-men and trans-women, persons with intersex variations, genderqueers, and persons with socio-cultural identities, such as kinnar and hijra.
- **Self-identification:** A transgender person may make an application to the District Magistrate for a certificate of identity, indicating gender as 'transgender'.
- **Prohibits discrimination** against a transgender person in education, employment and healthcare. Access to goods, facilities, and opportunities available to the public. Right to move, reside, rent,

or otherwise occupy the property. Opportunity to hold public or private office.

- **Recognise offences against transgender persons** like forced or bonded labour; denial of use of public places; physical, sexual, verbal, emotional or economic abuse. Penalties for these offences vary between 6 months & 2 years, and a fine.
- **The National Council for Transgender Persons** will advise the central government as well as monitor the impact of policies, legislation and projects with respect to transgender persons. It will also redress the grievances of transgender persons.

The verdict is being hailed as a milestone for LGBTQIA+ rights in India, setting a precedent for inclusive documentation practices that respect diverse family structures.

NEED FOR GENDER EQUITY IN URBAN BUREAUCRACY

#URBANISATION #ROLE OF WOMEN

PRIMARY SOURCE THE HINDU

*India is in the midst of profound urban transformation. By 2050, over 800 million people, about half the population, will live in cities, making India the largest driver of global urban growth. A key dimension of this transformation is **how gender equity is integrated** into urban governance, planning, and budgeting.*

GENDER GAP IN URBAN BUREAUCRACY

India's urban governance and bureaucracy is presently male-dominated, this is reflected in:

- In 2022, women constituted just 20% of the Indian Administrative Service (India Spend 2022).
- In policing, only 11.7% of the national force are women (Bureau of Police Research and Development 2023), and often concerned with desk roles.
- Women representation in urban planning, municipal engineering and transport authorities is significantly low.

Challenges associated with Gender Gap in Urban Bureaucracy:

- **Gendered urban experiences ignored:** Administrative cadres (city managers, planners, engineers, police) are male dominated. Low female presence in planning bodies limits gendered perspectives in slum rehabilitation, water access, housing, and social infrastructure, and fails to reflect the lived experiences and needs of women. **E.g.,**
 - 84% of women in Delhi and Mumbai used public or shared transport compared to 63% of men. Yet, urban planning prioritises mega-projects over safe, accessible, neighbourhood-level mobility.
 - Safetipin audit (2019) across 50 cities found over 60% of public spaces were poorly lit, reducing women's mobility.
- **Symbolic Gender Budgeting:** India adopted Gender Responsive Budgeting (GRB) in 2005-06, however, it suffers from weak monitoring and limited institutional capacities, especially in smaller cities. For many Urban Local Governments, GRB remains tokenistic in the absence of gender audits, and overlooks essentials such as pedestrian safety or childcare in urban planning.

Studies by the **Indian Council for Research on International Economic Relations and UN** shows that women officials tend to prioritise water, health, and safety, and enhance public trust through more empathetic enforcement, underscoring the need for gender-diverse institutions in urban governance.

GENDER RESPONSIVE BUDGETING (GRB)

- GRB is a concept that integrates gender considerations into public finance.
- Introduced globally in the 1990s, GRB recognises that budgets are not neutral and can reinforce inequalities if left unchecked.

GRB INITIATIVES IN INDIA

India adopted a Gender Budget Statement in 2005-06 with Delhi, Tamil Nadu and Kerala leading efforts.

- Delhi has funded women-only buses and public lighting.
- Tamil Nadu applied Gender Responsive Budgeting across 64 departments in 2022-23.

- Kerala embedded gender goals through its People's Plan Campaign.

GLOBAL BEST PRACTICES: IMPACT OF INCREASED WOMEN REPRESENTATION IN BUREAUCRACY

- Uganda mandates gender equity certificates for fund approvals.
- Tunisia's parity laws gave women more technical roles, improving focus on safety and health.
- The Philippines mandates 5% of local budgets for gender programmes. The gender-tagged budgeting is used to fund gender-based violence shelters and childcare.
- South Korea's gender impact assessments reshaped transit and public spaces.

These examples show how representation leads to transformation when women are empowered in decision-making roles, the quality and inclusiveness of governance improves.

WAY FORWARD

As India aims for a \$5 trillion economy, its cities must aim to be engines of equity, not just growth. Gender must be mainstreamed into urban governance through:

- Mandatory gender audits, participatory budgeting, and linked evaluation.
- GRB should be institutionalised across ULGs, supported by targeted capacity-building.
- Representation must translate into real decision-making power, breaking entrenched glass ceilings within bureaucracy.
- Promote local gender equity councils.
- Scale models like Kudumbashree (Kerala) which promote women-led planning.

Integrating gender equity into urban governance and bureaucracy is crucial for building cities that are inclusive, safe, and responsive to all citizens. To build cities for women, we must start by building cities with women.

ENABLING VOTING RIGHTS FOR MIGRANTS

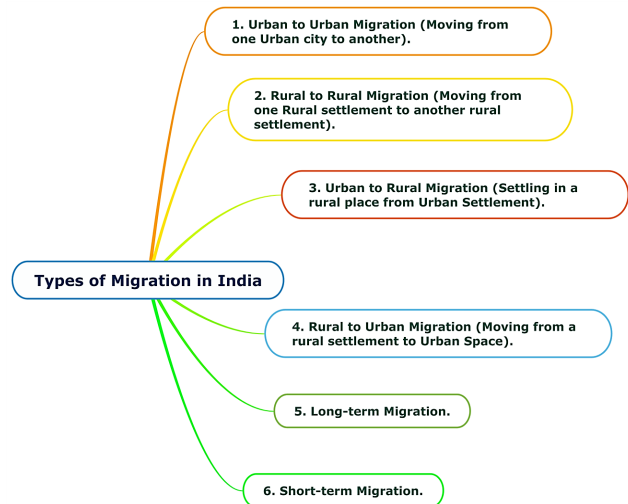
#MIGRATION

PRIMARY SOURCE THE HINDU

Under India's election rules, eligible voters can only cast ballots in their constituencies, i.e., those working outside of their state have to return home to vote. As a result, a significant portion of the migrant population is excluded from exercising their voting rights.

Migration is referred to as spatial mobility from one geographical unit to another which involves change in residence for a considerable period of time.

Reasons for Migration



STATUS OF MIGRATION IN INDIA

- In 2021, the overall migration rate in India was 28.9%.
- Census 2011: Migrants constitute 37% of India's total population, with women accounting for 68% of the migrant population, a trend reflecting the feminisation of migration.
- Around 85% of migrants are Intra-state migrants. A significant portion of migration in India is for marriage. Around 10%, migration is for work. This number is significantly higher in certain northern and eastern states such as Bihar.

REASONS BEHIND LOW ELECTORAL PARTICIPATION OF MIGRANTS

One of the biggest reasons associated with low electoral participation of migrants is their inability to return home to cast their vote.

- High cost and long distances prevent inter-state migrants from returning to their home constituency.
- Most migrants work in the informal sector where lack of paid leave and daily-wage dependency hinder their ability to travel and vote.
- Absence of local address proof prevents voter registration at destination.
- Women migrants post-marriage often remain unregistered at new residence.
- Low political visibility leads to exclusion from electoral outreach and campaigns.

This undermines the principle of universal adult franchise (UAF), migrants remain voiceless in shaping policies that affect them.

MECHANISMS TO INCREASE MIGRANT ELECTORAL PARTICIPATION

- **Remote Voting Machines:** Pilot project by Election Commission of India to allow migrants to vote remotely across constituencies, though currently limited by administrative complexity and political concerns.
- **Postal Ballots:** Extending postal voting, currently used for armed forces, to migrants. However the major challenge is it requires advance registration and streamlined logistics for ballot dispatch and return.
- **Switching Voting Constituencies:** Allowing long-term migrants, living in a constituency for at least 6 months to register and vote in their place of work.
- **Targeted Voter Registration drives** for women who migrate after marriage to ensure enrolment at their new residence.

A combined approach using RVMs, postal ballots, constituency switching, and logistical support is essential to ensure inclusive voting for both inter- and intra-State migrant workers.

CENTRE CAPS MGNREGS SPENDING AT 60%

#WELFARE SCHEMES

PRIMARY SOURCE The Indian EXPRESS

The Union Finance Ministry has capped spending under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) at 60% of its annual allocation for the first half of FY26.

CENTRE CAPS MGNREGS SPENDING- RATIONALE OF GOVT

- **The Finance Ministry has placed MGNREGS** under the Monthly/Quarterly Expenditure Plan (MEP/QEP), a cash management framework used to control government spending. This restricts the spending to 60% till September 2025 (Second quarter of FY). MGNREGS was thus far exempt from MEP/QEP on account of being a demand-driven programme.
- More than 70% of the MGNREGS budget is exhausted by the second quarter of a given FY. While supplementary allocations are often made in the third quarter, even these run out. This leaves significant pending dues by the end of the FY.
- Over the last five FYs, pending dues have ranged between Rs 15,000 crore to Rs 25,000 crore. On average, 20% of the subsequent FY's budget is spent in clearing the pending dues.
- **Implementing an expenditure cap** may likely ensure an adequate budget will remain for the latter half of the FY, so that no supplementary allocation will have to be made.

CRITICISM OF THE SPENDING CAP ON MGNREGS

- Constitutional courts have held that **financial inability cannot be a reason to disregard statutory or constitutional duties**, including in various judgements like- Swaraj Abhiyan v Union of India (2016), Municipal Council, Ratlam vs Shri Vardhichand (1980) etc.
- The 60% spending cap makes it **virtually impossible to realise an entitlement** that is legally guaranteed under the Act, once the ceiling is reached.
- Further, there is currently **no clarity** on what will happen once the ceiling is reached. States could be forced to deny employment even when there is demand, or workers may have to work without timely payment.
- In both scenarios, **statutory rights of the workers may be violated:**

- **Right to receive employment** within 15 days of raising the demand, as provided under MGNREGA.
- **Right to receive wages** within 15 days of closure of work, as mandated under the Act.

ABOUT MGNREGS

- MGNREGS provides up to **100 days of guaranteed employment** in a financial year to any rural household willing to do unskilled manual work on demand.
- Launched in 2006 by the **Ministry of Rural Development**.
- The MGNREGA recognises **employment as a statutory right**. The Act signified a critical shift from employment being a negative right under Article 21 of the Constitution (which mandated that the state must not interfere with your livelihood unreasonably), to a **positive statutory obligation** on the government to provide employment on demand.
- Employment must be provided within 15 days of a work demand, if not, the applicant is entitled to an unemployment allowance.
- MGNREGA Act, 2005 mandates that wages must be paid within 15 days of work completion.
- At least **one-third of beneficiaries** have to be women. Implementation is done by Gram Panchayats.

TRIBAL WELFARE OUTREACH CAMPAIGN

#WELFARE SCHEMES #VULNERABLE SECTIONS

PRIMARY SOURCE: The Indian EXPRESS

The Ministry of Tribal Affairs has launched the **Tribal Welfare Outreach Campaign** to implement tribal welfare schemes across over 500 districts in India.

TRIBAL WELFARE OUTREACH CAMPAIGN

- The campaign aims at the implementation of welfare schemes in over 500 districts of the country, aiming to cover 1 lakh tribal dominated villages and habitations.
- The outreach is a part of the Centre's ongoing year-long celebration of the **Janjatiya Gaurav Varsh**. The celebration began on November 15, 2024, the birth anniversary of **Birsa Munda**.
- The campaign is centered around last mile doorstep delivery of two key flagship schemes:
 - Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN)
 - Dharti Aaba Janjatiya Gram Utkarsh Abhiyan.

PRADHAN MANTRI JANJATI ADIVASI NYAYA MAHA ABHIYAN (PM JANMAN)

- Launched in 2023.
- **Objective:** Address socio-economic challenges faced by Particularly Vulnerable Tribal Groups (PVTGs)
- **Focus:** Basic facilities and welfare services to PVTGs, including- housing, water, sanitation, education, health, connectivity, and livelihood opportunities.
- **Delivery Mechanism:** Localised camps offering documentation, health cards, financial inclusion, and welfare enrolment.

DHARTI AABA JANJATIYA GRAM UTKARSH ABHIYAN

- Launched in 2024. Named after Birsa Munda, revered tribal freedom fighter also known as Dharti Aaba (Father of the Earth).
- **Objective:** Comprehensive development of tribal areas and communities by addressing critical gaps in infrastructure, healthcare, education, and livelihoods.
- Enabling infrastructure and enhancing socio-economic conditions in selected tribal-majority villages (with a population of 500 or more, and at least 50% tribal residents as well as villages in Aspirational Districts with a tribal population of 50 or more).
- 17 Government Ministries will unite for tribal welfare through 25 focus interventions. Each line ministry has been allocated budget and targets. E.g., Construction of hostels, rural electrification, building of homes under Awas Yojana, livestock support, fisheries support etc.
- **Nodal Agency:** Ministry of Tribal Affairs
- The Mission will span a period of 5 years from FY25 to FY29.

EXTREME POVERTY IN INDIA DOWN TO 5.3% IN 2022-23: WORLD BANK

#POVERTY #INCLUSIVE GROWTH

PRIMARY SOURCE THE HINDU

According to the **latest World Bank data on poverty levels across the world, India has recorded a sharp decline in extreme poverty over the past decade even under a higher global poverty benchmark.**

DECLINE IN EXTREME POVERTY IN INDIA


The World Bank revised the extreme poverty threshold to \$3 per day (2021 PPP), a 15% increase from the earlier \$2.15/day standard (adjusted for inflation from 2017-2021).

- Based on the revised extreme poverty threshold, **India's extreme poverty rate fell from 27.1% in 2011-12 to 5.3% in 2022-23.**
- The number of people living in extreme poverty in India fell from 344.47 million to 75.24 million over this period. Nearly 270 million were lifted out of extreme poverty during the same period.
- **Poverty rate:** In 2024, about 54.7 million Indians lived on less than \$3/day. This equals a poverty rate of 5.44% (2021 PPP).

The World Bank sets different poverty lines depending on the income level of countries. The poverty line for lower-middle income countries of \$4.2/day (revised upwards from \$3.65), India's poverty rate declined from 57.7% in 2011-12 to 23.9% in 2022-23.

270M LIFTED FROM BOTTOM RUNG

Year	Poverty Line (PPP/day)	Poverty rate (%)	People below poverty line (in million)
2011-12	\$2.15 (2017)	16.22	205.9
2011-12	\$3 (2021)	27.12	344.5
2022-23	\$2.15 (2017)	2.35	33.6
2022-23	\$3 (2021)	5.25	75.2

Source: Govt factsheet 

DATA USED BY WORLD BANK

- The World Bank used **Household Consumer Expenditure Survey data** as a proxy for income, but removed 'lumpy expenditures' such as hospitalisation, durable expenses and house rental

values. The government conducted two rounds of household consumption expenditure surveys for 2022-23 and 2023-24.

- **HCES 2023-24 adopted the Modified Mixed Recall Period method** (to capture different items of consumption), replacing the Uniform Reference Period (URP). The MMRP method used different recall periods (7 days, one month, one year) for different items while the URP uses the same reference period for all items.

DECLINE IN MULTIDIMENSIONAL POVERTY & INEQUALITY IN INDIA

- NITI Aayog had estimated that **multidimensional poverty in India** had also registered a steep decline from 55.34% in 2005-06 to 14.96% in 2019-21. This estimate of poverty was based on 12 indicators and drew on data from the National Family Health Surveys.
- The World Bank estimated that **inequality in India based on the Gini Index** fell from 28.78 in 2011 to 25.51 in 2022. However, these estimates of inequality are based on the household consumption expenditure data, which typically tends to be lower than estimates based on household income.

Need for an Official Poverty Line:

- India lacks an **official estimate of poverty**, and needs to incorporate income or expenditure metrics in poverty measurement.
- **Rangarajan Committee** (2014) provided a revised poverty line but it was never officially adopted.
- **The existing Multidimensional Poverty Index (MDPI)**, unlike the Human Development Index, fails to include income or expenditure measures.

GOVERNMENT INTERVENTIONS IN POVERTY REDUCTION

India's success in reducing poverty has been supported by a range of targeted welfare schemes, such as:

- MGNREGA
- National Food Security Act (NFSA)
- Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)
- Pradhan Mantri Jan Dhan Yojana (PMJDY)
- Direct Benefit Transfer (DBT)
- Ayushman Bharat PMJAY
- Deendayal Antyodaya Yojana NRLM

- PM-KISAN
- Pradhan Mantri Awas Yojana (PMAY)
- Ujjwala Yojana (PMUY)

These schemes have played a crucial role in addressing income, food, health, and housing insecurity among India's poor.

STATE OF WORLD POPULATION REPORT 2025: UNFPA

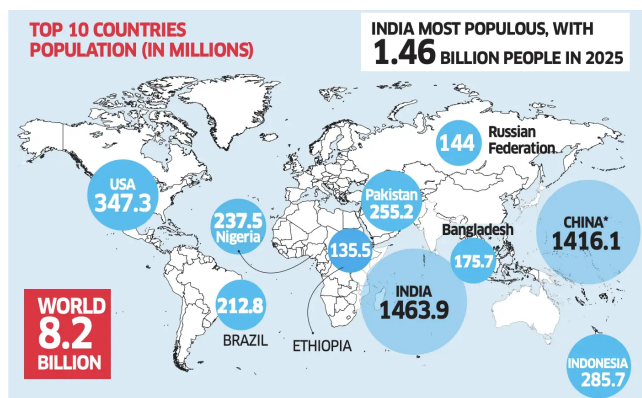
#POPULATION ISSUES #INTERNATIONAL REPORTS

PRIMARY SOURCE THE HINDU

The **United Nations Population Fund** has released its **State of the World Population Report 2025**, titled "The Real fertility crises: The pursuit of reproductive agency in a changing world".

GLOBAL DEMOGRAPHICS- KEY FACTS

- Global fertility rate has decreased from around 5 in 1960 to 3.3 in 1990 and 2.2 in 2024, though significant regional variations exist.
- More than half of the world's countries, accounting for over two-thirds of the global population, have a fertility rate below 2.1 births per woman.



INDIA'S DEMOGRAPHICS- KEY FACTS

- India remains the world's most populous country in 2025 with **1.46 billion people**.
- India's **total fertility rate** has dropped to 1.9, below the replacement level of 2.1. The UN report is in line with NFHS-5 which states that India's fertility rate stood at 2.0 in 2022.

- Two-thirds (68%) of India's population is aged between 15-64 years, highlighting its high potential demographic dividend. Only 7% of people are over 65 years of age.
- India is placed in a **group of middle-income countries** undergoing rapid demographic change, with population doubling time now estimated at 79 years.

The UN report says that millions of people are not able to realise their real fertility goals. Calling this the real crisis (not overpopulation or underpopulation), the report calls for the pursuit of reproductive agency, a person's ability to make free and informed choices about sex, contraception and starting a family.

REAL FERTILITY CRISIS IN INDIA

- **Unmet reproductive aspirations:** Over 36% of respondents (one in three adult Indians) reported an unintended pregnancy. Nearly a third (30%) have struggled with an unfulfilled desire for children. The report states 23% of Indians surveyed have experienced both.
- **Negative reasons to lower fertility:** Common reasons for having fewer children were economic, ranging from financial insecurity and unemployment, inadequate housing and limited access to quality childcare.
- **Lack of agency & unequal relationship dynamics:** Family influence continues to play a key role in women's decision of bearing children (reproductive agency). Women report partners wanting fewer children, and partners not providing assistance in household or childcare work.
- **Lack of workplace policies:** For women in the informal sector and certain private sectors, lack of supportive workplace policies such as paid parental leave, flexible hours, and childcare facilities discourage women from balancing careers with family life. There is also the fear of career setbacks or discrimination due to pregnancy.
- **Gaps in healthcare:** Infertility is still stigmatised. Despite advances in healthcare, many women still face barriers in accessing maternal care and reproductive health information. Limited, expensive, or poorly regulated options for couples struggling with infertility. Treatments are dominated by private

players; combined with lack of insurance coverage, the experience is prohibitively expensive for most.

Reproductive agency is further constrained by widespread reliance on sterilisation. India needs a rights-based approach to encourage access to reversible, modern contraception methods, expanded access to sexual and reproductive health services, including infertility care, and social change to challenge stigma.

GLOBAL GENDER GAP INDEX 2025: WEF

#INTERNATIONAL REPORTS #WOMEN EMPOWERMENT



India has been ranked **131 out of 148 countries** on the **Global Gender Gap Index 2025** with a relative drop of two positions from 2024.

GLOBAL GENDER GAP INDEX

- The Index is released **annually** by the **World Economic Forum (WEF)**.
- First introduced in 2006 to benchmark the current state and evolution of gender parity **across four key dimensions**:
 - Economic Participation and Opportunity
 - Educational Attainment
 - Health and Survival
 - Political Empowerment

GLOBAL GENDER GAP INDEX 2025

Global Highlights:

- The global gender gap is **68.8% for 148 countries**. Across all dimensions in 2024, the gender parity has risen. However, no country has yet achieved full gender parity.
- The highest gap remains in Political Empowerment. Women represent 41.2% of the global workforce, but women only hold 28.8% of top leadership positions.
- **Iceland** is the world's most gender-equal economy, followed by Finland and Norway.

India's Performance:

- India has ranked 131 out of 148 countries with a parity score of 64.1%.
- The biggest gap in India too is in the **political empowerment category**.
 - Representation of women in parliament declined from 14.7% to 13.8%.
 - The share of women in ministerial positions fell from 6.5% to 5.6%.

India's performance across the components of the Global Gender Gap Index				
Components	2025		2024	
	Score (0-1)	Rank	Score (0-1)	Rank
Global Gap Gender Index	0.644	131	0.641	129
Economic Participation and Opportunity	0.407	144	0.398	142
Educational Attainment	0.971	110	0.964	112
Health and Survival	0.954	143	0.951	142
Political Empowerment	0.245	69	0.251	65

QS WORLD UNIVERSITY RANKINGS 2026

#EDUCATION



India has marked its strongest performance in the QS World University Rankings 2026 with 54 institutions featured in the list.

QS WORLD UNIVERSITY RANKINGS 2026: INDIA-SPECIFIC HIGHLIGHTS

- The number of Indian universities in the rankings has grown from 11 in 2015 to **54 in 2026**. Six Indian institutions feature in the global top 250.
- **Indian Institute of Technology (IIT) Delhi** (123rd position) has emerged as India's highest-ranked university followed by IIT Bombay and IIT Madras.

- India has become the **fourth most represented country** in the global rankings, just behind the US, UK, and China. India has the fastest-growing higher education system among G20 nations.

CHALLENGES

India continues to face challenges in aspects critical to global competitiveness, such as international student diversity and faculty resources.

- International Students Ratio:** 78% of Indian universities have witnessed a decline in this metric, and no Indian institution ranks within the top 500 globally for attracting international students. This impacts campus diversity and global exposure for students.

- Faculty-Student Ratio** presents structural challenges, highlighting a broader need for faculty expansion and better resource allocation across institutions.

QS WORLD UNIVERSITY RANKINGS

- Among the most trusted and wide-reaching assessments of higher education worldwide.
- The rankings consider a **broad mix of factors** such as: Academic Reputation, Citations per Faculty, Faculty Student Ratio, Research strength, Employment Outcomes, Faculty Student Ratio, International Student Diversity, International Student Ratio etc.

PRACTICE QUESTIONS

MCQS

Q1. Consider the following statements regarding the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS):

- The scheme provides a legal guarantee of 100 days of employment per family in a financial year.
- The wages under the scheme must be paid within 30 days of work completion.
- Recently, the government capped MGNREGS spending at 60% of its total annual allocation for the first half of FY 2025-26.
- MGNREGS is implemented centrally by the Ministry of Finance.

Which of the statements given above is/are correct?

- 1 and 2 only
- 1 and 3 only
- 2 and 4 only
- 1, 3 and 4 only

Q2. Which of the following statements is/are correct regarding the recent World Bank data on poverty in India?

- India's extreme poverty rate declined from 27.1% in 2011-12 to 5.3% in 2022-23.

- The World Bank revised the extreme poverty line to \$3 per day (2021 PPP).
- As per 2024 estimates, over 100 million Indians lived on less than \$3 per day.

Select the correct answer using the code below:

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

Q3. Which of the following statements is/are correct regarding the Maternity Benefit (Amendment) Act, 2017?

- Pregnant women are entitled for three months pre-delivery and three months post-delivery paid leave.
- Enterprises with creches must allow the mother a minimum of six creche visits daily.
- Women with two children get reduced entitlements.

Select the correct answer using the code given below.

- 1 and 2 only
- 2 only
- 3 only
- 1, 2 and 3

Q4. Consider the following statements with reference to Dharti Aaba Janjatiya Gram Utkarsh Abhiyan:

1. The tribal welfare scheme is named after tribal freedom fighter Birsa Munda.
2. It is an initiative of the Ministry of Social Justice and Empowerment.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only

- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q5. Global Gender Gap Index, is released by which among the following?

- (a) World Bank
- (b) World Economic Forum
- (c) International Monetary Fund
- (d) International Labour Organisation

DESCRIPTIVE QUESTIONS

- Q1.** Male-dominated urban governance hampers inclusive and equitable city development. In this context, examine the importance of gender equity in urban planning, administration, and budgeting.
- Q2.** India's declining fertility rate is just a sign of progress, but also a reflection of deep-seated structural inequalities. Comment in the light of the recent State of the World Population report "The Real fertility crises: The pursuit of reproductive agency in a changing world".

Answers: 1-b, 2-a, 3-c, 4-a, 5-b

GEOGRAPHY, ENVIRONMENT, BIODIVERSITY & DISASTER MANAGEMENT

GS PAPER (PRELIMS) AND GS PAPER I & III (MAIN)

ARAVALLI GREEN WALL PROJECT

#CONSERVATION

PRIMARY SOURCE THE HINDU

On the World Environment Day 2025, the Prime Minister of India planted the first sapling (Sindoor/Vermillion tree) in Delhi's Ridge to officially launch the **Aravalli Green Wall Project** to restore the Aravalli mountain range.

ARAVALLI GREEN WALL PROJECT

- **Aim:**
 - Restore 700-km Aravalli mountain range's ecology through reforestation and conservation efforts across Delhi, Haryana, Rajasthan, and Gujarat.
 - Create a 1400 km-long, 5 km-wide green belt inspired by Africa's Great Green Wall.
- All plantation activities will be **geo-tagged and monitored** via the **Meri LiFE portal** to ensure transparency.

KEY INITIATIVES UNDER THE PROJECT

- Plant native species, revive 75 water bodies, and bolster soil conservation targeting 1.1 million hectares by 2027.
- Expand green cover in a 5-km buffer zone along the Aravalli range
- Develop around 1,000 nurseries to support continuous plantation drives and engage local communities.
- Transform the region into a thriving hub for eco-tourism and sustainable travel.

SIGNIFICANCE

- Green barriers would prevent eastward expansion of the Thar Desert, prevent soil erosion, desertification and dust storms.
- Enhance biodiversity and ecosystem services by planting native tree species, providing habitat for wildlife and improving water quality and quantity.
- Help in carbon sequestration and mitigating climate change.
- Promote sustainable development and livelihood opportunities by involving local communities in afforestation, agro-forestry and water conservation activities.
- Contribute to India's commitments under various international conventions such as:
 - UNCCD (United Nations Convention to Combat Desertification)
 - UNCBD (Convention on Biological Diversity)
 - UNFCCC (United Nations Framework Convention on Climate Change).

UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION (UNCCD)

- Established in 1994, UNCCD is the **sole legally binding international agreement** linking environment and development to sustainable land management.
- The convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands.

- UNCCD is committed to a bottom-up approach, encouraging the participation of local people in combating desertification and land degradation.
- The member parties work together to improve the living conditions for people in drylands, to maintain and restore land and soil productivity, and to mitigate the effects of drought.
- UNCCD collaborates closely with the other **two Rio Conventions**: UNCBD and UNFCCC to meet these complex challenges with an integrated approach and the best possible use of natural resources.



THREATS

- Decades of deforestation, mining, livestock grazing, and human encroachment have severely degraded the range.
- Of the total degraded area, 81% is in Rajasthan alone, followed by Gujarat, Haryana and Delhi. It has led to drying lakes, damaged aquifers, reduced biodiversity, and increasing desertification risks.

SIGNIFICANCE OF ARAVALLI MOUNTAIN RANGE

- Vital ecological barrier that prevents the eastward expansion of the Thar desert and protects cities such as Delhi, Jaipur and Gurugram from desertification.
- Gives rise to several rivers including Banas & Sahibi (Tributaries of Yamuna), Luni (flows into Rann of Kutch), Chambal, Sakhi, and Sabarmati.
- Performs the role of an aquifer with its highly fractured and weathered quality rocks allowing water to percolate and recharge the groundwater.
- Its forests, grasslands and wetlands support endangered plant and animal species.
- Rich in natural resources including minerals such as rock phosphate, lead-zinc-silver, talc, pyrophyllite, asbestos, etc.

NATIONAL ACTION PLAN TO COMBAT DESERTIFICATION AND LAND DEGRADATION

- The National Action Plan to Combat Desertification 2023 takes due consideration of India's commitments for:
 - Restoration of 26 million hectares of degraded land by 2030.
 - Generating an additional carbon sink of 2.5-3 billion tonnes of CO2 equivalent by 2030 through additional forest and tree cover.
 - Initiative for enhanced South-South Cooperation to share experiences on Sustainable Land Management (SLM) strategies.
- India is a party to the UN Convention to Combat Desertification (UNCCD).

ARAVALLI MOUNTAIN RANGE

- Oldest mountain ranges (fold mountains) in the world having its origin in the Proterozoic era.
- It runs approximately 700 kms from north-east to south-west direction, in western India.
- **Range States:** Delhi, Haryana, Rajasthan, Gujarat
- Divided into two sections: Sambhar-Sirohi ranges and Sambhar-Khetri ranges.
- **Highest Peak:** Guru Shikhar on Mount Abu.

FRA CELLS TO SPEED UP FOREST RIGHTS IMPLEMENTATION

#CONSERVATION

PRIMARY SOURCE THE HINDU

The Central government has sanctioned over 300 FRA Cells to facilitate the implementation of the Forest Rights Act, 2006 across 18 states and UTs.

PENDING FOREST RIGHTS CLAIMS

- As of March 2025, about 14.45% of the 51.11 lakh forest rights claims filed under the Forest Rights Act (FRA), 2006 across 21 States/UTs still **remain pending**.
- Even among the 43 lakh disposed claims, over 42% have been rejected indicating serious issues in the implementation process.

To address these long-standing delays and rejections, the Union government has sanctioned over 300 FRA Cells across 18 states & UTs.

ABOUT FOREST RIGHT ACT 2006

- Also known as Schedule Tribes and Other Traditional Forest Dwellers Act.
- The act recognises and vests the forest rights and occupation in Forest land in Forest Dwelling Scheduled Tribes (FDST) and Other Traditional Forest Dwellers (OTFD) who have been residing in such forests for generations.

The Act identifies Four Types of Rights:

- **Title rights:** Gives FDST and OTFD, the right to ownership of land farmed by tribals or forest dwellers subject to a maximum of 4 hectares. Ownership is only for land that is being cultivated by the concerned family and no new lands will be granted. It also provides for Community rights over minor forest produce and other resources.
- **Use rights:** The rights of the dwellers extend to extracting Minor Forest Produce, grazing areas, pastoralist routes, etc.
- **Relief and development rights:** To rehabilitation in case of illegal eviction or forced displacement and to basic amenities, subject to restrictions for forest protection.
- **Forest management rights:** It includes the right to protect, regenerate or conserve or manage any community forest resource which they have been traditionally protecting and conserving for sustainable use.

Key Facts:

- The Act recognises both **individuals and community rights**.
- The decision and declaration of Habitat rights under FRA is in the jurisdiction of the Ministry of **Tribal Affairs**.

- The claim needs to be **approved by the Gram Sabha**. The decision of the Gram Sabha to reject or allow the claim can be appealed before court.

ABOUT FRA CELLS

- FRA Cells are created in districts and states to assist in implementing the Forest Rights Act, 2006, law meant to give forest rights to Scheduled Tribes and forest-dwelling communities.
- This is being done under a new scheme called **Dharti ABA Janjati Gram Utkarsh Abhiyaan (DAJGUA)**.

KEY DETAILS ABOUT FRA CELLS

- Until now, implementation of the FRA, has been the domain of State and UT governments who were supposed to form local committees like Gram Sabhas, Sub-Divisional Level Committees (SDLCs), District Level Committees (DLCs), etc., to process land claims.
- Now, under DAJGUA, **324 district-level FRA cells and 17 state-level FRA cells** have been approved. The rules governing the operation of these cells **flow from the DAJGUA programme**, and not the principal legislation of the FRA.
- **FRA Cells are meant to help** tribal people and Gram Sabhas prepare documents, manage data, and push pending claims, not to interfere in decision-making.
- **The highest number of district FRA cells** are sanctioned in Madhya Pradesh (55), followed by Chhattisgarh (30), Telangana, Maharashtra, Assam, and Jharkhand.
- Though FRA cells function under state machinery as per DAJGUA rules, they are **centrally funded** through Grants-in-Aid General.

DHARTI ABA JANJATI GRAM UTKARSH ABHIYAAN (DAJGUA)

- A central sector scheme launched in 2024.
- **Purpose:** To Improve tribal welfare across 68,000 tribal-dominated villages by bringing together 25 interventions of 17 line ministries.
- One component of the DAJGUA programme is to speed up FRA implementation.

CONCERNS: Forest rights activists and experts have raised concerns of FRA Cells being a parallel FRA mechanism outside of FRA's purview and that it could weaken community control.

WHY DOES KERALA WANT THE WILDLIFE ACT TO BE AMENDED?

#CONSERVATION

PRIMARY SOURCE *The Indian EXPRESS*

*Kerala urged the Central government to amend the **Wildlife Protection Act, 1972** to allow controlled killing of specific wild animals causing rising human-wildlife conflicts and agricultural losses.*

KERALA AND WILDLIFE ATTACKS

- Wildlife attacks have emerged as a major issue in Kerala, killing over 900 people from FY17 to FY25. 273 out of 941 village local bodies have been marked as **wildlife conflict hotspots**.
- The problem animals are mainly tiger, leopard, elephant, bison, wild boar, bonnet macaque and peafowl.
- Although **Bonnet Macaque** (a monkey species) and **Peafowl** do not pose a threat to life, their repeated raids have forced farmers to abandon vast tracts of agricultural land.

KERALA'S DEMANDS

- Kerala urged the Centre to amend the **Wildlife Protection Act 1972** to allow region-specific and seasonal culling of man-eating wild animals.
- Kerala wants **Bonnet Macaques** (IUCN status: Vulnerable) **removed from Schedule I** to enable suo motu action by the Chief Wildlife Warden against increasing monkey menace.
- The state wants **Wild Boars** (IUCN status: Least Concern) **to be declared as vermin** for a certain period under section 62 of the Act.

SECTION 62 OF THE WILDLIFE PROTECTION ACT, 1972

- It empowers the Central government to declare Schedule III or IV species as vermin for a specific area/time.
- Allows controlled killing to prevent agricultural loss or threat to human life.

- Does not apply to Schedule I or II animals (most protected).

WHY DOES KERALA WANT TO AMEND THE WILDLIFE ACT?

The existing legal framework under the Wildlife Act puts several constraints in taking timely action in emergency situations, especially in the case of animals protected under Schedule I of the Act.

- Before shooting a wild boar, one has to examine whether it is pregnant or not.
- Before ordering the killing of dangerous wild animals, the **state chief wildlife warden** should be convinced that it cannot be captured, tranquilised or shifted to another place. Such captured animals should not be held under confinement.
- Guidelines under Project Elephant and the National Tiger Conservation Authority must be followed in relevant cases.
- Court orders restrict the executive magistrate's powers to act under general nuisance laws for wild animals.

KERALA'S WILDLIFE TROPHY AMNESTY PROPOSAL

#CONSERVATION

PRIMARY SOURCE *THE HINDU*

*The Kerala Forest Department's recent move to approach the **Union Ministry of Environment, Forest and Climate Change** for a one-time amnesty for people possessing wildlife trophy in the State has reignited a debate over the department's alleged preferential treatment of wildlife offenders.*

WILDLIFE PROTECTION ACT, 1972

- **As per the Section 40 of WPA, 1972:** Any person having the control, custody or possession of any animal article, trophy or uncured trophy of captive animals specified in Schedule I can voluntarily surrender it to the **Chief Wild Life Warden** (an appointee of state governments) or the Authorised Officer.

- **No compensation will be paid** to the person for it, and the surrendered items will become the property of the state government.
- **Illegal possession of a wildlife trophy** can result in imprisonment for three to seven years and a fine of not less than ₹25,000.

DEMAND FOR ONE-TIME AMNESTY FOR PEOPLE POSSESSING WILDLIFE TROPHY

- Kerala has pushed a proposal to the **State Board for Wildlife** for granting another chance to declare wild animal articles and trophies under **Section 40 of the Wildlife (Protection) Act, 1972**.
- The last opportunity fixed by the Union government for individuals to declare the wildlife trophy in their possession had **expired in 2003**.
- **Rationale:** To offer an opportunity for the legal heirs who inherited wildlife trophies from their ancestors with valid ownership certificates but could not get their names declared.

The **power to provide the amnesty** vests with the **Union Ministry for Environment, Forest and Climate Change**. The State Board for Wildlife may request the Central government to take suitable action on the matter in real and genuine cases.

NEW AC TEMPERATURE CONTROL GUIDELINES

#ENERGY CONSERVATION

PRIMARY SOURCE: THE HINDU

The Union Ministry of Power is planning to **mandate a fixed temperature range** (20°C to 28°C) for air conditioners in India to reduce energy consumption and promote public health.

NEW AC GUIDELINES FROM THE CENTRE

- The new directive will **cap the operational temperature range** of all new air conditioners (ACs) in India **between 20°C and 28°C**, whether in homes or commercial settings.
- Currently, many air conditioners available in the market allow temperatures as low as 16°C or 18°C, and heating settings going up to 30°C.
- **Rationale:** To reduce energy consumption and mitigate health risks associated with excessive cooling.

WHY IS THIS BEING PROPOSED?

To Save Electricity:

- A study by the Bureau of Energy Efficiency (BEE) predicted that by 2030, India's total AC load could **reach 200 GW**, putting stress on energy supply. Every 1°C increase in an AC's temperature setting can save 6% of the electricity it uses.
- Mandating the optimal temperature off AC to 24°C, the country could save 20 billion units of electricity per year.

To Improve Public Health:

- Very low AC temperatures are linked to:
 - Increased blood pressure due to vasoconstriction (narrowing of blood vessels and stress on the heart).
 - Higher risk of hypertension and respiratory issues like asthma and infections.
 - Poor sleep, especially in children and the elderly.
 - Reduce lung function in children.
 - Mental health issues like anxiety and depression, especially in persistently cold homes.
- **WHO's 2018 Housing and Health Guidelines** recommend using 18 degrees Celsius as the minimum safe living-room temperature in temperate or cooler climates.

HOW DO AIR CONDITIONERS WORK?

- An AC works by **removing heat from inside a room and dumping it outside**.
- It uses a **refrigerant** that has to undergo phase changes to absorb and compress the heat to distribute cold fresh air into the room. It changes from a liquid to gas when it absorbs a room's heat and then again gets back to its liquid form (gets compressed), and finally releases the heat through a condenser.
- The colder the temperature one sets, the harder the AC has to work and the more electricity it uses.

COMMON REFRIGERANTS USED IN ACS

- **Chlorofluorocarbons (CFCs):** phased out due to Ozone depletion.
- **Hydrochlorofluorocarbons (HCFCs):** less harmful but still risks Ozone depletion. The Indian government plans to phase out the HCFC refrigerants by 2030.

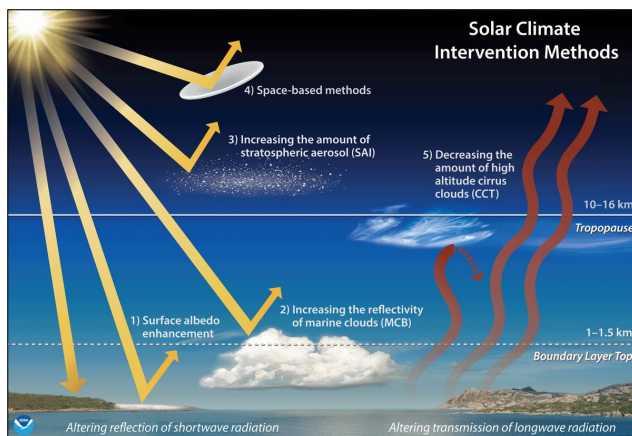
- **Hydrofluorocarbons (HFCs):** Ozone-safe but have high global warming potential.
- **Hydrocarbons (Propane and Iso-Butane):** ozone-friendly, completely halogen-free and have the least global warming potential but flammable.

STRATOSPHERIC AEROSOL INJECTION

#CLIMATE CHANGE #EMERGING TECHNOLOGIES

PRIMARY SOURCE THE HINDU

A recent study presents a novel approach to **Stratospheric Aerosol Injection (SAI)** as a potential means to directly cool the Earth.



ABOUT STRATOSPHERIC AEROSOL INJECTION (SAI)

- SAI is a **proposed method of cooling the planet and reducing the impacts of climate change** by adding a layer of tiny reflective particles (aerosols) to the high atmosphere.
- Aerosols reflect sunlight back into space, **increasing Earth's albedo** and **lowering surface temperatures** by reducing the amount of sunlight reaching the earth.
- The **method** was **inspired by volcanic eruptions**, which have been known to have a cooling effect on the planet by spewing aerosols into the air.
- How well SAI works depends on- the type of material injected, timing of injection, and the location.

KEY FINDINGS

- Injecting 12 million tonnes of sulphur dioxide every year at an altitude of 13 km in the local spring and summer seasons of each hemisphere could cool the planet by

approximately **0.6 degrees Celsius**. To achieve 1°C cooling, 21 million tonnes/year would be required.

- If the particles were injected at an even higher altitude in the subtropics, only 7.6 million tonnes/year would be required.
- **Higher altitude injection is more effective as particles stay longer.** At lower altitudes particles are more likely to be caught in clouds and washed out by rain. Low-altitude spraying is being explored as it is technically less challenging.

RISKS AND SIDE EFFECTS OF SAI

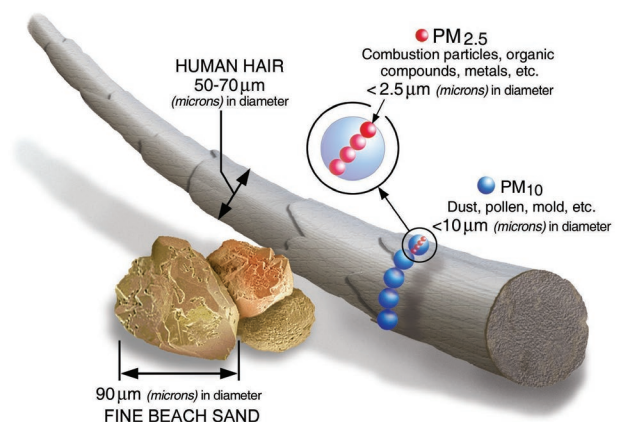
- Delayed recovery of the ozone hole and increased risk of acid rain.
- Cooling could mask warming on the ground and make countries complacent about curtailing emissions.
- Geopolitical risks: If one country injects aerosols into the stratosphere, all countries will be affected, it could affect global climate patterns.

WHY TOXICITY MATTERS IN MEASURING AIR POLLUTION

#POLLUTION

PRIMARY SOURCE The Indian EXPRESS

A study has found that the **toxicity of air pollution changes with the concentration levels of PM2.5 in Indian cities.**



KEY HIGHLIGHTS OF THE STUDY

- **Pollution is damaging even at lower concentrations**, but its ability to cause damage to cells increases sharply

after the concentration level crosses a certain threshold value.

- When PM_{2.5} concentration level exceeds about 70 µg/m³, its potential to create oxidative stress in the body increases steeply, and continues to rise until the concentration reaches about 130 µg/m³.
- Toxicity stabilises after that, and further increase in concentration do not lead to an appreciable rise in damage potential.
- **Threshold level of toxicity varies** from city to city due to differences in the composition of air pollutants. E.g., pollutants from biomass and solid waste burning contribute more significantly to toxicity than those from vehicular emissions.

WHY DOES TOXICITY INCREASE AFTER A POINT?

- When pollutants are inhaled, the body's immune system fights back through the release of **Reactive Oxygen Species (ROS)**, which are chemicals used by immune cells to neutralise foreign substances. When larger concentrations of pollutants are inhaled, greater amounts of ROS are released.
- The problem is **ROS is damaging for the body's cells as well**. Therefore, as a natural counter-defence mechanism, the body produces another set of chemicals called antioxidants, that protect the cells against ROS.
- However, **antioxidants** are present in small quantities, and take time to build up. So, while they are able to effectively deal with smaller amounts of ROS, they are helpless when ROS is produced in large amounts. This leads to an imbalance in the body, a situation called **oxidative stress, which leaves the internal cells prone to damage from excess ROS**.

AQI should reflect not only PM_{2.5} concentration but also its oxidative potential taking into account factors like chemical composition of pollutants, giving a more accurate picture of region-specific toxicity of air.

BUILDING-INTEGRATED PHOTOVOLTAICS

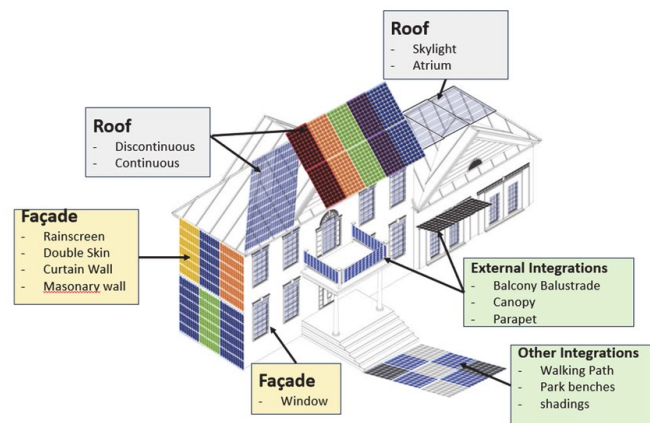
#INFRASTRUCTURE #RENEWABLE ENERGY

PRIMARY SOURCE THE HINDU

With over 17 GW of installed rooftop solar (RTS) capacity as of April 2025, India has made commendable progress in its renewable energy mission. **Building-Integrated Photovoltaics (BIPV)** is an emerging alternative to conventional rooftop solar power installations.

BUILDING-INTEGRATED PHOTOVOLTAICS

- BIPV are solar panels integrated into the structure of buildings, such as facades, roofs, windows, and balconies, replacing conventional construction materials while simultaneously generating electricity.



BENEFITS OF BIPV

- **Dual Use:** Generating electricity and also working as a structural part of a building, BIPV can turn entire buildings into power generators.
- **Efficient space utilisation:** BIPV can generate 3-4 times more power by utilising facades and other building surfaces, compared to limited rooftop solar capacity.
- **Inclusive solar access:** BIPV enables solar adoption beyond rooftops, ideal for independent homes and apartments with no roof access. E.g., Balcony-integrated systems.

BIPVs adoption in India has been limited by high initial costs, policy gaps, inadequate technical capacity, and reliance on imports. Low awareness, lack of dedicated incentives, and absence of clear standards also pushed BIPV out of early building-design considerations.

WAY FORWARD

- **Expand Financial Incentives:** Increase subsidies for BIPV under schemes like the PM Surya Ghar Muft Bijli Yojana (currently ₹78,000 for a 3-kW system). Introduce dedicated incentive schemes for commercial and industrial BIPV adoption.

- **Policy** Integration: Integrate BIPV in the National Building Code, Energy Conservation Building Code, and Eco Niwas Samhita.

To achieve its 300 GW solar target by 2030, India must look beyond rooftops and embrace land-neutral solutions like BIPV, which has an estimated 309 GW potential in existing buildings alone.

CHENAB BRIDGE- WORLD'S HIGHEST RAILWAY ARCH BRIDGE

#LOCATIONS IN NEWS #INFRASTRUCTURE

PRIMARY SOURCE THE HINDU BUSINESS LINE

Successful completion and inauguration of Chenab Bridge, world's highest railway arch bridge.



ABOUT CHENAB BRIDGE

- **Location:** Reasi district of Jammu and Kashmir. The world's highest railway arch bridge stands above the Chenab River.
- **Total length:** 1315 metres (1.3 kms) with a 467-metre-long arch.
- Vital link in the ambitious 272 kms **Udhampur - Srinagar - Baramulla Rail Link** railway project, which aims to connect J&K with the rest of the country by rail.
- **Built by:** Indian Railways. The bridge has a lifespan of 120 years and is designed to handle trains running at 100 km per hour.

SIGNIFICANCE OF CHENAB BRIDGE

- National security: Help in transporting security personnel and material to the border areas during times of conflict.

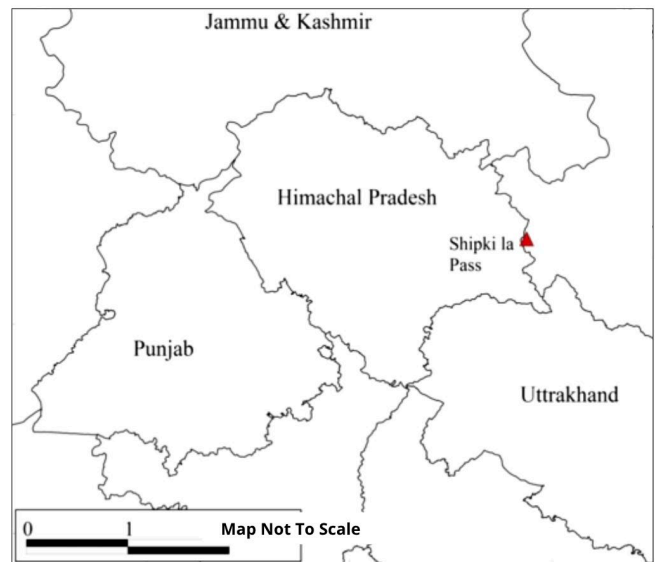
- Economic boost: By integrating J&K through rail with the rest of the country, it will enable movement of goods by rail and more business opportunities. Easier market access to local businesses, particularly benefit the horticulture industry of J&K, especially apple growers.
- Freight Traffic through rail is expected to increase, improving logistics and trade.
- Boost Tourism industry with greater inflow of tourists from other parts of India.

SHIPKI LA REOPENED FOR TOURISM

#PHYSICAL GEOGRAPHY #LOCATIONS IN NEWS

PRIMARY SOURCE THE HINDU

For the first time, **Shipki La**, a high-altitude 3,930 metres motorable mountain pass bordering India and China in **Himachal's tribal district of Kinnaur**, has been opened for tourists who can now visit simply by carrying an Aadhar card and token.



SHIPKI LA REOPENED FOR TOURISM

- The border tourism initiative, launched in coordination with the Union government, will enable **regulated tourist access** to strategically important yet culturally vibrant locations such as Lepcha-La, Shipki-La, Gue Monastery, Khana, Dumti, the Rani area of Sangla, and Chitkul in Kinnaur district, along with selected areas in Lahaul-Spiti.

- The move is aimed **to boost the local economy and promote tourism** in border areas in the hill state.

HISTORICAL IMPORTANCE OF SHIPKI LA

- **Shipki La was a vital trade corridor between India and Tibet**, especially between the Bushahr State (Rampur) in India and Guge Kingdom in Tibet.
- **Imports from Tibet included-** wool (the most profitable item), pack and saddle horses, goats, sheep, mutton, yak and goatskins, yak hair (used for ropes and saddlebags), devotional items such as prayer wheels, thangkas, rosaries, and bowls, as well as borax, turquoise, and gold.
- **Exports to Tibet from India included-** grains such as barley, wheat, rice, millet, lentils, chickpeas, and oil, dried fruits, vegetables, spices, tobacco, timber, copper and brass utensils, and iron tools.

Why was the Trade Route closed?

- Shipki La's trade route was disrupted after the **1962 Sino-India War**. Border tensions made cross-border movement highly restricted. Further strains, like the Doklam standoff in 2017, and the COVID-19 pandemic, shut down even the limited traditional exchanges.
- The centuries-old Trade route between India and Tibet, Shipki-La, was **closed for trade in 2020**.

- Prefers humid, dark forests with thick undergrowth, cool swamps, and bamboo patches. There is no reliable historical record of its presence in dry deciduous forests of central India.

- It is the **only snake species that builds nests for its eggs**. It tends to stay away from human habitations. It does not breed well in captivity.

THREATS AND CONSERVATION STATUS

- **Threats:** Deforestation, urban expansion, habitat encroachment, hunting for skin and meat.
- **IUCN status:** Vulnerable
- **CITES:** Appendix II
- **Wildlife Protection Act 1972:** Schedule-II. Regarded as the national reptile of India.



DISTINCT LINEAGES OF COBRAS

A study using genetic and morphometric data found that king cobras are not one species, but a complex of at least **four distinct lineages:**

- Western Ghats Lineage - Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra.
- Asian Mainland Lineage - Northern and Eastern India, Nepal, Bhutan, Bangladesh, China, Thailand.
- Malay Peninsula Lineage - Malaysia and parts of Southern Thailand.
- Greater Sunda and Philippines Lineage - Indonesia, Philippines.

Concerns: Different lineages are genetically distinct, adapted to specific ecosystems. Transferring one to another area can cause hybridisation (mixing of genes), ecological disruption and loss of unique evolutionary identity.

Any captive breeding and reintroduction efforts must ensure that species are not allowed to hybridise, and that only the appropriate local species is released in any reintroduction programme.

KING COBRA

#BIODIVERSITY #SPECIES IN NEWS



The Chief Minister of **Madhya Pradesh** is keen on **reintroducing king cobras** in the state as an antidote to spiralling snakebite deaths. He also wants snakes in the state counted in order to assess numbers of the venomous ones.

ABOUT KING COBRA

- **World's longest venomous snake**, it can grow to 15 feet in length.
- In India, **its range** include- Western Ghats, North Indian terai belt, Northeast India, mangrove coastlines of West Bengal and Odisha, Andaman and Nicobar, and parts of the Eastern Ghats.
- **Found across diverse habitats-** from highland evergreen and semi-evergreen forests to estuarine mangroves with high rainfall.

NEW JUMPING SPIDER SPECIES DISCOVERED IN SOUTHERN INDIA

#BIODIVERSITY #SPECIES IN NEWS

PRIMARY SOURCE THE HINDU

Researchers have identified a **new species of jumping spiders** of the *Spartaeinae* subfamily in southern India, known for their intelligent hunting skills and web-invasion tactics.

NEW JUMPING SPIDER SPECIES

- For the first time, the genera **Spartaeus** and **Sonoita** (specific groups within subfamily), previously known only from Southeast Asia and Africa, have been found in India.
- These spiders are known for their keen eyesight and intelligent hunting methods, often deceiving other spiders by mimicking prey.

KEY FACTS ABOUT SPIDERS

- **Spiders are not insects**, but belong to a group called the arachnids. Spiders differ from insects as they have eight legs not six and six or eight eyes (two in insects).
- **Spiders are known for making silk webs** to catch insects. They spin silk from a liquid made by special glands. They are found everywhere in the world, except for Antarctica.
- **Most spider species are carnivorous** that capture and eat other insects. However, one species in Central America has been found to be mostly herbivorous.
- **Spiders digest their food outside** their bodies. After capturing its prey, a spider covers it with digestive juices. The juices break down prey's body into liquid form that the spider sucks up.
- **Spiders are important pest controllers** for a habitat, and they are food for other species too.
- **Spider webs are the extensions** of the spider's sensory system. Vibratory information from the web is crucial for spiders because they do not have ears.
- **Spider silk** is an amazing natural material with unique properties. It has inspired researchers to develop materials derived from spider silk with applications in tissue engineering and regenerative medicine.

- **Spiders shed their outer covering**, multiple times before becoming adults.

INSECT-BASED LIVESTOCK FEED

#MISCELLANEOUS

PRIMARY SOURCE THE HINDU

Recently, ICAR-Central Institute of Brackishwater Aquaculture (CIBA) signed an MoU with Ultra Nutri India Pvt. Ltd. to explore the **possibility of using insect-based feed in aquaculture**.

ISSUES WITH TRADITIONAL LIVESTOCK FEED

- **Land & Water Intensive:** Vast amounts of land and water are required to raise animals and grow their feed. Livestock is a major emitter of methane and other greenhouse gases.
- **Antibiotic residues in livestock feed** can enable microbes to develop resistance genes. These genes spread into soil or water, raising the risk of human exposure, especially for agricultural workers. Animal husbandry accounts for more than half of all antibiotic use around the world.

INSECT-BASED FEED FOR ANIMALS

- As of today, 40 countries have accepted and issued regulations to use **insect-based feed for animals**.
- Examples of such insects to be used as feed include- Black soldier flies, house flies, compost worm, grasshoppers (Locusts), small mealworms, house crickets, tropical crickets and Jamaican field crickets.

Given the rising global protein demand, the FAO estimates that food production must increase by 70% by 2050-making **sustainable alternatives** like insect-based feed even more critical.

PROS OF INSECT-BASED LIVESTOCK FEED

- **Nutritious:** Insects are good sources of fats, proteins, fibres, and micronutrients like zinc, calcium, and iron.
- **Naturally acceptable feed:** In their natural habitat, both aquatic and terrestrial animals eat insects.

- **Low greenhouse gas emissions:** Rearing insects emits less greenhouse gases than rearing other sources of animal protein.
- **Waste to feed:** Insects can be reared on organic waste, turning low-value biomass into high-quality animal feed.
- **Resource efficiency:** Rearing insects requires fewer resources, especially land and water, compared to other livestock production enterprises.
- **High Benefit to cost ratio:** Insects like crickets need 12 times less feed than cattle to produce the same amount of protein.
- **High Digestibility & Feed Efficiency:** Insect-based feeds often provide more digestible proteins compared to fishmeal or soybean meal, making them more cost-effective.

Research has outlined the potential for **insect-based feed** to become a **climate-smart alternative** to conventional feed because of its ability to shrink the environmental footprint of livestock farming.

INDIA ENTERS TOP 100 IN GLOBAL SDG RANKINGS 2025

#SUSTAINABLE DEVELOPMENT #INTERNATIONAL REPORTS

PRIMARY SOURCE THE HINDU

India improves its position in the **UN's Sustainable Development Goals Index ranking 99th** in the 2025 edition of the Sustainable Development Report.

ABOUT SUSTAINABLE DEVELOPMENT REPORT (SDR)

- **Released by:** UN Sustainable Development Solutions Network (SDSN). SDSN is an independent body under the aegis of the UN, whose publications are tracked by policymakers and governments.
- The index measures overall progress toward achieving the 17 SDGs adopted by United Nations member states in 2015.
- Countries are ranked by their overall score. A score of 100 indicates that all SDGs have been achieved.

17 SUSTAINABLE DEVELOPMENT GOALS ARE



KEY HIGHLIGHTS OF THE REPORT

India's Performance:

- **India** is ranked **99th** with a **score of 67** on the SDG Index, a significant improvement from its 109th rank in 2024.
- India is ranked among the top 100 countries in the Index for the first time since this data began to be published from 2016.
- **Major gains by India:** SDG 1, SDG 13, SDG 8, and SDG 15.
- **Lagging:** SDG 16, SDG 5, SDG 2.

GLOBAL PERFORMANCE

- **European countries continue to lead the SDG Index-** 19 of the top 20 countries are from Europe. Finland, Sweden, and Denmark are the top three countries on the SDG Index.
- **Only 17% of the SDG targets** are on track to be achieved by 2030, globally. Main reasons for slow progress are conflicts, structural weaknesses, and limited government finances.

MASSIVE ERUPTION IN ITALY'S MOUNT ETNA

#VOLCANO #LOCATIONS IN NEWS



Recently, Mount Etna, the largest volcano in Europe erupted.

ABOUT MOUNT ETNA

- **Location:** East coast of Sicily. Sicily is the largest island in the Mediterranean Sea, situated just off the toe of the Italian "boot" (Southern Italy).
- Mount Etna is the largest active volcano in Europe. It is an **active Stratovolcano**.
- Mount Etna has the highest peak in Italy south of the Alps.
- Etna has been a World Heritage Site since 2013.
- It is known for frequent eruptions. Since 1600, at least 60 flank eruptions and many more summit eruptions have happened.

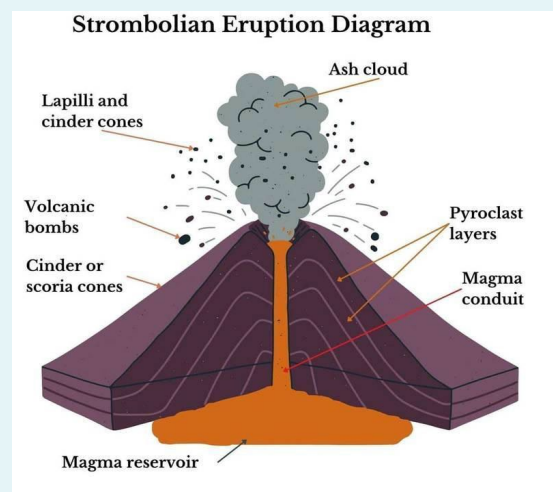


MASSIVE ERUPTION IN ITALY'S MOUNT ETNA

- Eruption began with an increase in pressure inside the volcano due to expanding gases, which led to the collapse of the southeast crater, resulting in hot lava flows.
- Experts believe that the volcano witnessed a **Strombolian Eruption**.

STROMBOLIAN ERUPTION

- Characterised as discreet moderately explosive bursts which can eject chunks of rock and cinders that can travel hundreds of metres into the air.



Strombolian eruptions are mild to moderately explosive eruptions characterized by intermittent or pulsating, short-lived explosions. These explosions eject incandescent pyroclasts mostly cinders, lapilli, and a smaller amount of volcanic bombs, volcanic ash, and lithic fragments.

- Occurs due to the presence of gas in the magma chamber within the volcano.
- Strombolian eruption is named after Italian volcano called **Stromboli**, which produces minor eruptions every 10 to 20 minutes.

AIR POLLUTION CAN INCREASE RISK OF PREMATURE BIRTH

#POLLUTION #HEALTH

PRIMARY SOURCE THE HINDU

A study by the US researchers finds first molecular level evidence of how exposure to PM2.5 pollutants by pregnant women could lead to higher risk of premature deliveries.

LINK BETWEEN AIR POLLUTION AND PREMATURE BIRTH

- Exposure to pollutants like fine PM, nitrogen dioxide, and sulfur dioxide **during pregnancy** can lead to an increased risk of complications such as- preterm birth, low birth weight, and developmental issues.
- The study has identified that **two biological molecules**- 'cortexolone' and 'lysoPE(20:3)', show altered levels in women exposed to air pollution. Deregulation of these molecules cause disruptions in protein digestion and absorption which are crucial to foetal development.

Previous studies have shown that these pollutants can penetrate the placental barrier, potentially affecting fetal growth and development.

INDIA'S FIRST INTEGRATED E-WASTE ECO PARK TO BE SET IN DELHI

#WASTE MANAGEMENT

PRIMARY SOURCE The Indian EXPRESS

Delhi government has announced plans to develop **India's first integrated E-Waste Eco Park**.

INDIA'S FIRST INTEGRATED E-WASTE ECO PARK

- **Location:** Holambi Kalan in north-west Delhi. Spread across 11.4 acres, the facility will be built under a Public-Private Partnership (PPP) model.
- Expected to process up to 51,000 metric tonnes of e-waste annually.
- It aims to position Delhi as a national leader in e-waste management, green jobs and resource recovery.
- Apart from recycling e-waste, the **park will include zones** for dismantling, refurbishing, component testing, plastic recovery, and a second-hand electronics market.
- It will **host training centres** to upskill informal sector workers engaged in unsafe e-waste handling.

INDIA'S E-WASTE EMERGENCY

- India stands as the **third-largest producer of e-waste** globally after China and the US. In FY24, India generated **1.7 million tonnes of e-waste**. Delhi contributed nearly 9.5% of that.
- Presently, only **43% of India's e-waste is recycled**. Further, at least 80% of the sector comprises informal scrap dealers.
- Toxins from **crude e-waste handling** contaminate air, soil, and water and pose serious health risks, especially to vulnerable groups like children.

WORLD'S LARGEST WASTE PROCESSING PLANT IN CHENNAI

#WASTE MANAGEMENT

PRIMARY SOURCE THE HINDU BUSINESS LINE

Singapore-based Blue Planet Environmental Solutions is set to build the world's largest waste processing plant at Kodungaiyur in **North Chennai, Tamil Nadu**.

WORLD'S LARGEST WASTE PROCESSING PLANT

- **Kodungaiyur dumpyard** has 66 lakh cubic meters of accumulated garbage, posing serious environmental and public health hazards.
- Blue Planet Environmental in collaboration with the Greater Chennai Corporation aims to **remove the massive garbage through bio-mining**, bringing major improvements to public health and the local environment.

- The project also includes efforts to convert agricultural waste, such as paddy stubble, into **compressed biogas (CBG)**, in partnership with local farmers. This move will not only support clean energy production but also help to curb the practice of stubble burning.
- The Singapore-based firm works on a **Zero-Residue Model**. The model ensures that no waste is left unprocessed or untreated, thereby achieving 100% scientific utilisation of all types of waste generated.

FLASH FLOOD IN SUBARNAREKHA RIVER

#PHYSICAL GEOGRAPHY #RIVER SYSTEMS

PRIMARY SOURCE THE HINDU

Subarnarekha River has flooded large parts of Balasore district in Odisha, affecting over 50,000 people and inundating dozens of villages.

SUBARNAREKHA RIVER

- Subarnarekha (literally means Streak of Gold) is a **rain-fed river** that originates near Ranchi on the Chhotanagpur plateau.
- Flows through **Jharkhand, West Bengal, Odisha** and drains into the Bay of Bengal. The total length of the river is 395 kilometres.
- Kanchi and Karkari rivers are its chief tributaries.
- Subarnarekha passes through areas with extensive mining of copper and uranium ores. As a result of unplanned mining activities, the **river is polluted**. Being the lifeline of tribal communities in the Chhotanagpur region, river pollution affects their livelihood.



INDIA'S FIRST BUTTERFLY SANCTUARY

#CONSERVATION

PRIMARY SOURCE THE HINDU

Aralam Wildlife Sanctuary in Kerala has been renamed the Aralam Butterfly Sanctuary - a unique habitat exclusively dedicated to butterflies.

INDIA'S FIRST BUTTERFLY SANCTUARY

- **Location:** Kannur district, Kerala in Western Ghats.
- The sanctuary covers an area of over 55 square kilometres, is currently home to **over 266 butterfly species**, including a number of rare and endangered species.
- Besides butterflies, Aralam is home to a multitude of species, such as gigantic squirrels, elephants, leopards, and a wide range of birds.
- **Note: Orange Oakleaf butterfly** is the National butterfly of India. Found in Central, Northern & North-Eastern India and is blue and orange in colour. When under attack, it closes its wings and looks exactly like a dry leaf.

KAZIRANGA NATIONAL PARK AND TIGER RESERVE

#CONSERVATION

PRIMARY SOURCE THE HINDU

The Assam Cabinet has approved the expansion of the Kaziranga National Park and Tiger Reserve.

KAZIRANGA NATIONAL PARK AND TIGER RESERVE

- **Location:** Assam
- Kaziranga currently has an area of 1302 sq. km, and with the proposed expansion the total area will increase to 1775 sq. km.
- Kaziranga has an estimated 2613 **one-horned rhinos** and is a UNESCO World Heritage Site.
- The park area is circumscribed by the **Brahmaputra River**, which forms the northern and eastern boundaries and Mora **Diphlu**, which forms the southern boundary. Other notable rivers within the park are the Diphlu and Mora Dhansiri.

- **Fauna:** Tiger, Leopard, Indian Elephant, Wild water buffalo, Swamp deer, Sloth Bear, Hoolock Gibbon

PRACTICE QUESTIONS

MCQS

Q1. Which of the following statements regarding the Sustainable Development Goals (SDGs) and the Sustainable Development Report (SDR) is/are correct?

1. The SDR is released annually by the United Nations Development Programme (UNDP).
2. The SDG Index score is based purely on environmental indicators.
3. A score of 100 on the SDG Index indicates full achievement of all 17 SDGs.

Select the correct answer using the code below:

- (a) 1 and 2 only (b) 3 only
(c) 2 and 3 only (d) 1, 2 and 3

Q2. Which of the following statements about Reactive Oxygen Species (ROS) is/are correct?

1. They are produced by immune cells to fight pollutants.
2. They protect the body's cells from oxidative damage.
3. Excess ROS can cause oxidative stress.

Select the correct answer

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) All of the above

Q3. Consider the following statements regarding Stratospheric Aerosol Injection (SAI):

1. It involves injecting aerosols into the troposphere to trap outgoing infrared radiation.
2. The technique aims to increase Earth's albedo and reduce surface temperatures.
3. The method is inspired by the cooling effects observed after volcanic eruptions.

Which of the statements given above is/are correct?

- (a) 2 and 3 only (b) 1 and 2 only

- (c) 1 and 3 only (d) 1, 2 and 3

Q4. Consider the following statements:

1. Aravali ranges run parallel to the Pir Panjal in lesser Himalayas spreading across the state of Haryana and Himachal Pradesh.
2. Guru Shikhar on Mount Abu is the highest peak of the Aravali range.

Which of the statement(s) given above are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

Q5. With reference to the Forest Rights Act (FRA), 2006, consider the following statements:

1. The Act was enacted to recognise the rights of forest-dwelling Scheduled Tribes and Other Traditional Forest Dwellers.
2. Gram Sabhas play a central role in recommending claims under this Act.
3. FRA cells created under DAGUA are legally mandated by the original FRA law.

Which of the above statements is/are correct?

- (a) 1 and 2 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3

Q6. Consider the following statements about Mount Etna:

1. It is a dormant stratovolcano located in southern Italy.
2. It is the highest peak in Italy south of the Alps.
3. It has been declared a World Heritage Site by UNESCO.

Which of the above statements is/are correct?

- (a) 1 and 2 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3

Answers: 1-b, 2-c, 3-a, 4-b, 5-a, 6-b

SCIENCE & TECHNOLOGY

GS PAPER (PRELIMS) & GS PAPER III (MAIN)

AIR INDIA PLANE CRASH: HOW DNA IDENTIFICATION WORKS?

#BIOLOGY AND BIOTECHNOLOGY

PRIMARY SOURCE THE HINDU

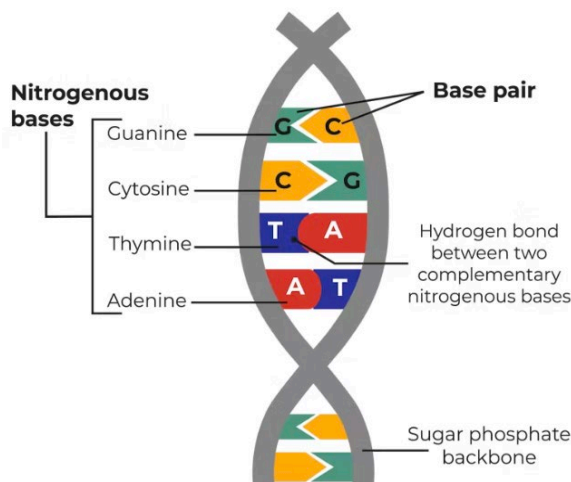
After the Air India Boeing 787 Dreamliner crash in Ahmedabad, Gujarat, the authorities used **DNA analysis to identify the remains** of those killed in the accident.

DNA identification is the gold standard for identifying human remains, especially after mass fatality events in which bodies might not be easy to identify otherwise.

WHAT IS DNA PROFILING?

- DNA profiling is the technique used to **identify individuals** by analysing the **unique patterns** in their DNA.
- With the exception of identical twins, **every person has a unique DNA** that is present in nearly every cell of their body.

DNA structure



DNA IDENTIFICATION: SAMPLE COLLECTION & ANALYSIS

- **DNA samples have to be collected** as soon as possible from the body. As soon as an individual dies, their DNA begins to degrade.
 - Extent of degradation depends on the kind of tissue DNA is extracted from, and the conditions in which the body is kept.
 - DNA from soft tissues degrades much faster than that from hard tissues (bones and teeth).
- **Collected samples need to be stored** in a cool and dry environment. They should ideally be frozen at minus 20 degrees Celsius, or in the case of soft tissues (skin, muscles, etc.), they may be stored in 95% ethanol.
- For identification of the collected DNA sample, **reference samples are collected** from biological relatives. Parents and children of the victim are ideal candidates for providing these samples, given that they share 50% of each others' DNA.

METHODS OF DNA ANALYSIS

After the samples are collected, the next step is to **extract DNA from them**. Depending on the quality of the collected DNA, scientists can choose between a number of different methods of analysis.

Short Tandem Repeat (STR) Analysis:

- The method evaluates **short tandem repeats**, which are essentially short repeating sequences of DNA. STRs are used for DNA identification as they widely vary between individuals.
- STRs are typically found on **nuclear DNA** which is located within the nucleus of a cell. Therefore, to carry out STR analysis it is essential that the nuclear DNA extracted from the sample is not degraded.

Mitochondrial DNA (mtDNA) Analysis:

- This method is used when **nuclear DNA is degraded** or unavailable.
- **mtDNA is found** in mitochondria, the cell's energy-producing organelles. As mtDNA is present in multiple copies within the cell, it is **easier to recover** from human remains that are not well preserved.

- **mtDNA is passed down by the mother** 'unchanged' to all her children. The samples can be matched with reference samples from their mother, maternal grandmother, siblings, maternal aunts or distant relatives from the maternal line of inheritance.

Y chromosome Analysis:

- Humans have **two types of sex chromosomes**, X and Y: biological males typically have one X and one Y chromosome, and biological females typically have two X chromosomes.
- In this method, a **panel of STR on Y chromosomes**, passed on from father to son, is examined to match the remains of the victim with their male relatives.
- Any member of the paternal line, including brothers, paternal uncles, and paternal male cousins, may be used for matching.

Single Nucleotide Polymorphisms (SNPs) Analysis:

- The method is typically used when the **DNA to be analysed is highly degraded**.
- A SNP is a variation in the DNA sequence where a single base (A, C, G, or T) at a specific location differs among people.
- Given that **SNPs are unique to each person**, they can be used for identification purposes with the help of reference samples taken from the victim's personal belongings (E.g., a toothbrush and hairbrush). This method is not as effective as STR analysis.

STEP-AND-SHOOT SPOT-SCANNING PROTON ARC THERAPY FOR CANCER

#BIOLOGY AND BIOTECHNOLOGY



A technique called **step-and-shoot spot-scanning proton arc therapy (SPArc)** has been successfully used to treat a patient's adenoid cystic carcinoma for the first time. SPArc works by targeting tumours with protons while sparing surrounding tissue.

STEP-AND-SHOOT SPOT-SCANNING PROTON ARC THERAPY (SPArc)

- SPArc is an **advanced radiation therapy** that delivers precise proton beams to target tumours in sensitive areas.
- The treatment includes a computer programme that scans through all possible spots and energy layers **where the proton beams could be delivered**.
 - An energy layer is a slice of tissue that receives proton beams of a specific energy. It determines the proton beam's range, i.e., how far it is able to penetrate the tissue.
- When the machine fixes one energy level, it deposits the radiation dose in that energy layer. Then the machine switches to the next energy level and repeats the process.

Advantage:

The team compared the techniques: SFO-IMPT (standard proton therapy) and step-and-shoot SPArc.

- **Reduces radiation exposure:** Owing to its spot-scanning and precision, the SPArc method reduced radiation delivered to the brainstem (by 10%), optical chiasm (56%), oral cavity (72%), and spinal canal (90%) over SFO-IMPT.
- This is particularly significant to treat cancers (tumours) of the head and neck, as it can reduce radiation exposure to sensitive areas like the brain stem and spinal cord.

Concerns: The full clinical implementation of the technology is under development. It is very expensive and is often suitable for a small patient population.

IMPORTANT CUTTING-EDGE TECHNOLOGIES FOR CANCER TREATMENT

S. No.	Technology	Details
1.	Chemotherapy	Involves administration of drugs that interfere with cell division to slow down the growth of tumours. Limitations: These drugs can disrupt the cell division of normal cells too, causing complications.

2.	Radiation Therapy	Radiation therapy directs high-energy radiation at the part of the body where a tumour is located. Limitations: The radiation process is not perfect and the nearby tissues are often harmed.
3.	Image-guided Radiation Therapy	Form of radiation therapy that uses imaging techniques to precisely locate and treat cancerous tissue. Allows for higher doses of radiation to be delivered to tumour while minimising exposure to surrounding healthy tissues.
4.	Proton Therapy	Type of radiation therapy that uses high-energy proton beams to destroy cancerous cells . Particularly useful to treat tumours located in sensitive areas (brain, eyes and spinal cord) where traditional radiation therapy can cause severe side effects.
5.	Precision Medicine	Uses genomic information (genetic profile of their tumour) to personalise treatment for cancer patients.
6.	Immunotherapy	i. CAR-T Cell Therapy (cell-based gene therapy which involves genetically modifying T-cells to help them attack cancer cells) ii. Utilising Monoclonal Antibodies iii. Injecting Cancer Vaccines

USING BACTERIOPHAGES TO COMBAT ANTIMICROBIAL RESISTANCE

#BIOLOGY & BIOTECHNOLOGY

PRIMARY SOURCE THE HINDU

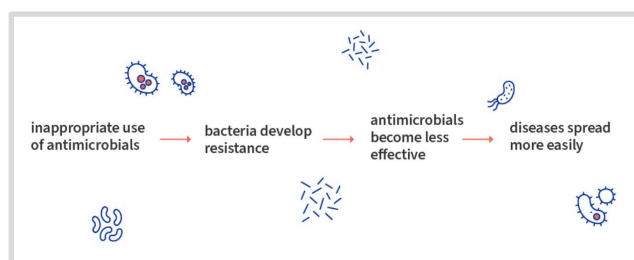
Scientists are **considering the therapeutic use of bacteriophages to kill bacteria**, as an alternative to Antibiotics.

ABOUT ANTIMICROBIAL RESISTANCE

- **Resistance acquired by any microorganism** (bacteria, viruses, fungi, parasite, etc.) against antimicrobial drugs (such as antibiotics, antifungals, antivirals, antimalarials) that are used to treat infections.
- Microorganisms that develop AMR are referred to as superbugs. Due to AMR, **standard treatments**

become ineffective, infections persist and may spread to others.

- WHO has identified AMR as one of the **top threats to public health**. Estimated 5 million deaths globally are related to AMR every year. This is expected to double by 2050.



Largely, pharmaceutical companies have lost interest in developing new antibiotics. Scientists are considering the use of Bacteriophages as an alternative (or complementary) to Antibiotics.

ABOUT BACTERIOPHAGES

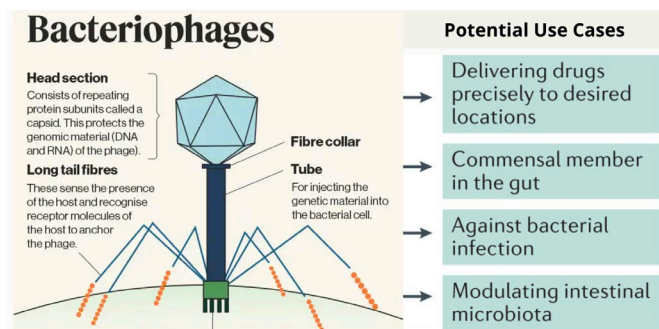
- Bacteriophages are 'good viruses' that **naturally prey on bacteria**.
- They are ubiquitous, i.e., present in the water, in the soil, in our gut, on skin, etc.

- There are believed to be 10-times as many phages as bacteria on the earth.

THERAPEUTIC USES OF BACTERIOPHAGES

Phages have been used for burns, foot ulcers, gut infections, respiratory infections, urinary tract infections, etc. There are two main strategies that have been used.

- **Natural Phage Therapy:** Bacteria are isolated from the infected tissue. Labs identify which phage works against the particular bacteria. The selected phage (from phage bank) is cultured and administered into the patient.
- **Genetically engineered phages:** Modified in the lab to target a broader range of bacterial strains.



CHALLENGES IN THERAPEUTIC USES OF BACTERIOPHAGES

- **Narrow Range:** Unlike an antibiotic, which may be able to kill many species of bacteria, phages may only kill a few strains of a particular bacterium. This is because phages are very specific to bacteria. So, it is challenging to conduct randomised controlled trials when the drug needed for each patient may be different.
- **Regulatory Issues:** Bacteria can evolve to be resistant to a phage. However, the phages can also evolve to avoid the bacterial resistance. The drug is not a constant but an evolving entity. This poses problems in regulatory clearance.

THERMOPHILE BACTERIA

#BIOLOGY AND BIOTECHNOLOGY



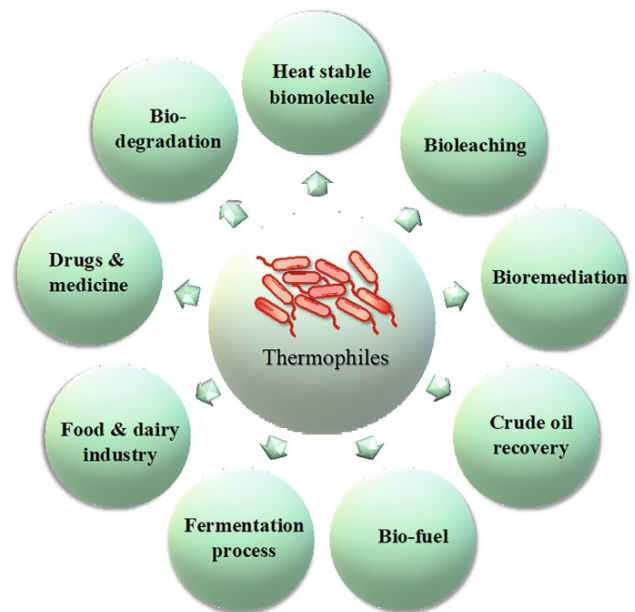
Researchers have discovered **thermophilic bacteria** capable of producing **antimicrobial compounds**, particularly from the **Actinobacteria** group in the **Rajgir hot spring** in Bihar.

THERMOPHILIC BACTERIA

- **Heat-loving bacteria** that can survive in extreme temperatures ranging from 45°C to 70°C. They thrive in hot springs, deep-sea vents, and compost piles, etc.
- To compete with other microbes, some **thermophiles produce strong antibiotics**. These antibiotics kill or suppress other bacteria, helping thermophiles survive better.

FINDINGS FROM RAJGIR HOT SPRING STUDY

- Using a method called **16S rRNA metagenomics**, researchers identified one major group of bacteria-Actinobacteria.
- **Actinobacteria** constituted 40-43% of the microbial diversity in the lake. This group of bacteria can produce antibiotics like streptomycin, tetracycline, and erythromycin. However, not all thermophiles can produce antibiotics.
- These antimicrobial compounds are capable of inhibiting the growth of several pathogenic bacteria, including *E. coli*, *Salmonella typhimurium*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus*. This finding highlights the **potential use-case of hot spring microbes**.



SIGNIFICANCE OF THERMOPHILES

- **Produce antibiotics:** Discovering antibiotic-producing thermophiles offers a promising solution to combat antimicrobial resistance, which could add \$1 trillion to global healthcare costs by 2050.
- **Produce enzymes for diagnostics:** Enzymes from thermophiles like *Thermus aquaticus* are used in PCR

testing, which became a backbone of COVID-19 diagnostics.

- **Heat-resistant enzymes** from thermophiles are used in biotechnology, molecular biology, and chemical industries.
- **Biofertilisers:** Thermophiles isolated from Chumathang hot spring in Leh enhanced plant growth, suggesting their application as biofertilisers.

BHARAT BIOTECH AND GSK TO DEVELOP SHIGELLA VACCINE

#BIOLOGY AND BIOTECHNOLOGY #VACCINES

PRIMARY SOURCE THE HINDU

Hyderabad-based Bharat Biotech has partnered with GSK (a British multinational pharma company) for the ongoing **development and potential use of the Shigella vaccine candidate, altSonflex1-2-3.**

ABOUT SHIGELLA

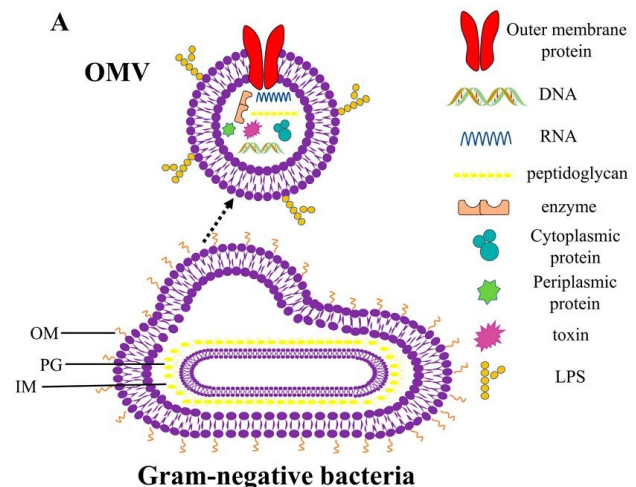
- Shigella is a group of bacteria that causes shigellosis, a type of food poisoning.
- **Transmission:** swallowing material contaminated by faeces, contaminated food and water.
- **Symptoms:** stomach pain, fever, and watery or bloody diarrhoea.
- Shigella has the distinction of being one of the first bacterial pathogens to be **reported to be resistant** to multiple antibiotics.

SHIGELLA VACCINE

- The vaccine **utilises GMMA technology**, a platform developed by GSK's Global Health team. The technology employs outer membrane vesicles (OMVs) from bacteria to deliver antigens that activate the immune system.
- The aim is to advance the development and potential distribution of the vaccine in low- and middle-income countries, where **Shigella is a leading cause of diarrhoea** among children under five.

GENERALISED MODULES FOR MEMBRANE ANTIGENS (GMMA) TECHNOLOGY

- GMMA is a technology platform to produce Outer Membrane Vesicles (OMV)-based vaccines.
 - OMVs are **naturally produced sub-units of bacterial pathogens** with multiple surface-exposed **antigens**.
 - OMVs can be used as a vehicle for **delivering specific antigens of interest** in therapeutic applications, such as vaccines, to induce immune response.
- GMMA are **OMVs derived from gram-negative bacteria** modified through genetic engineering.
- GMMA-based vaccines present a **variety of bacterial antigens** (resembling a natural bacterial infection) to the immune system. It stimulates a strong immune response, often **without requiring adjuvants**, and can target various bacterial diseases, such as Shigella.



SIGNIFICANCE

- GMMA technology is **low-cost and scalable**, making it ideal for producing **affordable vaccines** for low-income countries.

MEASLES-RUBELLA ELIMINATION CAMPAIGN

#DISEASES #HEALTH

PRIMARY SOURCE pib

Ministry of Health and Family Welfare has launched the **National Zero Measles-Rubella Elimination campaign 2025-26**, a step towards India's goal of eliminating Measles and Rubella by 2026.

MEASLES-RUBELLA ELIMINATION CAMPAIGN 2025-26

- With the 'ACT NOW' policy, govt. aims to **target the elimination of Measles-Rubella** in the same way as Polio and Maternal and Neonatal Tetanus.
- **Aim:** Achieve 100% immunisation coverage to children by administering them with the two doses of Measles and Rubella vaccine.

KEY FACTS

- Under the **Universal Immunisation Programme**, two doses of the Measles-Rubella vaccine are provided free of cost to all eligible children, at 9-12 months and 16-24 months of age, respectively. Currently, **India's MR vaccination coverage** stands at over 90%.

ABOUT MEASLES

- Highly contagious airborne disease caused by the measles virus (single-stranded, negative-sense, enveloped RNA virus).
- **Transmission:** Airborne droplets from cough & sneezes; direct contact with mouth or nasal secretions.
- **Symptoms:** High fever, cough, runny nose, red watery eyes. Rashes near the hairline & cheeks, slowly moving to chest, trunk area and limbs. **Koplik spots** (small white spots) may form inside the mouth. Measles can also lead to serious health issues, including- ear infections, diarrhea, pneumonia and death. Fatality rate: 5-10%
- **Measles Vaccine:** First effective vaccine developed in 1960s; reduces chances of developing measles 20-fold.

Rubella (German Measles) vs Measles		
	Rubella (German Measles)	Measles
Rash	Light pink rash, spreads from face downward	Bright red rash, spreads from face downward
Other Symptoms	Mild fever swollen lymph nodes, joint pain	High fever, cough, red eyes, Koplik spots
Severity	Mild in children, but dangerous in pregnancy	More severe, can cause pneumonia & encephalitis

Contagious Period	7 days before & after rash	4 days before & after rash
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ABOUT RUBELLA

- Rubella is caused by the **rubella virus** that invades the lymph nodes, eyes and skin. Rubella or German measles is **milder** than measles.
- **Transmission:** Droplets from the cough or sneeze of an infected individual; direct contact with fluids from the nose or mouth of an infected person.
- **Symptoms:** Low-grade fever, rashes, sore throat. Rubella may not cause serious complications in healthy adults, it poses a great risk to pregnant women as it can result in **Congenital Rubella Syndrome** which affects the development of the baby.

ARTIFICIAL NANOZYME TO PREVENT ABNORMAL BLOOD CLOTS

#NANOTECHNOLOGY #NANOZYME

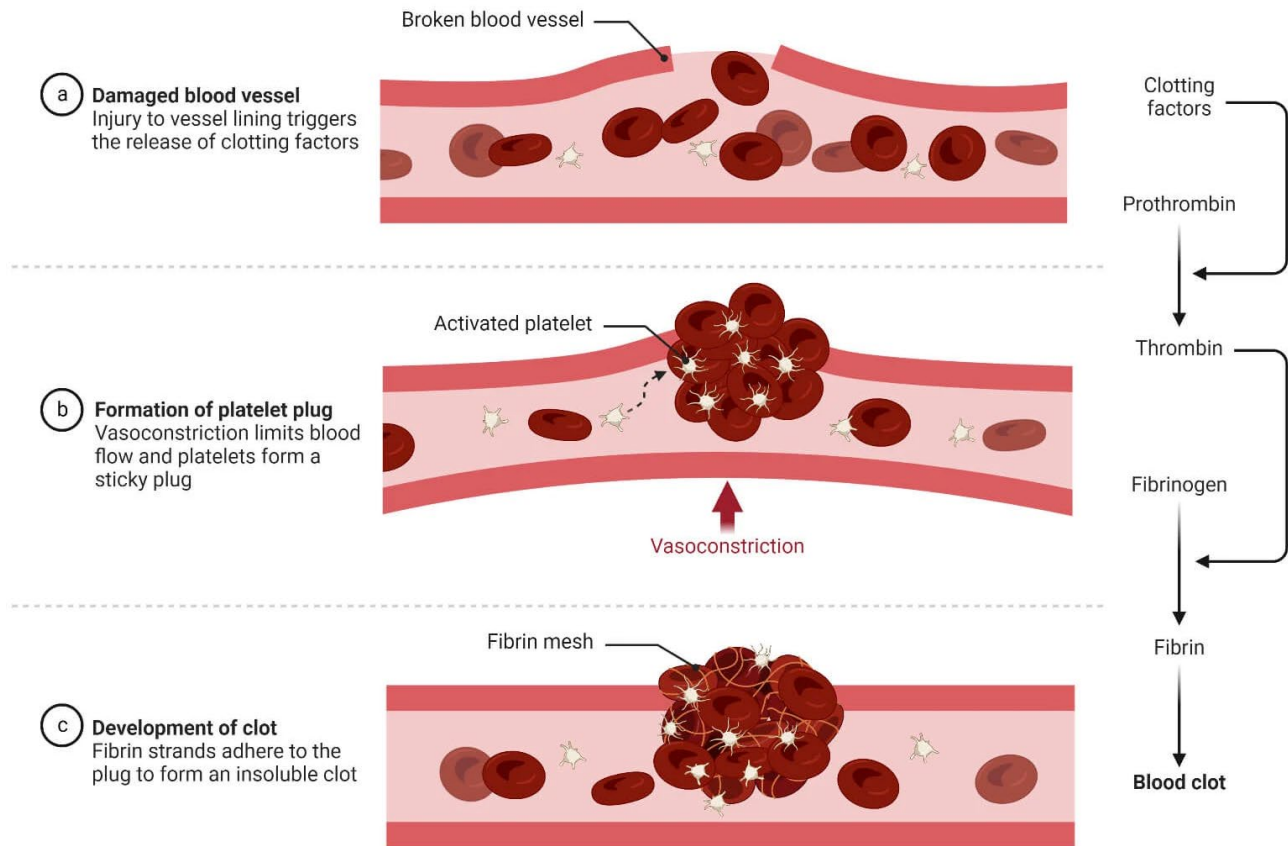


Researchers at the Indian Institute of Science have developed an **artificial metal-based nanozyme** that can be used to **prevent abnormal blood clotting** caused by conditions like pulmonary thromboembolism (PTE).

CLOTTING OF BLOOD UNDER NORMAL CONDITIONS

- When a blood vessel is injured, specialised blood cells called **platelets get activated** and cluster together around the vessel to **form protective blood clots** to stop bleeding. This is the normal blood clotting cascade (haemostasis).
- Haemostasis involves a complex series of protein interactions triggered by exposure to proteins like **collagen** (from the damaged vessel wall) and enzymes like **thrombin** (key enzyme in clot formation; activates fibrinogen and stabilises the clot).

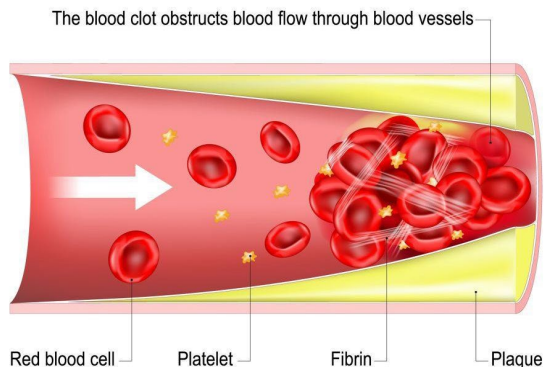
Blood Clot Formation in Broken Vessel



UNDER DISEASES LIKE PTE OR COVID-19

- In conditions like PTE or diseases like COVID-19, the oxidative stress and levels of toxic Reactive Oxygen Species (ROS) increases in the body, leading to **over-activation of platelets**.

THROMBOSIS



- This triggers the formation of **excess clots** in the blood vessel contributing to **thrombosis** (life-threatening causes blockages in blood vessels).

ARTIFICIAL METAL-BASED NANOZYME

- To tackle this challenge, researchers have developed a **nanomaterial** that mimics the activity of natural antioxidant enzymes.
- This artificial nanoenzyme is spherical **vanadium pentoxide** (V₂O₅). It scavenges reactive oxidative molecules, controls ROS levels, and thereby prevents the over-activation of platelets.

Thus, artificial metal-based nanozyme will help in reducing ROS levels, preventing over-activation of platelets and controlling abnormal blood clotting.

INDIA RANKS AMONG TOP SIX NATIONS GLOBALLY IN 6G PATENT FILINGS

#INTERNET AND COMMUNICATIONS TECHNOLOGY

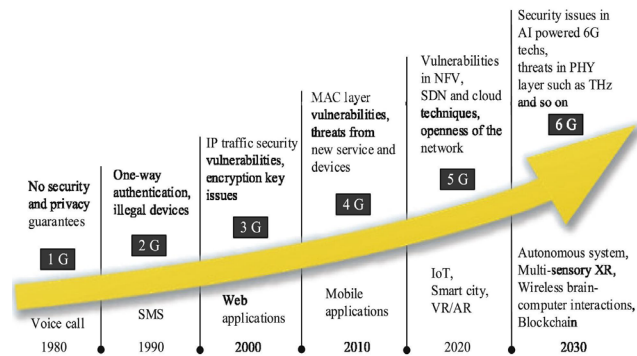
PRIMARY SOURCE THE HINDU

At the recent Bharat 6G 2025 Conference, the government highlighted that India ranks among the top six countries globally in terms of 6G patent filings. Over 111 research projects have been funded with a sanctioned amount of ₹300 crore.

EVOLUTION OF MOBILE NETWORKS

HOW IS 6G DIFFERENT FROM 5G ?

PARAMETER	5G	6G
Deployment	Commercial rollout started globally around 2020	Expected rollout around 2030 (currently in R&D phase)
Speed & Latency	Peak data speeds up to 10 Gbps. Latency as low as 1 millisecond. Enabling real-time applications- autonomous vehicles and remote surgeries.	Expected to be 100 times faster, with speeds up to 1 terabit per second (Tbps). Latency below 0.1 milliseconds, enabling near-instantaneous communication.
Frequency & Spectrum	5G operates on sub-6 GHz and millimeter wave (mmWave) bands up to 100 GHz.	6G will operate in the Terahertz (THz) frequency band (100 GHz to 10 THz), allowing it to carry exponentially more data. But it also demands advanced infrastructure due to short-range and high signal loss.
Connectivity density	Supports up to 1 million connected devices per square kilometer.	Aims to connect over 10 million devices per square kilometer, enabling an Internet of Everything- where humans, machines, sensors, and the environment are interconnected in real time.
Security and Privacy	Improved cybersecurity through advanced encryption and network segmentation.	Address emerging threats through quantum-resistant cryptography, zero-trust architecture, and enhanced privacy protections, crucial for applications like e-governance and digital identity.
Applications and Use Cases	Enables smart cities, high-speed broadband, autonomous vehicles, remote healthcare,	Support immersive applications like holographic communication, digital twins,



WHAT IS 6G?

- 6G stands for the **sixth generation of wireless mobile communication technology**, expected to be rolled out around 2030. It will be far more advanced than 5G in terms of speed, latency, intelligence, and applications.

	and industrial automation.	tactile internet, precision agriculture, and even space-terrestrial communication.
AI / ML Integration	Artificial Intelligence (AI) and Machine Learning (ML) are used externally to assist in managing traffic, optimising performance, and detecting faults. However, the network itself is not AI-native. E.g. , AI might help predict network congestion or suggest optimal routes for data, but human operators still make many decisions.	AI and ML will be deeply embedded into the network architecture from the beginning. AI will make real-time decisions about routing, security, load balancing, and fault repair without human intervention. E.g. , 6G network can detect a cyberattack, isolate it, and reroute traffic instantly, all through AI-driven responses.

Adoption of 6G Technology is expected to create entirely new industries and revolutionise existing ones, and is expected to contribute Rs 85,37,000 crore (USD 1 trillion) to India's economy by 2035.

GROWTH IN INDIA'S TELECOM AND INTERNET SECTOR

- India has become the **second largest telecom market** in the world with over 1.2 billion customers.
- **The Internet market has grown** from around 250 million to 974 million subscribers.
- The **broadband market**, with speeds greater than 2 Megabits per second (Mbps), has grown from 66 million (2014) to 940 million in 2025.
- **Rise in Affordability:** Call prices are down from 50 paise per minute to 0.003 paise per minute; data from 1 GB at ₹287 to ₹9 per GB. India is the cheapest data market in the world; the global average is \$2.49 per GB.
- **Growth in manufacturing:** From importing 80% of mobile phone requirements to exporting ₹1.75 lakh crore worth of mobile phones.
- **Patents of 6G:** India ranks among the **top six countries** globally in terms of 6G patent filings. Bharat 6G Alliance is working to contribute a minimum 10% of 6G patents to the world.

GOVERNMENT POLICIES IN TELECOM SECTOR

- **Universal Service Obligation Fund (Digital Bharat Nidhi):** USOF is funded by a 5% Universal Service Levy on telecom operators' Adjusted Gross Revenue to finance telecom expansion in rural areas. Digital Bharat Nidhi aims to ensure

transparent management and targeted deployment of the funds.

- **BharatNet:** Ambitious project aimed at providing affordable high-speed broadband connectivity to all Gram Panchayats (GPs) in India. It is the largest public sector investment in connectivity to the grassroots level costing over \$16.9 billion.
 - In the first phase, almost 7 lakh kilometres of fibre optic cables were laid and 2.14 lakh gram panchayats were connected.
 - The ongoing BharatNet II project aims to connect the remaining gram panchayats.
- **Advanced technology in BharatNet II:**
 - Use of Multiprotocol Label Switching (MPLS) routers instead of Gigabit Passive Optical Network (GPON) routers for higher redundancy levels.
 - Ring topography instead of linear topography to prevent incidents of single breakage disrupting all the downstream gram panchayats.
 - Central network operating centre to monitor and maintain the network throughout the country.
 - Provide an Internet leased line with a minimum speed of 25 Mbps to every subscriber.
- **PM-WANI (WiFi Access Network Interface):** To proliferate broadband access through public Wi-Fi networks and create a robust digital communications infrastructure in India, especially in rural areas.

- **Bharat 6G Alliance:** Launched in 2023 by DoT, it is a collaborative platform that brings together the government, industry, and academia to develop 6G technology in India. It is working to contribute a minimum 10% of 6G patents to the world, development of at least one new radio technology originating from India, and creation of at least 10 standard essential patents (SEPs).
- **PLI Scheme for Smartphones:** India has become a key player in global smartphone exports. Handsets are now the second highest exported products from India. As a result, India has come a long way from importing 80% of mobile phones to exporting ₹1.75 lakh crore worth of mobile phones (~\$20 billion).

INDIA'S DOMESTIC AI FOUNDATIONAL MODEL

#ARTIFICIAL INTELLIGENCE

PRIMARY SOURCE *The Indian EXPRESS*

INDIA'S DOMESTIC AI FOUNDATIONAL MODEL

- As part of its ambitious **India AI Mission**, the government has selected three more start-ups- **SocketAI**, **Gnani AI** and **Gan AI** to build indigenous AI foundational models.
- **Sarvam AI**, a domestic AI firm will lead the development of India's indigenous foundational AI large language model (LLM), an open source 120 billion parameter AI model. The start-up has launched two models- **Sarvam-1 model** (2 billion parameters) and **Sarvam-M** (24 billion parameters) model with hybrid reasoning capabilities.

FOUNDATIONAL AI

- **Large-scale AI models** that are trained on very large datasets and over which numerous specific applications can be built, including generative AI.
- **Large Language Models (LLMs)** are a type of Foundational AI model trained with vast datasets with at least one billion or more parameters. E.g., AI-powered tools like ChatGPT, Gemini, Perplexity, DeepSeek, Grok.
- **Small Language Models (SLMs)** are compact AI systems typically having fewer than 1 billion

parameters (ranges from millions to a few billion parameters). Cheaper to run and maintain, and ideal for specific use cases.

INDIA'S CHALLENGES TO BUILD ITS OWN FOUNDATIONAL MODEL

India aims to build its own LLM till the end 2025. Building foundational models is an extremely resource-heavy and expensive exercise.

- Training advanced deep learning models **demands substantial GPU clusters** (thousands of GPUs run in hyperscale data centres, as big as one million square feet) and high-performance computing (HPC) facilities.
- **Shortage of GPUs** (currently in high demand and short supply). AI Mission seeks to procure at least 18,000 of GPUs which will require high skill and expertise.
- The Model has to be trained on **very large datasets** which consume an enormous amount of electricity. **E.g.**, LLMs like GPT-3 consumed nearly 1,300 megawatt-hours (MWh) of power.

NEED FOR OWN FOUNDATIONAL MODEL

Building applications on top of other country's models can bring in layers of vulnerabilities.

- Models trained on global datasets often **lack local nuances** and can **insert foreign biases**, thereby producing unwanted or erroneous results.
- In applications related to defence or national security, a foreign model always carries **potential dangers of sabotage** or leaking sensitive data.

IndiaAI MISSION

- **Initiative of:** Ministry of Electronics and Information Technology (MeitY) launched in 2024.
- **Total outlay:** Rs 10,370 crores
- **Aim:** To build a **comprehensive AI ecosystem** that fosters innovation by democratising computing access, enhancing data quality and developing indigenous AI capabilities.

KEY PILLARS- IndiaAI MISSION SEEKS TO DEVELOP

- **IndiaAI Compute Capacity:** Establish a computing capacity of 10,000 or more GPUs, via public-private partnerships, offering AI services and resources.
- **IndiaAI Innovation Centre:** Develop and deploy indigenous LLMs and domain-specific foundational models, with a capacity of >100 billion parameters,

for priority sectors like healthcare, agriculture, and governance.

- **IndiaAI Datasets Platform (AI Kosha):** Streamline the access to high-quality non-personal datasets for AI innovation.
- Responsible AI development.

India needs to create a centralised AI infrastructure, allocate substantial funding, including on procuring GPUs, and private-public Industry-academia participation.

INDIAN ASTRONAUT PILOTS AXIOM-4 MISSION

#ASTRONOMY AND SPACE TECHNOLOGY



Axiom-4 Mission to the International Space Station (ISS) was launched in June 2025 to conduct scientific research, outreach and commercial activities in space. **Shubhanshu Shukla**, an Indian Air Force (IAF) officer and ISRO astronaut piloted the Mission.

ABOUT AXIOM-4 MISSION

- Private spaceflight to the ISS that will last 14 days.
- Operated by **Axiom Space** and uses a SpaceX Crew Dragon spacecraft.
 - Used a **Falcon 9 rocket** to place the Crew Dragon spacecraft into **low-Earth orbit** (LEO).
 - **Launched from:** NASA's Kennedy Space Center in Florida, the US.
- **Crew:** The Indian astronaut will be joined by three other astronauts. The private astronauts would conduct a mission consisting of science, outreach, and commercial activities.

AXIOM-4 MISSION WAS DELAYED

- The mission, originally scheduled for launch in May, was postponed due to a **liquid oxygen (LOX) leak detected** during booster inspection. LOX is a vital component of rocket fuel, it provides the oxygen necessary for the fuel to combust in space, where there is **no atmospheric oxygen**. NASA also detected leaks in the ageing Russian module of the International Space Station.

SPACE EXPERIMENTS BY ISRO IN AXIOM-4 MISSION

- During the 14-day stay at the ISS, astronaut Shubhanshu Shukla (ISRO) will conduct **seven microgravity research experiments** proposed by national R&D laboratories and academic institutions.
- The experiments include- impact of microgravity radiation on Edible Micro-algae, sprouting salad seeds in space and the survival, revival, reproduction and transcriptome of Tardigrades in space etc.

AXIOM PREVIOUS SPACE'S MISSIONS

- **Axiom Mission 1:** The world's first **commercially crewed private spaceflight** to the International Space Station (ISS). Launched in 2022 for a 17-day stay.
- **Axiom Mission 2** (2023) and **Axiom Mission 3** (2024).

KEY FACTS

- **Shubhanshu Shukla**, a distinguished pilot in the IAF, is the **first Indian astronaut** to visit the ISS on a private mission. He will be the second Indian to travel to space after Rakesh Sharma's 1984 mission.
- He has been picked as **one of the four astronauts** for the ISRO's historic **Gaganyaan mission**- the nation's inaugural human space flight mission.

VOYAGER TARDIGRADES EXPERIMENT

#ASTRONOMY AND SPACE TECHNOLOGY

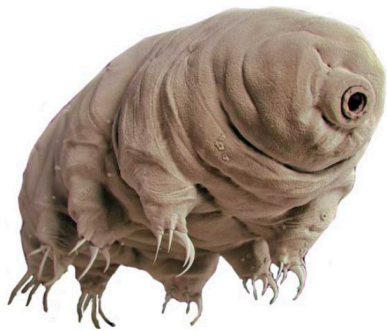


During Axiom Mission-4, Indian Astronaut Shubhanshu Shukla will **conduct experiments on tardigrades' revival, survival, and reproduction** during his two-week stay on the ISS.

WHY STUDY TARDIGRADES IN SPACE?

- **European Space Agency's Foton-M3 mission** (2007) carried 3000 tardigrades in tun (dehydrated) state. Post-return analysis confirmed that many survived space vacuum, and some successfully reproduced despite UV exposure. This makes them the first animals to survive open space.
- **Voyager Tardigrades Experiment** aims to examine the effects of space radiation and microgravity on tardigrades' biological processes. The primary objective is to identify the genes responsible for making tardigrades resilient. This will help scientists develop strategies to protect astronauts during long-

duration space missions, and preserve biological materials for extended space travel.



ABOUT TARDIGRADES (WATER BEARS/MOSS PIGLETS)

- Microscopic aquatic animals (about 0.5 mm long) discovered in 1773.
- **Earth's most durable organisms** that have existed for around 600 million years; 400 million years before dinosaurs, and survived all the five major mass extinction events.
- Have four pairs of legs, each ending in 4-6 claws, and a **specialised mouth** to extract nutrients from plant cells, algae, and small invertebrates.
- **Ubiquitous:** Found in the highest mountains to the deepest oceans; most commonly found in the thin water film on mosses and lichens.
- **Survive extreme conditions** including-temperatures as low as minus 272.95 degrees Celsius or as high as 150 degrees Celsius; endure UV radiation of space; pressures of 40,000 kilopascals (equivalent to pressures at a depth of 4 km under the ocean's surface); survive being stored in freezer for 30 years.

WHY ARE TARDIGRADES SO RESILIENT?

- **Cryptobiosis:** Tardigrades owe their incredible resilience to cryptobiosis. It is a state in which organisms bring their metabolism to a near-complete standstill in the face of adverse environmental conditions.
- **Anhydrobiosis:** Tardigrades can reduce their metabolism to less than 0.01% of normal, and drop their water levels by more than 95%, a state called anhydrobiosis.
- They produce unique proteins such as cytoplasmic-abundant heat soluble (CAHS) proteins which are key

to their resilience. These proteins form a **gel-like matrix** within their cells, vitrifying and protecting essential cellular components from destruction. This allows them to withstand extreme temperatures, radiation, and the vacuum of space.

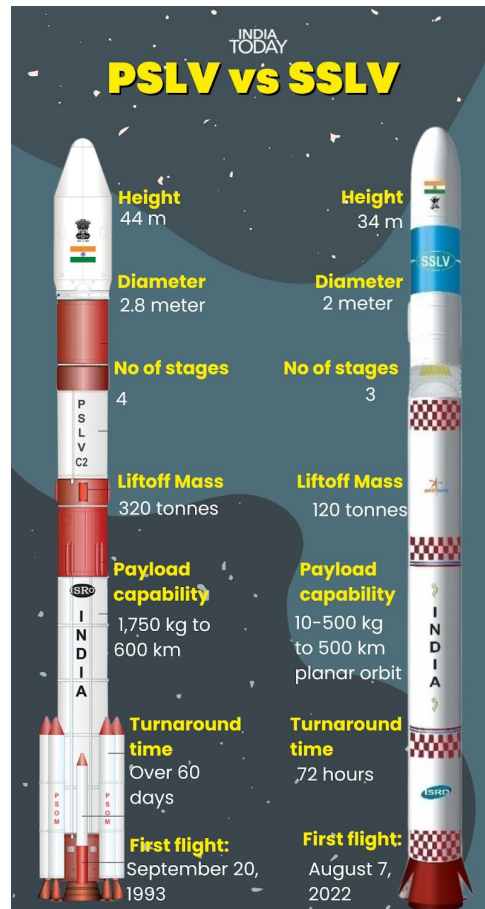
Both anhydrobiosis and cryptobiosis result in the emergence of a durable shrunken state, called tun, in which tardigrades are able to withstand extreme conditions.

SMALL SATELLITE LAUNCH VEHICLE

#ASTRONOMY AND SPACE TECHNOLOGY

PRIMARY SOURCE *The Indian EXPRESS*

*Hindustan Aeronautics Limited (HAL) has bagged a Transfer of Technology deal from the Indian Space Research Organisation (ISRO), valued at ₹511 crore, to **build and operate Small Satellite Launch Vehicles (SSLVs)**. This deal will enable commercialisation of SSLV launches.*



ABOUT SMALL SATELLITE LAUNCH VEHICLE

- SSLV is the new small satellite launch vehicle developed by ISRO to cater to the emerging global small satellite launch service market.
- It is designed to meet '**Launch on Demand**' requirements in a cost-effective manner.
- It is a **three-stage Launch Vehicle** configured with **three Solid fuel Propulsion Stages**. It also has a liquid propulsion based Velocity Trimming Module (VTM) as a terminal stage.
- SSLV is capable of launching **Mini, Micro, or Nanosatellites** (10 to 500 kg mass) **up to 500 km** in the Low Earth Orbit (LEO).
- It is **capable of multiple orbital drop-offs** i.e., launch multiple microsattellites in one launch.
- SSLVs will cost **1/10th of a PSLV** and will **need only 72 hours** for launch in comparison to 70 days for PSLV.
- **Manufacturing of SSLV** will be through Indian industry partners led by New Space India Limited, ISRO's commercial arm.

ADVANTAGES

- Reduced Turn-around time
- Launch-on-Demand i.e., it can be launched on a short-time based on the demand for launch services
- Flexibility in accommodating multiple satellites in one launch (Ride Sharing/ multiple orbital drop-offs)
- Minimum launch infrastructure requirement
- Cost optimisation i.e., provides low-cost access to Space.

SATELLITE RACE IN ULTRA LOW EARTH ORBIT

#ASTRONOMY AND SPACE TECHNOLOGY

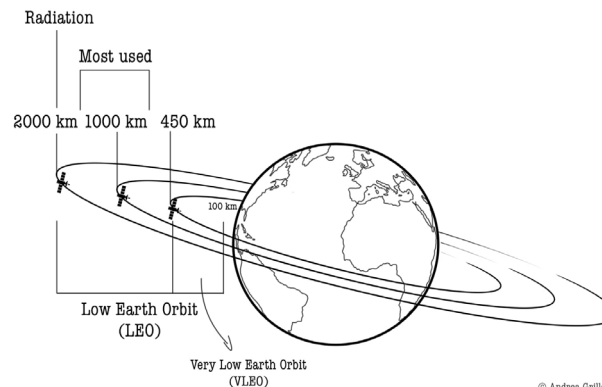


*Orbit Space, a space technology startup in India, is building next-generation satellite propulsion systems and platforms for **ultra low Earth Orbit (ULEO) missions**.*

ULTRA LOW EARTH ORBIT (ULEO)

- **Ultra Low Earth Orbit** refers to satellite orbits at very low altitudes, **typically below 450 kms**, or even below 200 kms.

- The commercial importance of ULEO is increasing in both private and government satellite operations globally.
- **Applications include:** Earth observation, low-latency telecommunications, climate monitoring, surveillance, rural internet and scientific missions.



BENEFITS OF ULEO

- **Higher resolution imagery** due to their proximity to Earth.
- **Reduced communication latency** due to their proximity to Earth.
- **Self-regulating solution to space debris** as satellites in ULEO are naturally de-orbited (burn up in the earth's atmosphere post mission).
- **Radiation protection** enables the use of cost-effective commercial electronics.
- **Alternative to Low Earth Orbit (LEO)** with lesser risk of satellite collisions. (LEO has accumulated over 20,000 space objects and high debris)
- **Can complement** constellations of satellites launched in LEO.

CHALLENGES ASSOCIATED WITH ULEO

- **High atmospheric drag** due to proximity to Earth. To maintain a stable orbit, satellites require constant thrust compensation, typically through onboard propulsion systems. In the near-vacuum LEO there is negligible atmospheric drag, making propulsion less critical for orbit maintenance.
- **High cost of operating and Fuel constraints** due to the necessity to provide constant thrust compensation.
- **Exposure of satellites to very high levels of elemental oxygen** (atomic oxygen), a highly reactive form of oxygen that corrodes most substances quickly.

This requires the use of special coatings to protect objects and equipment in this orbit.

Orbit Space is building a new propulsion technology (electric propulsion system) that can compensate for the drag in ULEO, giving the satellite a lifetime of 5 to 7 years. The electric propulsion system uses residual atmospheric gases as propellant, eliminating the need for onboard fuel.

WHAT IS BLACK BOX?

#MISCELLANEOUS

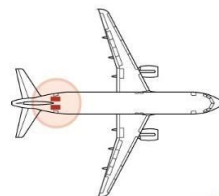
PRIMARY SOURCE The Indian EXPRESS

In the aftermath of the deadly plane crash in Ahmedabad, Gujarat, officials have confirmed the recovery of the **Cockpit Voice Recorder (CVR)** and **Flight Data Recorder (FDR)** from the plane crash site.

ABOUT BLACK BOX

- Black box is a flight recording device used in aircraft to record flight data and cockpit conversations.
- It consists of two main components:
 - **Cockpit Voice Recorder (CVR):** record radio transmissions and other sounds in the cockpit such as the pilot conversations and engine noises.
 - **Flight Data Recorder (FDR):** record crucial flight information like altitude, speed, heading, engine performance, and more.
- These devices help investigators reconstruct the sequence of events before a crash and determine its causes.
- Modern black boxes are actually **orange in colour** to make them easier to spot in wreckage. The term "black box" comes from early versions of data recorders that were kept in light proof boxes, making them appear "black" from the outside.
- The recording devices are stored inside a unit generally made out of strong substances such as **steel or titanium** and are also **insulated from factors** such as extreme heat, cold or wetness. They are placed at the back of the plane, where damage is usually less in a crash.
- For crashes over water bodies, black boxes are equipped with beacons that send out ultrasound signals for 30 days.

Black boxes (flight recorders)



CVR
Cockpit Voice Recorder
Records **conversations** between crew members and with air traffic control
2 hours of recording time

Casing
Can withstand
• 1 month immersed in water at a depth of **6,000 metres**
• 1 hour at **1,100°C**



FDR
Flight Data Recorder
Records **technical flight data** including temperature, speed, altitude and trajectory
25 hours of recording time

Underwater Locator Beacon
Emits ultrasonic pulse on immersion for up to **90 days**.
Pinger detectable **2 km** from surface

Source: BEA

AFP

DRONE WARFARE AND INDIA

#DEFENCE TECHNOLOGY

PRIMARY SOURCE The Indian EXPRESS

Ukraine's Op Spider's Web and recent India-Pakistan military hostilities during Op Sindoor underlines the **rising threat of Drone warfare**. The global military drone market was valued at \$14.14 billion in 2023 and is projected to reach \$47.16 billion by 2032, reflecting the rapid militarisation of drone technology.

Recently, in **Ukraine's bold Operation Spider's Web** in 2025, over 100 **First-person view (FPV) drones** hit deep into Russia, damaging 40+ aircraft and causing \$7 billion in losses. In retaliation, Russia launched the world's biggest drone attack till date, with **almost 500 drones hitting Ukraine** overnight.

SWARM DRONES

- Swarm drones are **autonomous or semi-autonomous UAVs** that operate in coordinated groups, much like swarms of birds or fish. They communicate via wireless networks and adjust in real time to achieve shared objectives.
- **Swarms are more resilient** than traditional drones due to in-built redundancy, i.e., even if one drone is intercepted, others can continue on the mission. Drone

swarms are thus used to saturate air defences, gather intelligence, and attack high-value targets.

- Countries are **developing advanced AI-driven swarm drones** that can make real-time decisions, adapt tactics mid-mission, and coordinate complex manoeuvres.

WHAT MAKES DRONE SWARMS A STRATEGIC THREAT?

- **Low Cost, High Impact:** A \$500-\$1,000 drone can damage a \$200 million aircraft.
- **Difficult to intercept** due to their small size, and ability to overwhelm defences- cluttering radars, exhausting ammunition, and slipping through even robust air defence systems.
- **High Agility and Mobility:** Swarm drone attacks can be launched anytime, anywhere even from a truck near an airbase, as seen in Op Spider's Web. In a country like India, with porous borders and diverse populations, this threat is both real and pressing.

Traditional military bases, aircrafts, and infrastructure, previously considered secure, are now vulnerable to drone attacks and demand new defence strategies.

A FEW NOTABLE SWARM DRONE SYSTEMS



IRAN
System: Shahed-136 (swarms)
Type: Loitering munition
Swarm Size: 10-50
Range: 2,000 km
Features: GPS-guided, low radar signature, low-cost



RUSSIA
System: Lancet & Shahed
Type: Loitering + fixed-wing
Swarm Size: 5-20
Range: 40-300 km
Features: Used in layered attacks with multiple decoys



USA
System: LOCUST
Type: Micro UAV swarm
Swarm Size: 50-100
Range: 30-60 km
Features: AI coordination, launched from tubes



CHINA
System: Drone Swarm (Airborne)
Type: Micro drones
Swarm Size: 100-200+
Range: 10-30 km
Features: Released from drones (see picture) or trucks, AI-powered

WHY SWARM DRONES MATTER

Asymmetry: They let low-tech actors hit high-value targets.
Low cost: They are cheap while being expensive to deter.

Saturation: They overwhelm even sophisticated defence systems.
Autonomy: Reduced reliance on GPS or real-time human control.

COUNTERMEASURES AGAINST DRONE SWARMS

KINETIC
System/Technology: Phalanx CIWS, C-RAM
Description: Anti-aircraft guns with radar-guided targeting (used on land/sea).

ELECTRONIC WARFARE
System/Technology: Jammers, GPS spoofers
Description: Disrupt drone communication and navigation systems. Widely used in Ukraine.

DIRECTED ENERGY
System/Technology: High-Energy Lasers (HEL), microwave weapons
Description: Rapid-target engagement, low cost-per-shot. Israel's Iron Beam and American THOR in testing/deployment.

DRONE-ON-DRONE
System/Technology: Interceptor drones
Description: Drones designed to chase and disable other drones. For example, US-made Foretrem DroneHunter.

NET SYSTEMS
System/Technology: SkyWall, DroneCatcher
Description: Launch nets to physically capture small drones. Effective only at short ranges.

Data compiled by The Indian Express from multiple sources

- Missiles and anti-aircraft guns, though these are expensive and less effective against swarms.
- Automated gun systems like C-RAM and Phalanx, which autonomously track and fire at targets, offer a more practical solution.

SOME COST-EFFECTIVE ALTERNATIVES INCLUDE

- **Directed Energy Weapons (DEWs):** Lasers and microwave pulses that disable drones by damaging sensors or frying electronics.
- **Electronic Warfare (EW):** Jamming GPS signals or communication links.
- **Spoofing:** Misleading drones about their location or issuing false commands.
- **Cyber Attacks:** Taking control of drones and crashing them by exploiting software vulnerabilities.
- **Interceptor drones & nets:** For close-range neutralisation, protecting critical assets.

The ideal defence is a layered system, integrating multiple modes of interception for redundancy and cost-efficiency purposes. Examples include- Israel's Iron Dome and the US's Directed Energy M-SHORAD.

INDIA'S COUNTER-DRONE INFRASTRUCTURE

Since 2020, India has ramped up its counter-drone infrastructure, deploying a layered defence that blends indigenous technology, EW, and air defence systems. Key systems include:

- **Akashteer Air Defence Control System :** Developed by Bharat Electronics Ltd, it integrates with the Indian Air Force's integrated command network for real-time tracking.
- **Bhargavastra :** Solar Defence and Aerospace Ltd's weapon system fires 64 micro-rockets in salvos to eliminate drone swarms.
- **DRDO's Anti-Drone System:** It offers 360-degree radar coverage, with both jamming (soft kill) and laser (hard kill) capabilities. Drones can be detected up to 4 km away, and neutralised within a 1 km radius.
- **Indrajaal:** An AI-powered grid from a Hyderabad startup that combines jammers, spoofers, and intelligence to protect areas up to 4,000 sq km. Already deployed at naval sites in Gujarat and Karnataka.

During the May 2025 swarm attacks, the **Indian Air Force activated its Integrated Counter-UAS Grid**, alongside conventional radars, guns, and missiles, neutralising

COUNTERING DRONE THREATS

- **Detection of Drones:** Defence against drones begins with detection. Modern systems employ a combination of: AESA radars; Electro-optical and infrared sensors; Acoustic detectors; AI-powered fusion systems
- **Neutralisation of Drones:** Once detected, drones can be neutralised by kinetic means such as:

attempted strikes on 15 military bases and several urban targets.

Drone warfare has ushered in a new age of asymmetric, AI-driven conflict and transformed the dynamics of the battlefield. As CDS General Chauhan aptly stated- "We are at a cusp where war may be between humans and machines- and tomorrow, between machines themselves."

HEAVIEST PROTON EMITTER ASTATINE-188 DETECTED

#NUCLEAR TECHNOLOGY

PRIMARY SOURCE THE HINDU

Researchers have detected proton emission from **^{188}At (Astatine) isotope** and measured its half-life. The isotope is currently recognised as the heaviest known proton emitter found till date.

KEY CONCEPTS

BASICS OF AN ATOM

- An atom contains a nucleus (with protons and neutrons) and electrons revolving around the nucleus.
- Almost all of the mass of the atom is concentrated in the nucleus.
 - The number of protons (Z) in an atom determines the atomic number of an element.
 - The total number of protons and neutrons, called Nucleons, is called the Atomic Mass Number (A).
- **Atoms can be unstable** (radioactive) due to imbalance in the number of protons and neutrons (proton-neutron ratio) inside the nucleus.

- All elements with **atomic numbers greater than 83 are considered radioactive**, including Astatine (85), Uranium (92), Plutonium (94), and Thorium (90) etc.
- These elements have **unstable atomic nuclei**, and over time, the unstable nuclei decay by releasing energy and radiation to reach a more stable configuration. They release energy in the form of three types of radiations: **alpha, beta, and gamma**.

RADIOACTIVE HALF-LIFE

- For a given radioisotope, the **radioactive half-life** is the time for half the radioactive nuclei in any sample to undergo radioactive decay.
- After two half-lives, there will be one fourth the original sample, after three half-lives one eighth the original sample, and so forth.

^{188}At ISOTOPE

- For the first time that an **Astatine isotope decaying by proton emission was detected** and its half-time was measured in a lab.
- **^{188}At isotope** decayed by emitting a proton. While isotopes often undergo radioactive decay by emitting alpha, beta, and gamma particles, rarely do they emit a proton. The measured half-life for the ^{188}At is 190 microseconds.
- **^{188}At isotope** emits a proton and becomes ^{187}Po isotope, which in turn decays via alpha decay into ^{183}Pb and so on, until it reaches a stable nucleus.

TARGETED ALPHA THERAPY (TAT)

- TAT is an emerging and highly promising form of radiopharmaceutical therapy that involves the **use of alpha-emitting isotopes to target and destroy cancer cells** in the human body. In the therapy alpha particle-emitting radionuclides are injected into the tumor tissue.
- **One isotope of Astatine (Astatine-211)** is one of the most promising alpha emitters for TAT of cancers.

PRACTICE QUESTIONS

MCQS

Q1. Consider the following statements regarding thermophilic bacteria:

1. Thermophiles can survive in temperatures ranging from 45°C to 70°C .

2. Some thermophilic bacteria produce antimicrobial compounds to outcompete other microbes.
3. Actinobacteria, found in hot springs, are known to produce antibiotics like streptomycin.

Which of the statements given above is/are correct?

- (a) 1 and 2 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3

Q2. Consider the following statements with reference to the Small Satellite Launch Vehicle (SSLV):

1. SSLV is a two-stage satellite launch vehicle with a solid and a liquid fuel stage.
2. It has the capability to launch around 1000 kg satellite mass into the Low Earth Orbit.
3. The rocket can be assembled and shifted to the launch pad in just over 72 hours.

Which of the above statements is/are correct?

- (a) 1 and 3 only (b) 2 only
(c) 1, 2 and 3 (d) 3 only

Q3. Consider the following statements regarding Tardigrades:

1. They are microscopic aquatic animals commonly known as water bears.
2. They can survive extreme temperatures, space vacuum, and high radiation.

3. Tardigrades were first sent to space by NASA in 2007.

Which of the statements given above is/are correct?

- (a) 1 and 2 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3

Q4. Consider the following statements about Black Boxes in aircraft:

1. A black box consists of both a cockpit voice recorder and a flight data recorder.
2. Black boxes are typically placed in the cockpit to ensure protection during a crash.
3. They emit a signal for at least 30 days if submerged underwater.

Which of the statements given above is/are correct?

- (a) 1 and 2 only (b) 1 and 3 only
(c) 2 and 3 only (d) 1, 2 and 3

Q5. Which of the following defence systems are indigenously developed in India for anti-drone warfare?

- | | |
|-----------------|--------------|
| 1. Bhargavastra | 2. Iron Dome |
| 3. Indrajaal | 4. Akashteer |

Select the correct code:

- (a) 1, 3 and 4 only (b) 1 and 2 only
(c) 2 and 3 only (d) All of the above

DESCRIPTIVE QUESTIONS

- Q1. While India is still expanding its 5G ecosystem, the global race for 6G has already begun. Compare and contrast the advantages of 6G over 5G technology.
- Q2. With the evolving defence technology, drone warfare poses a new-age asymmetric threat to national security. Comment.

Answers: 1-d, 2-d, 3-a, 4-b, 5-a

HISTORY, HERITAGE & CULTURE

GS PAPER (PRELIMS) & GS PAPER I (MAIN)

DAOJALI HADING: NEOLITHIC SITE IN ASSAM

#NEOLITHIC SITES #PREHISTORY

PRIMARY SOURCE THE HINDU

Recently, a **Neolithic habitation site** with evidence of early metallurgy has been unearthed in **Assam**.

Plate 1:

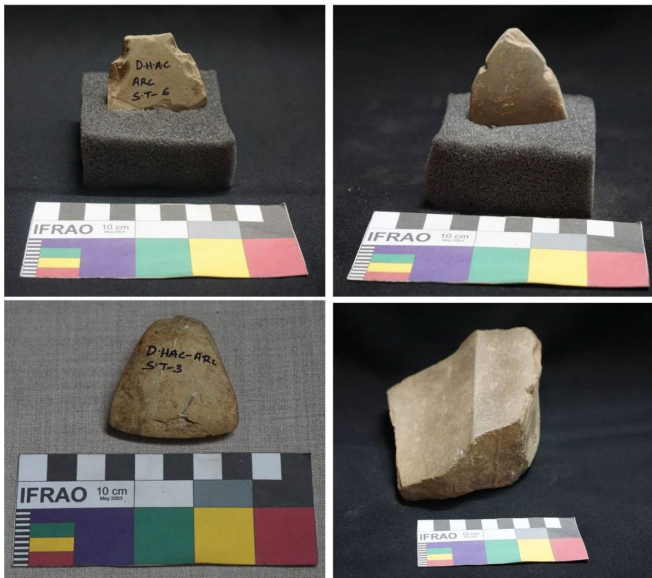


Plate 1 Daojali Hading: Ancient stone artefacts excavated from pit Trenches 3 and 4

DAOJALI HADING: NEOLITHIC SITE IN ASSAM

- Archaeological findings at **Daojali Hading** have confirmed it as a major Neolithic site dating back over 2700 years.
- **Location:** Situated in Langting-Mupa Reserve Forest, Dima Hasao district, Assam.
- The site was uncovered in the 1960s, leading to systematic excavations. These investigations have revealed polished double shouldered celts, cordmarked pottery, mortars and pestles, besides jadeite stone.

- Discovery of a **furnace and iron slag indicate metallurgical activities**. This has provided substantial support for earlier hypotheses that Daojali Hading was a major prehistoric settlement in the northeastern part of India.
- Unearthed artefacts linked the site with the broader **Eastern and Southeastern Asian Neolithic cultural complex**.

NEOLITHIC AGE

- The Neolithic Age started around 10,000 years ago. Around this time, there was a major change in the climate of the world, with a shift to relatively warm conditions.
- **Shift from Hunting towards Animal Rearing:** Warming led to development of grasslands and an increase in the number of deer, antelope, goat, sheep and cattle i.e., animals that survived on grass. Fishing also became important.
- **Beginning of Agriculture:** Several grain bearing grasses including wheat, barley, rice and lentils were domesticated and people became farmers.
- **Settled life:** Practice of cultivation meant people had to stay at the same place for a long time. Grains had to be stored for both food and seed. People began making clay pots, baskets or dug pits into the ground.
- **Material Culture:** Neolithic tools were polished to give them a fine cutting edge, mortars and pestles were used for grinding grain and other plant produce. Many kinds of earthen pots for storing things, for cooking food.
- Neolithic sites provide evidence of plants, animal bones, and burnt grain remains. Sites reveal evidence of huts or houses at some sites. **Burzahom** reveals that people lived in pit-houses dug into the ground with steps leading into them.

IMPORTANT NEOLITHIC SITES

- Mehrgarh, Baluchistan, Pakistan

- Burzahom, Jammu & Kashmir
- Chirand, Bihar
- Koldihwa, Uttar Pradesh
- Mahagara, Uttar Pradesh
- Hallur, Karnataka
- Paiyampalli, Tamil Nadu

LEGAL DISPUTE OVER TOMB OF SHEIKH MUHAMMAD GHAUS

#MEDIEVAL INDIA

PRIMARY SOURCE | The Indian EXPRESS

Madhya Pradesh High Court has rejected a plea seeking to conduct religious and cultural practices at the tomb of Sufi Saint Sheikh Muhammad Ghaus in Gwalior.

The High Court ruled that **allowing religious practices** at a Centrally Protected Monument was **not permissible**. Allowing such rituals could lead to a “national loss”, destroying the monument’s “originality, sanctity and vitality”.

SHEIKH MUHAMMAD GHAUS

- Sheikh Muhammad Ghaus was the 16th century musician and Sufi Saint of **Shattari Order**.
- He was the **contemporary of 3 Mughal emperors**: Babur, Humayun, and Akbar.
- He played an instrumental part in Babur’s **conquest of Gwalior fort in 1526**. The saint suggested tactics to Mughal Army chiefs to establish their presence in the city and provided privileged information to them which eventually enabled them to plan a secret night attack to capture the fort.
- He was also Humayun’s teacher.



ABOUT TOMB OF SHEIKH MUHAMMAD GHAUS

- The tomb of Sheikh Muhammad Ghaus was built in **Gwalior, Madhya Pradesh** soon after his death in 1563.
- It is one of the earliest and most iconic examples of Mughal funerary architecture and is considered one of the most notable structures of Akbar’s reign (1556-1605 CE).
- The tomb has influence of Indian architecture, specifically from Gujarat and Rajasthan, which eventually evolved into Indo-Muslim architecture.
- It is listed as a **Centrally Protected Monument** under the Ancient Monuments and Archaeological Sites and Remains Act, 1958. It has been maintained by the Archaeological Survey of India (ASI) since 1962.
- The **grave of Tansen**, legendary musician of Akbar’s Court, is located on the premises of the monument. Tansen was a disciple of Sheikh Muhammad Ghaus.

NALANDA UNIVERSITY

#MEDIEVAL INDIA #HERITAGE

PRIMARY SOURCE | THE HINDU

*Nalanda University was established under the Nalanda University Act 2010, by the Ministry of External Affairs. The **new campus of Nalanda University** was inaugurated in 2024 and is located close to the ruins of the ancient university in Bihar’s Rajgir town. The University now has over 1200 students.*

ABOUT NALANDA MAHAVIHARA

- Nalanda Mahavihara, **the 5th-12th Century AD** (in ancient and medieval Magadha) university is considered to be one of the greatest centres of learning in ancient India.
- The ruins of ancient Nalanda University in Bihar was declared as the **World Cultural Heritage by UNESCO in 2016**.
- The details of the university can be found in the writings of the famous Chinese traveller **Huang Tsang**. According to him, there were 10,000 monks and 2000 teachers at Nalanda at that time (7th Century AD).



FOUNDATION OF THE MAHAVIHARA

- **Established during:** Gupta Empire period (3rd-6th century CE), and was supported by numerous Indian and Javanese patrons, both Buddhists and non-Buddhists.
- The **numismatic evidence** discovered at Nalanda suggests that **Kumaragupta I** was the founder patron of Nalanda.
- Kumaragupta's successors, **Budhagupta, Tathagatagupta, Baladitya, and Vajra**, later extended and expanded the institution by building additional monasteries and temples. Nalanda, thus flourished through the 5th and 6th centuries under the Guptas.
- It was also patronised by **King Harshavardhana of Kannauj** (7th century CE) and the **Pala rulers** (8th-12th century CE).
- After the fall of the Palas, the monks of Nalanda were patronised by the **Pithipatis of Bodh Gaya**.

CURRICULUM AND ASSOCIATED SCHOLARS

- **Curriculum at Nalanda** included major Buddhist philosophies like Mahayana, Madhyamaka, Yogachara, Sarvastivada, Hinayana, Samkhya.
- It also included other subjects like the Vedas, Sanskrit grammar, medicine, logic, mathematics, astronomy, arts, medicine and even metal casting technique.
- The mahavihara had a renowned library that was a key source for the Sanskrit texts that were transmitted to East Asia by pilgrims like **Huang Tsang**.
- Many texts composed at Nalanda played an important role in the **development of Mahayana and Vajrayana Buddhism**. E.g., Works of Dharmakirti, the Bodhisattvacharyavatara of Shantideva and the Mahavairocana Tantra.
- **Nalanda took international students** from countries like Korea, Japan, China, Tibet and other parts of Asia. Part of Nalanda's mission was to bring Buddhism to the world.

- Nalanda was famed for its **learned professors or Upajjhaya (Upadhaya)**. **Famous scholars** associated with the Mahavihara: Nagarjuna, Aryadeva, Vasubandhu, and Asanga.
- In the 1190s, the university was destroyed by a troop of invaders led by Turko-Afghan military general **Bakhtiyar Khilji**, who sought to extinguish the Buddhist centre of knowledge during his conquest of northern and eastern India.

ANNUAL RATH YATRA IN PURI

#TEMPLE ARCHITECTURE #HERITAGE

PRIMARY SOURCE *The Indian EXPRESS*

Annual Rath Yatra of Lord Jagannath and his siblings Lord Balabhadra and Devi Subhadra began in the temple town of Puri, Odisha in the month of June.

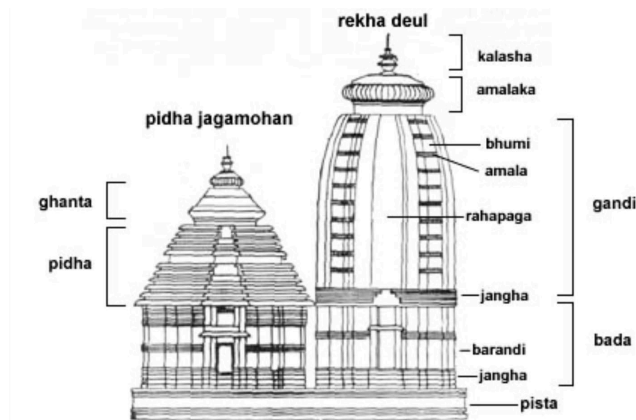
RATH YATRA

- Ratha Yatra or chariot festival is a magnificent Hindu celebration held annually in the **city of Puri**, Odisha, India.
- Considered the **oldest and largest chariot festival** in the Hindu tradition taking place during the bright half of the lunar month of Ashadh (June or July).
- It revolves around the **worship of Lord Jagannath**, an incarnation of Lord Vishnu or Krishna, and his siblings **Balabhadra and Subhadra**.
- During the Ratha Yatra, the **three deities are ceremoniously pulled** in massive wooden chariots from the **Jagannath Temple** to the **Gundicha Temple**.
- The deities reside in the Gundicha Temple for a week and then return to their abode in the Jagannath temple (Bahuda Yatra).



ABOUT JAGANNATH TEMPLE

- Ancient Hindu temple dedicated to Jagannath, a form of Vishnu.
- **The present temple was rebuilt** by the king of the Eastern Ganga dynasty, Anantavarman Chodaganga, in the 10th century CE.
- **Location:** Puri, Odisha (eastern coast of India).
- **Deities worshipped:** Jagannath, Subhadra and Balabhadra
- **The idol of Lord Jagannath** is made of wood (neem wood, known as Daru) and is ceremoniously replaced every 12 or 19 years by an exact replica.
- The temple is built in the **Kalinga Architecture**. The temple has distinct sectional structures: Deula, Vimana or Garbhagriha (sanctum sanctorum).



C. SANKARAN NAIR

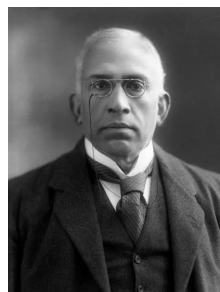
#MODERN HISTORY #PERSONALITIES IN NEWS



The recent film *Kesari Chapter 2: The Untold Story of Jallianwala Bagh* is based on Sir C. Sankaran Nair.

ABOUT C. SANKARAN NAIR

- Born in 1857 in Malabar, Kerala.
- He was a liberal constitutionalist, social reformer, and a fierce critic of both British imperialism and reactionary elements within Indian society.
- He was a staunch **advocate of universal liberty and equality**. He was a brilliant jurist, being appointed as Advocate



General of the Madras Presidency and later a judge of the Madras High Court.

- Author of book **“Gandhi and Anarchy” (1922)**- a critique of Gandhi’s political methods, especially non-cooperation and Khilafat movement.
- Nair firmly **believed in constitutional methods and rejected political fanaticism**. This conviction led him to oppose Gandhi’s non-cooperation movement as well as the Khilafat agitation. Critic of extreme nationalism, religious mobilisations, and political fanaticism.

KEY ACHIEVEMENTS

- He was the first Malayali and the **only Keralite to preside over** Indian National Congress (Amaravati Session, 1897).
- He was among the **first Indian members of the Viceroy’s Executive Council**, overseeing portfolios like education and health.
- He was a **member of London’s National Liberal Club**.

KEY CONTRIBUTIONS

- **Vision of Secular India:** At the 1897 Amravati Congress, he advanced the vision of secular India, advocating education for lower castes, upliftment of women, and the dismantling of caste-based barriers. He opposed the creation of sectarian institutions like Banaras Hindu University, fearing they would breed communalism.
- **Resignation over Jallianwala Bagh Massacre:** He resigned from Viceroy Executive Council in protest against the Jallianwala Bagh massacre.
- **Champion of Social Reforms:**
 - He campaigned for abolition of caste, equality of women, and reform of the matrilineal system among Nairs of Kerala.
 - He was associated with the **Social Reform Conference** and believed political freedom was meaningless without social emancipation.
 - He resisted the **Village Cess Bill in Madras Legislative Council** which threatened traditional self-governing village systems.
- **Advocated English Education** as a means of women’s empowerment, political awakening, and rational public discourse. He envisioned an India where reason triumphed over dogma.
- **Political Realism:** For Nair, India was not a romantic ideal but a land bound by social evils. He remarked,

PART TWO

ETHICS, INTEGRITY & APTITUDE

Coverage from varied sources

RULE OF LAW

#ETHICS #INTEGRITY #APTITUDE

“Be you never so high, the law is above you”

- Lord Justice Denning

Rule of law implies that government powers are effectively limited by the legislature, judiciary, independent auditing and review.

The doctrine of rule of law has its origin in England and is given by **A.V. Dicey**. According to Dicey, there are 3 fundamental principles of Rule of Law:

- **Absence of arbitrary power:** No man is punished except for a breach of law.
- **Equality before the law:** Equal subjection of all citizens (rich or poor, high or low, official or nonofficial) to the ordinary law of the land administered by the ordinary law courts.
- **Primacy of the rights of individuals:** The constitution is the result of the rights of the individual as defined and enforced by courts of law, rather than the constitution being the source of the individual rights.

According to Plato, the meaning of rule of law is that Law is supreme in nature, and nobody is above the law.

According to Aristotle, law should be the final sovereign of the state.

According to Sir Edward Coke, “Rule of Law” means the absence of arbitrary power on the part of the Government.

RULE OF LAW ENABLING ETHICAL DILEMMAS RESOLUTION

Ethical dilemma refers to a situation where one must choose between competing principles, both being right in their own way. Rule of law helps to make decisions in such situations:

1. Rule of law gives a definitive path to follow irrespective of the situations and provides certainty of actions to be followed by the government. E.g., Demolition of a slum/ roadside vendor creates a dilemma but is necessary.
2. Irrespective of the superior’s directive, the official can stick to the law which can be later justified in the court or inquiries. Public representatives may give orders to officials which creates ethical dilemmas whether to follow the representative’s order or the public interest.
3. Following rule of law will help in overcoming the same and help civil servants to function without fear or favour.
4. Following the rule of law helps resolve the dilemma of ‘Secrecy vs Transparency’. For instance, denial of information under RTI. Following rule of law will help the government in proactive disclosure of information vital for the public, but at the same time withholding the information vital for national security.
5. Equality, though a basic virtue to be followed, equity is necessary. Even the constitution provides for differential treatment and upholding it will help in overcoming the sense of discrimination created by differential treatment.
6. In some situations, it might seem ethically right to circumvent rule of law. E.g., Encountering a child rapist or terrorist and so on. But the rule of law helps in overcoming emotional ambiguities. E.g., Even the terrorist Kasab was prosecuted as per Rule of law.

SIGNIFICANCE OF RULE OF LAW

- Experience of liberty- shield against majoritarianism (Navtej Singh Johar case)
- Success of social contract.
- Separation of power as per theory of Montesquieu.
- Good and stable governance:
 - Rule of law and public order is the science of administration – Kautilya in Arthashastra
 - Contract enforcement - stable investment
 - If I have to give one reason for fall of Roman empire, it was absence of rule of law - Edward Gibbon
- Fundamental rights are secured
 - Lurching
 - Custodial death
 - Honour killing
- Regulatory enforcement
 - MCC rules are defined but not justiciable.
 - Regulation on plastic waste by CBPC not followed by the state.

- Civil and criminal justice are accessible and affordable- PIL
- Order and stability- If I have to give one reason for the fall of the Roman empire, it was absence of rule of law - Edward Gibbon
- Openness in governance- Right to information, civil society participation etc.

Thus, overall rule of law helps create a trust-based society and generates social capital.

RULE OF LAW IN INDIAN CONTEXT

"Rule of law and public order is the science of administration" - Kautilya in Arthashastra

- Lokpal Act- PM too is covered under this Act.
- Arrest of Executives - Bihar Chief Minister in fodder scam. Many prominent leaders were arrested under the 2G scam etc.
- Air travel ban on abusive MP
- Swift action in Chandigarh stalking case involving powerful parties.
- Judicial judgement in crucial cases- Indira Gandhi vs Raj Narayan case
- Bengaluru Mayor pays fine for use of plastic

CHALLENGE TO RULE OF LAW

- Uncertainty in laws – frequent amendments.

- Politico - bureaucratic-corporate nexus.
- Cases pertaining to politicians take too long for disposal.
- Haryana - Members of local bodies have minimum qualification, but not MLA's and MP's.
- Power abuse- ICICI Chanda Kochhar.
- Politicians living in government bungalows do not vacate on time, despite their term ending.

There is a crucial difference between "rule by law" and "rule of law." In many countries, laws and legal institutions are being manipulated to undermine rather than uphold the rule of law, even as governments wrap their actions in "rule of law" rhetoric.

- Coastal regulation zone amendment.
- Relaxation of Restricted Area Permit.
- Cancellation of Coal (nationalisation) Act to increase private investment in mining.

The Supreme Court has observed that the public officials are answerable to law and law alone. Objectivity, impartiality, transparency and other values which are the foundational values of civil services hinge on the implementation of Rule of Law. Thus, Rule of law helps as a directing light to the government and civil servants in fulfilling their duty.

CASE STUDIES FOR PRACTICE

MAINS GS PAPER IV

Case Study 1: You are posted as S.P. in a district where liquor is prohibited for human consumption. One day 36 people died in a village in that district after consuming spurious liquor. The incident has pushed the state into swift action, with multiple agencies of the police working on a joint investigation. Even the state government, set to face an assembly poll in the next six months, is receiving a barrage of criticism from the opposition. Your preliminary investigation revealed that a local mafia is involved in manufacturing this spurious liquor, and he is the relative of a minister in the government. You are getting threats from the mafia and the minister both. Both are offering a whole sum of money to remain silent. Your promotion file is also pending before the same minister. You may face many difficulties if you do not listen to them.

- What are the ethical issues involved in this case.
- What options are available to you? Analyse each of them.
- What will be your course of action?

SOLUTION

This case study deals with the ethical dilemma of following the law to fulfil one's duty or should surrender the responsibility to protect self-interests.

A) Ethical issues involved in this case are as follows:

- Commerce without morality:** Selling liquor in a state where it is prohibited is not only illegal but immoral too.
- Breach of the social contract:** Both state and subjects are breaching the contract because the state failed to implement the law of liquor prohibition and subjects are breaching it.
- Lack of good governance:** The death of people in a state where liquor is Prohibited shows that governance is not prompt.

B) Options Available:

- Following the law in letter and spirit:** It will ensure rule of law, which in turn will result into justice to the victims but it may pose harm his self-interests of life and career which is not good as per hedonism.
- Seeking guidance from the seniors and acting accordingly:** It will protect him from any mishap it will also promote the teamwork in the organisation but he may be misguided, in that case the very purpose of the law may defeat.
- Leave the case:** It may protect and promote his self-interest, but it is against the foundational values of civil services; it is also against the principle of justice of John Rawls.

C) Course of Action as an S.P.:

- To prepare himself internally he takes help of emotional intelligence to cater to any kind of fear and pressure and virtues of courage and justice of Aristotle.
- As a part of the legal administrative system, he should follow the all-internal instruments like following the law, senior's advice, seeking intervention of other higher authorities and whistleblowing at last.
- After exhausting all these internal mechanisms without giving desired results he can go to the media or court with the help of NGO so that he ensures justice to the victims for doing so he may need to listen to his conscience as the court of conscience is the highest court.

Conclusion: Thus, we can say that SP should perform his duty in letter and spirit so that the menace of illegal acts can be curtailed in society.

Case Study 2: A recently renovated footbridge collapsed, sending tourists plunging into the river in the country's western state. The accident took place in the town of a state, a riverside town known for its Victorian-era bridge. Tourists have been celebrating Diwali and the new year of the state. Some outlets, citing unnamed

officials, reported that the death toll could be higher, exceeding 140. An official list of fatalities compiled by police showed more than 50 children were among the dead, some as young as 5. In addition to the dead, many people are still missing. Some officials estimated up to 400 people were packed onto the bridge — far more than the safe limit — when the suspension cables buckled and the 760-foot span gave way. Some visitors clung to a crumpled bridge barely above the waterline, crying for rescue. Others crawled along its railings back to shore. More were lost in the water. It has been observed that corpses were laid in nearly every corner of free space while hundreds of deceased relatives went from room to room, looking to claim the bodies of their loved ones. In a 10-foot-by-10-foot room used for post-mortems, doctors were “overwhelmed”. Rescue operations were delayed because of the unavailability of rescue teams at the local level.

Scrutiny turned to the company tasked with renovating and operating the bridge. The contractor, Oreva, a large manufacturer known for producing clocks and electric bikes (with no experience in construction work), wrapped up a six-month bridge renovation last week to coincide with the New Year. The firm with no construction experience got the contract because of its political linkage. The city official Sandeep Singh Zala told the media that the bridge was reopened to tourists without obtaining clearance from the government. Zala also highlighted the bridge operators for selling as many tickets as possible without controlling the flow of people. After a day of investigation, local police arrested nine people, including two Oreva executives, two contractors, three security guards and two ticket window clerks. In their initial legal complaint, local police did not name Oreva or any other firm. Still, they said they would file culpable homicide charges against “the agency responsible for maintaining the bridge” and the “management agency.” Because the owner of the firm has political links.

As the head of the investigating team of this case, answer the following questions.

(a) Which ethical issues may you face while solving this case?

(b) What are the options available to you?

(c) Critically examine the options listed by you.

(d) What will be your course of action?

SOLUTION

This case deals with the rampant corruption in government contracts, administrative lacunae, poor mob management, promptness of rescue efforts and lack of awareness among the people.

A) Ethical issues involved in case:

1. **Crony capitalism:** awarding the contract to a firm having no domain expertise.
2. **Lack of integrity:** Not mentioning the name of a powerful businessman in FIR
3. **Politics without principle:** Politicians awarding contracts to their relatives and protecting them from the law.

B) Options available to me:

1. Investigate the case properly.
2. Manipulating the case to protect the businessman.
3. Seeking guidance from seniors and acting accordingly.
4. Leaving the case.

C) Critical examination of the options:

- Investigating the case properly will ensure the rule of law but may pose a danger to my life and career.
- Manipulating the case to protect the powerful businessman may prevent my troubles, but it will defeat foundational values of civil service like integrity.
- Seeking guidance from seniors may help me in solving the case in a requisite manner, and it will also improve the teamwork and work culture in our organisation, but they may misguide me if they have vested interests.
- Leaving the case may prevent me from various tensions, but it shows lack of courage and dedication to service.

D) Course of Action:

- As head of the investigating team, one should be mentally prepared and internally motivated; He should use emotional intelligence.
- To ensure the rule of law, he should avoid any kind of prejudices or rumours.
- To ensure justice for the victims, he should ensure the names of all real culprits in the charge sheet.
- He can seek guidance from seniors but must ensure that they are not misleading him.
- If he finds that his efforts are enough to deliver justice, then can be a whistle-blower, or he can go to the media.

Conclusion: This is how it can be concluded that to deal with issues of crony capitalism and to ensure the rule of law in society, civil servants should follow the foundational values of civil services.

PART THREE

ESSAYS OF THE MONTH

Selected essays from Rau's GSI students

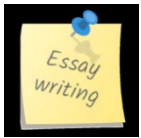
YOU DON'T HAVE TO BE GREAT TO START, BUT YOU HAVE TO START TO BE GREAT.

#MOTIVATIONAL

SUBMITTED BY: PAWAN PAWAR

Disclaimer: The viewpoints in the topic are strictly personal of the writer above. The role of Rau's IAS Study Circle is to present the write-up in its original form, hence the study circle neither endorses nor rejects any viewpoint in the submission. The purpose is only to showcase the manner of writing.

Therefore, it is the sole responsibility of the reader to use his/her intellect to check the veracity of viewpoints.



This quote attributed to Zig Ziglar, underscores a fundamental truth about success and personal development: the importance of taking the first step. It highlights the notion that greatness is not a prerequisite for starting; rather, it is the result of consistent effort, perseverance, and growth over time.

This essay will explore the significance of beginning a journey, the role of persistence, and the transformative of incremental power of progress.

Starting is often the most challenging part of any endeavour. The fear of failure, the unknown, and the perceived enormity of the task can create a mental barrier that prevents many from taking the first step. However, it is crucial to understand that every successful person or project began with that initial, often imperfect, step.

Consider the story of Steve Jobs and Steve Wozniak, who started Apple in a garage. They were not initially great business magnates; they were passionate individuals with a vision. Their journey began with small steps, learning and evolving along the way. Their story illustrates that starting, despite uncertainties and imperfections, is essential for achieving greatness. Starting is also significant because it sets the momentum. Once the first step is taken, subsequent steps become easier. This phenomenon, often referred to as the "snowball effect" is where small actions lead to bigger ones, gradually bringing momentum and making progress more

manageable. The simple act of beginning can create a positive feedback loop that propels individuals toward their goals.

While starting is crucial, persistence is what sustains the journey toward greatness. Many people start with enthusiasm but falter when faced with challenges and setbacks. However, it is through perseverance that one learns, grows, and ultimately achieves success.

Thomas Edison, the inventor of the light bulb, famously said, "I have not failed. I've just found 10,000 ways that won't work." Edison's journey to inventing the light bulb was marked by numerous failures and setbacks. Yet, his persistence and unwavering belief in his vision led to a ground breaking invention that changed the world.

Persistence requires resilience, the ability to bounce back from failures and continue moving forward. It involves maintaining a positive mindset, staying focused on the end goal, and being willing to adapt and learn from mistakes. Those who persist in the face of adversity are more likely to achieve greatness because they continuously refine their skills, knowledge, and approach.

Greatness is not an instant achievement; it is the result of consistent incremental progress. Small steps taken consistently over time lead to significant transformations. This concept is often referred to as "the power of compounding," where small efforts compound to produce substantial results.

One example of this principle is the journey of a marathon runner. Completing a marathon requires months, if not years, of consistent training. Each run, no matter how short, contributes to building endurance, strength, and mental resilience. Over time, these small efforts accumulate, enabling the runner to achieve the seemingly impossible feat of running 42.195 kilometres.

Similarly, incremental progress is evident in personal development. Learning a new skill, such as Playing musical instrument or speaking a new language, requires consistent practice. Each practice, session, no matter how short or imperfect, contributes to mastery over time. Embracing incremental progress allows individuals to stay motivated, as they can see tangible improvements and milestones along their journey.

Overcoming the Fear of Imperfection

One of the biggest barriers to starting is the fear of imperfection. Many people hesitate to begin because they believe they need to be perfect from the outset. However, this mindset can be paralyzing and prevent progress. It is essential to embrace imperfection as a natural part of the toward greatness.

Perfectionism can lead to procrastination, as individuals wait for the "perfect" moment or conditions to start. However, the reality is that perfectionism is an illusion. Every successful person began with imperfections and learned from their mistakes. By accepting that imperfection is inevitable. Individuals can overcome the fear of starting and focus on continuous improvement.

The Japanese philosophy of "kaizen." which means "continuous improvement", emphasizes the importance of small, incremental changes. Kaizen encourages individuals to embrace imperfection and view every mistake as an opportunity to learn and grow. This mindset shift can empower individuals to take the first step and keep moving forward, even when faced with challenges.

History is filled with examples of individuals who embodied the principle that one doesn't have to be great to start, but must start to be great. Consider the story of J.K. Rowling, the author of the Hary Harry Potter series. Before achieving literary success, Rowling faced numerous rejections from publishers and personal hardships. However, she started writing her story, despite the uncertainties, and persisted through the challenges. Her perseverance paid off, and her books became a global phenomenon. Another example is that of Oprah a difficult Winfrey, who overcame a childhood and numerous obstacles to become one of the most influential media personalities in the world. Winfrey's journey began with small steps, starting with local media jobs and gradually building her career. Her story demonstrates the starting, regardless of the initial circumstances. is the key to achieving greatness.

"You don't have to be great to start, but you have to start to be great," is a powerful reminder that greatness is not a prerequisite for beginning a journey. It underscores the importance of taking the first step, embracing imperfection, and persisting through challenges. By focusing

on incremental progress and maintaining positive mindset, individuals can transform their dreams into reality. The journey toward greatness is not always easy, but it begins with the simple act of starting. So, we should take that first step, and let the journey to greatness begin.

IF A MAN KNOWS NOT TO WHICH PORT HE SAILS, NO WIND IS FAVORABLE

#MOTIVATIONAL

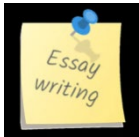
SUBMITTED BY: ARVIND R

Disclaimer: The viewpoints in the topic are strictly personal of the writer above. The role of Rau's IAS Study

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The late 1980's saw the meteoric rise of two Mumbaikars in the cricketing world. Vinod Kamli and Sachin Tendulkar held the key to Indian dominance in world cricket according to numerous analyst.

While Sachin Tendulkar Steadfast in his goal Cricketing excellence would go on to retire 24 years later as the most coveted person the cricketing world has seen, Vinod Kamblis ship did not know to which port is sailed.

Reports suggested Vinod Kamblis erratic work ethics was due to a lack of goal which he aspired. Mr. Kamblis would later explain in his own words how he had no goal and post the 1996 World Cup semifinal, which would incidentally mark the decline of his reign as the Swashbuckling left hander, no "wind" or support was favorable in his return.

Truly, if a man knows not to which port he sails, no wind is favorable.

The Port signifies the goal a person has set for self. Mind has the power to make any adversity an asset to reach the goal. However, when the mind does not know its port of calling, it is unable to use winds, however strong to sail to its goal.

This essay delves into why when a man knows not to which port he sails, no wind is favorable. It also examines the other dimensions needed to reach the destination, albeit unknown while ending with glimpse into how one can course correct to reach their goals.

Why does a man know not of his "Port"? Aristotle says the mind is a blank slate to be filled with knowledge that is present all around. To know which knowledge to collect, there needs to be moral insight – the innate nature of knowing right and wrong. This is what leads to one not reaching the port. India and Pakistan were born one day apart but the leaders of India had a goal of an egalitarian secular society and the Muslim league, Progenitor of the Pakistan Movement was just a reaction to power politics. The end result is for everyone to see and appreciate the need of insight.

Moral insight fuels Morality. Morality ensures Gandhian Marxian of Sarvodaya through Antyodaya is followed. Guided by the goal of a corruption free parliament, the Supreme Court used morality in overturning its own judgement on the DMM bribery case to prevent protectionary privilege when vote is casted out of bribery.

Another reason for the lack of cognition of ones own port is the appalling lack of self-regulation. This leads to immoral actions in attempt to achieve an illusionary goal. The Antrix-Devas seam is a prime example of lack of self-regulation by Antrix in achieving Privatization of space. The Antrix obscured of its goal is charged of corruption scarring the entire space sector.

The lack of goal arises from lack of creativity and innovation, which are considered to be foundational values. The high rate of disguised unemployment in agriculture is a direct product of this. Mr. Dalwai in his document explains the need of innovation in secondary agriculture, a sunrise sector with a compound annual growth rate of 10-11%, to soak in extra employment and make them gainful.

What are the eureka moments when a goalless man binds his/her goal? Very rarely lady luck plays her part in people finding their goals and change the life of millions. They are a wandering ship with no port of call enable to use their winds in their favour but wash ashore Atlantis! Sir Alexander Fleming forgot to dispose his mould. When he returned days later, he saw fungal growth but saw the bacterial culture die too! He had made the discovery of the century – Penicillin.

How does one use the winds to one's favour to reach their goal? The famous poet Wilcox has summed the importance of the way a person reacts to the situation in reaching the goal.

The ship drives east

The ship drives west

Tis the set of the Sail's
and not the force of gules
that decides where the
ship sails.

A person needs to introspect to develop emotional intelligence and become aware of his/her goals. This will ensure no amount of wind deters them in setting foot on their goals. A famine stricken, poverty ridden India did not deter MS Swaminathan in inventing Japonica rice that would feed India's children.

To make winds favorable one needs the motivation of reaching the goal. Mandela says the most powerful tool for change is education. This emphasis wholistic schooling with vocational education as suggested by Kasturirangan Committee on education to set goals. This will fuel motivation to reach the portion Indian Youths and enable them to achieve goals while fulfilling Indian ambitions of growth. The Eklavya Model residential school and Sarva Shiksha Abhiyan target wholistic education.

There needs to be nudge economics – as highlighted by Economic Survey – to ensure people develop goals. An average Indian farmer has land holding of around 1.06 hecter and lack of access to institutional credit and a Cobweb phenomenon of Minimum Support Price based monocropping of rice and wheat.

Nudging him/her towards crop diversification by enabling wider and higher MSP at the same time encouraging cooperative farming through Farmer producer organisation will enable the farmer to navigate winds to reach their goals of doubling farmer's income in Dalwai Panel.

A goalless man with no idea of port of call went behind blind developmental agenda. This has led to Earth coming

dangerously close to the tipping point of no return in global warming. IPCC in its ARG reports estimates 400 billion dollars is needed to course correct. International Solar Allionia enables us to set a common goal of climate friendly development. Winds are subsequently made favorable through schemes like PM Suryoday Yojana, PM-Kisan Urja Shakti Evam Uttam Yojana and the Fame Scheme of EV Vehicles.

Abraham Lincoln says the future belongs to those who create it. The goal less man akin to a port less ships is bound to wander in high seas without a goal. The taxpayers without the knowledge of the use of his tax money was bound to evade taxes. He did not see it as a useful expense.

One needs to know the goal, the beam of the lighthouse to steer the ship towards the port. The taxpayers charter explains the importance of the tax money and is bound to increase in tax revenue as the taxpayer now sees the use of his money.

The goal of India to become a Vishwa guru fuels the drive to excel in all walks of life to ensure India can guide the world.

It instills the man-Indian citizens – with the knowledge of the port to which they sail – excellence in their respective fields. This enables them to overcome all adverse winds of hardships, struggle and use the favorable winds of demographic dividend to ensure India becomes Atmanirbhar (Self-sufficient) and a Vishva guru at the Same time!

THE FOUNDATION OF EVERY STATE IS THE EDUCATION OF ITS YOUTH

#EDUCATION

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Disclaimer: The viewpoints in the topic are strictly personal of the writer above. The role of Rau's IAS Study Circle is to present the write-up in its original form, hence the study circle neither endorses nor rejects any viewpoint in the submission. The purpose is only to showcase the manner of writing.

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Will a population of over 1.4 billion, India surpassed China to become the World's most populous country. As per the UNFPA report 68% of India's population is in the

working age group. Given this large chunk of India population being the youth, its imperative that they are educated and skilled to had the nation forward.

For a state to be strong and become a global leader, its foundation itself should be strong. The foundation of a state includes – Economic prosperity, political stability, strong military power and technological advancement. It also includes the power to influence others through its values charm which Joseph Nye Calls soft 'power'.

To ensure these foundation of a state, its is the youth of the state who are at the forefront, as they are the future pillars. When They are well educated. They will be able to fulfill the needs of the state, not just in terms of hard power but also soft power by being a knowledge super power.

Education therefore is the key to transform not just the state but also transform individual lives, to contribute towards nation building. If the look at history it is education, that brought the world out of the dark age to modernity which enshrines equal rights and liberty for all. The French revolution demanding for liability, equality and fraternity fueled by enlightenment, the basis of which is education.

Closer to home, the social religious movement during the British period was started by the educated Indians. It brought India out from a superstitious stricken society towards rationality, the movement brought India on the path of a progressive society which gives equal rights to all irrespective of gender, Caste and religion etc. It formed the basis for a multicultural society, which is one of the strong foundation of a state.

Given the importance of education Milton Friedman in his "Memorandum to Government of India 1955", emphasized strongly on the need for public investment on education. Friedman opinion that instead of investing in Industries, but on the education of youth will lay the foundation for a strong and stable state.

Without Proper education and skilling of the youths, they may fall prey to the blandishment of the Maoist and take up guns.

This Pose a threat of national security as against the strong foundation of state. The Naxalite movement and

the North east insurgency are examples which are luring the youths to take up antinational activities.

Had they been properly educated they would be contributing towards nation building and economic growth. With IR 4.0 being the new buzz word, the 21st Century will be led by those country who have highly skilled technical professional. The WEF's report "the future of Jobs"- pointed out the huge loss of jobs due to automation. The report also highlights the opportunities that the technology driven 21st century offers. But these opportunities can be encouraged only if our youths are skilled and well versed with technology.

Advancement in technology to be seen not just in terms of jobs but our process in all spheres. One such dimension is the space exploration, which is gaining prominence as nations are completing to dominate the space. Space is also important as humans are looking for alternative habitat beyond earth. In this light, many startups in space sector like Agnifan, Agricul etc. Which are led by youth is a positive sign of India's readiness to explore space. Also the many initiatives by ISRO to encourage youth to take up space research as a career and to join ISRO.

Climate change is a reality and immediate efforts need to be done to reverse or slow down its impacts. In this case as well youth can be instrumental in bringing about a change for better through social movements and lifestyle changes. One such example is the Swedish climate activist Greta Thun Berg. We need more of such youth activist to address the issue of climate change as the youths are the ones who will be impacted the most by climate change.

Additionally, the world is moving beyond the conventional warfare towards hegemonic dominance. Our youth, who are the future pillars of the nation must be well educated to counter such dominance by being a knowledge super power. Future wars will be war of knowledge. An example of this is the cyber war fare.

Similarly when our youths are educated the political discourses will be on the real developmental agendas and not on parochial lines. As per Amartya Sen, the educated Youth act as the public think tank and scrutinize government policies. Further, when educated youth take up politics, policies will be based on evidence based and objectivity and not on mere populist hole bank policies.

Such policies will put India on the path to prosperity and super power.

However, just education is not enough. It should be accompanied by good health through robust health infrastructure. When the youths are healthy and well educated, then only can we reap the demographic dividend otherwise it will lead to demographic disaster.

Along with health, we also need to ensure enabling environment provide equal opportunity for all. We need to come out of the age old caste practices which discriminates people based on birth. The reservation policy for the marginalized is a positive step in providing equal opportunity. The government is also focusing on inclusive growth – taking all along through the "Sabka Saath Sabka Vikas".

To sum up education of the youth lay the foundation of a nation. Also our education system should be based on creative learning and not the rote based memorization focusing only on passing exams. What is needed is a well formed mind and not a well filled mind filled with just facts and figures.

A well formed mind is one which will be able to respond positively to unfamiliar things that have not studied before. A mind that can respond to greater exam called life.

Along with this, value education should be imparted so that we produce not just professionals but responsible citizens with the zeal to take India to greater heights. In this spirit, the National Health Policy 2017 and the National Education Policy 2020, are the twin rails, that will take India towards Viksit Bharat @ 2047.