NEXT IAS

Current Affairs

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Compilation of UPSC relevant news from 1st July to 31st July 2024

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Test Yourself

UNION BUDGET 2024-25

Recently, Finance Minister Nirmala Sitharaman presented the Union Budget during the current session of Parliament.

About:

- **Annual Financial Statement:**
  - The Budget is an annual financial statement presented by the central government, detailing its proposed expenditures and revenues for the upcoming fiscal year, FY25, which spans from April 1, 2024, to March 31, 2025.
  - Under **Article 112 of the Constitution**, the President shall in respect of every financial year cause to be laid before both the Houses of Parliament a statement of the estimated receipts and expenditure of the Government of India for that year, in this Part referred to as the **"annual financial statement".**
  - Annual Financial Statement is the main Budget document and is commonly referred to as the Budget Statement.
- **Review of Past Achievements:** It highlights the government's accomplishments over the past financial year, providing a summary of what has been achieved.
- **Future Goals and Allocations:** The Budget sets out the goals and financial allocations for the next fiscal year, aiming to meet the needs of various policies, programs, and plans.
- **Planning and Policy Requirements:** It serves as a blueprint for the government's financial strategy, outlining the requirements for policies and plans to be implemented in the forthcoming year.
- **Demands for Grants:**
  - The expenditure estimates from the Consolidated Fund included in the Budget Statements, which require approval by the Lok Sabha, are submitted as Demands for Grants.
  - Typically, a separate demand is presented for each major service managed by a Ministry or Department.
  - Each demand generally encompasses the total provisions needed for a service, including revenue expenditure, capital expenditure, grants to States and Union Territories, and loans and advances related to that service.

Key Highlights:

- **Roadmap for Viksit Bharat:**
  - Focus on **'Garib' (Poor), 'Mahilayen' (Women), 'Yuva' (Youth) and 'Annadata' (Farmer).**
  - For Annadata, Minimum Support Prices for all major crops of at least a 50 per cent margin over costs.
  - Pradhan Mantri Garib Kalyan Anna Yojana was extended for five years, benefitting more than 80 crore people.
  - **Budget Theme:** Focus on employment, skilling, MSMEs, and the middle class.
- **Nine Priorities for Viksit Bharat:**
  1. Productivity and resilience in Agriculture
  2. Employment & Skilling
  3. Inclusive Human Resource Development and Social Justice
  4. Manufacturing & Services
  5. Urban Development
  6. Energy Security
  7. Infrastructure
  8. Innovation, Research & Development
  9. Next Generation Reforms

Priority 1: Productivity and resilience in Agriculture:

- **Transforming Agriculture Research:**
  - Comprehensive review of the agriculture research setup to focus on raising productivity and developing climate-resilient varieties.
  - Funding will be provided in challenge mode, including to the private sector.
  - Oversight by domain experts from both government and outside.
- **Release of New Varieties:** Release of **109 high-yielding** and **climate-resilient varieties** of 32 field and horticulture crops for cultivation by farmers.
- **Natural Farming:**
  - Initiate **1 crore farmers** into natural farming within the next two years.
  - Support through certification and branding.
  - Implementation through scientific institutions and willing gram panchayats.
  - Establishment of **10,000 need-based bio-input** resource centers.
- **Missions for Pulses and Oilseeds:**
  - Strengthen production, storage, and marketing to achieve self-sufficiency in pulses and oilseeds.
  - Strategy to achieve **'Atma Nirbharta'** for oil seeds such as **mustard, groundnut, sesame, soybean, and sunflower.**
- **Vegetable Production & Supply Chains:**
  - Development of large-scale clusters for vegetable production closer to major consumption centers.
  - Promotion of **Farmer-Producer Organizations,** cooperatives, and start-ups for vegetable supply chains including collection, storage, and marketing.
- **Digital Public Infrastructure for Agriculture:**
  - Implementation of the **Digital Public Infrastructure (DPI) in agriculture** in partnership with the states within 3 years.
  - Digital crop survey for Kharif using DPI in **400 districts** this year.

- Details of **6 crore farmers** and their lands to be brought into farmer and land registries.
- Issuance of Jan Samarth based Kisan Credit Cards in 5 states.

- **Shrimp Production & Export:**
  - Financial support for setting up a network of **Nucleus Breeding Centres** for Shrimp Broodstocks.
  - Financing for shrimp farming, processing, and export through **NABARD.**
- **National Cooperation Policy:**
  - Introduction of a National Cooperation Policy for systematic, orderly, and all-round development of the cooperative sector.
  - Goal of fast-tracking growth of the rural economy and generating employment opportunities on a large scale.
- **Provision for Agriculture and Allied Sector:** Allocation of **₹1.52 lakh crore** for the agriculture and allied sector.

Priority 2: Employment & Skilling:

- **Employment Linked Incentive:** Implementation of three schemes based on enrolment in the EPFO, focusing on first-time employees, and support for employees and employers.
- **Scheme A: First Timers:**
  - One-month wage for all persons newly entering the workforce in all formal sectors.
  - Direct benefit transfer of one-month salary in 3 installments to first-time employees, up to ₹15,000.
  - **Eligibility limit:** salary of ₹1 lakh per month.
  - Expected to benefit 210 lakh youth.
- **Scheme B: Job Creation in Manufacturing**
  - Incentivize additional employment in the manufacturing sector linked to first-time employees.
  - Incentive provided at specified scale directly to both employee and employer regarding their EPFO contribution for the first 4 years of employment.
  - Expected to benefit 30 lakh youth and their employers.
- **Scheme C: Support to Employers**
  - Covers additional employment in all sectors.
  - Government will reimburse up to ₹3,000 per month for 2 years towards EPFO contribution for each additional employee within a salary of ₹1 lakh per month.
  - Expected to incentivize additional employment of 50 lakh persons.
- **Participation of Women in the Workforce:**
  - Facilitate higher participation of women through working women hostels in collaboration with industry and establishing creches.
  - Organize women-specific skilling programmes and promote market access for women SHG enterprises.
- **Skilling Programme:**
  - New centrally sponsored scheme for skilling in collaboration with state governments and industry.
  - 20 lakh youth will be skilled over a 5-year period.
  - Upgrade 1,000 **Industrial Training Institutes** in hub and spoke arrangements with outcome orientation.
  - Align course content and design to industry skill needs and introduce new courses for emerging needs.
- **Skilling Loans:**
  - Revised **Model Skill Loan Scheme** to facilitate loans up to ₹7.5 lakh with a guarantee from a government-promoted Fund.
  - Expected to help 25,000 students every year.
- **Education Loans:**
  - Financial support for loans up to ₹10 lakh for higher education in domestic institutions.
  - E-vouchers for annual interest subvention of 3% of the loan amount, given directly to 1 lakh students every year.

Priority 3: Inclusive Human Resource Development and Social Justice

- **Saturation Approach:**
  - Commitment to all-round, all-pervasive, and all-inclusive development, particularly for farmers, youth, women, and the poor.
  - Adoption of the saturation approach to cover all eligible people through various programmes for education and health.
- **Support for Economic Activities:**
  - Stepping up implementation of schemes supporting craftsmen, artisans, self-help groups, scheduled caste, scheduled tribe and women entrepreneurs, and street vendors.
  - **Key schemes:** PM Vishwakarma, PM SVANidhi, National Livelihood Missions, and Stand-Up India.
- **Purvodaya:**
  - Formulation of a plan for the all-round development of the eastern region (Bihar, Jharkhand, West Bengal, Odisha, and Andhra Pradesh).
  - Focus on human resource development, infrastructure, and generation of economic opportunities.
  - Support for development of an industrial node at Gaya on the Amritsar Kolkata Industrial Corridor.
  - **Development of road connectivity projects:** Patna-Purnea Expressway, Buxar-Bhagalpur Expressway, Bodhgaya, Rajgir, Vaishali and Darbhanga spurs, and an additional 2-lane bridge over river Ganga at Buxar.
  - Setting up of a new 2400 MW power plant at Pirpainti.
  - Construction of new airports, medical colleges, and sports infrastructure in Bihar.
  - Additional allocation for capital investments and expedited external assistance from multilateral development banks.
- **Andhra Pradesh Reorganization Act:**
  - Special financial support through multilateral development agencies for the state's capital.

- Arrangement of ₹15,000 crore in the current financial year, with additional amounts in future years.
- Commitment to financing and early completion of the Polavaram Irrigation Project.
- Funds for essential infrastructure in Kopparthy node on the Visakhapatnam-Chennai Industrial Corridor and Orvakal node on the Hyderabad-Bengaluru Industrial Corridor.
- Grants for backward regions of Rayalaseema, Prakasam, and North Coastal Andhra.

- **PM Awas Yojana:** Announcement of three crore additional houses in rural and urban areas with necessary allocations.
- **Women-Led Development:** Allocation of more than ₹3 lakh crore for schemes benefiting women and girls to enhance their role in economic development.
- **Pradhan Mantri Janjatiya Unnat Gram Abhiyan:**
  - Launch of the Pradhan Mantri Janjatiya Unnat Gram Abhiyan to improve the socio-economic condition of tribal communities.
  - Coverage of 63,000 villages benefiting 5 crore tribal people.
- **Bank Branches in North-Eastern Region:** Establishment of more than 100 branches of India Post Payment Bank in the NorthEast region to expand banking services.
- **Rural Development:** Provision of ₹2.66 lakh crore for rural development, including rural infrastructure.

Priority 4: Manufacturing & Services

In the Indian economy, MSMEs contribute around 30% of the GDP, 48% of exports, and provide employment to more than 110 million in rural and urban areas.

- **Support for Promotion of MSMEs:**
  - Special attention to MSMEs and manufacturing, particularly labour-intensive manufacturing.
  - Package covering financing, regulatory changes, and technology support for MSMEs.
- **Credit Guarantee Scheme for MSMEs in the Manufacturing Sector:**
  - Introduction of a credit guarantee scheme for MSMEs for term loans to purchase machinery and equipment without collateral or third-party guarantee.
  - Pooling of credit risks of MSMEs and guarantees cover up to ₹100 crore.
- **New Assessment Model for MSME Credit:** Public sector banks to build in-house capability to assess MSMEs for credit, develop a new credit assessment model based on digital footprints.
- **Credit Support to MSMEs During Stress Period:** New mechanism for continuation of bank credit to MSMEs during their stress period, supported through a government-promoted fund.
- **Mudra Loans:** Enhancement of Mudra loan limit to ₹20 lakh from ₹10 lakh for entrepreneurs who have availed and successfully repaid previous loans under the 'Tarun' category.
- **Enhanced Scope for Mandatory Onboarding in TReDS:**
  - Reduction of turnover threshold for buyers for mandatory onboarding on the TReDS platform from ₹500 crore to ₹250 crore.
  - Inclusion of 22 more CPSEs and 7000 more companies on the platform, with medium enterprises included as suppliers.
- **SIDBI Branches in MSME Clusters:** SIDBI to open new branches to serve all major MSME clusters within 3 years, with 24 branches this year, expanding service coverage to 168 out of 242 major clusters.
- **MSME Units for Food Irradiation, Quality & Safety Testing:**
  - Financial support for setting up 50 multi-product food irradiation units in the MSME sector.
  - Facilitation of 100 food quality and safety testing labs with NABL accreditation.
- **E-Commerce Export Hubs:** Establishment of E-Commerce Export Hubs in public-private-partnership (PPP) mode for MSMEs and traditional artisans to sell products internationally.
- **Measures for Promotion of Manufacturing & Services:**
  - ***Internship in Top Companies:***
    - Comprehensive scheme for providing internship opportunities in 500 top companies to 1 crore youth in 5 years.
    - Internship allowance of ₹5,000 per month and a one-time assistance of ₹6,000, with companies bearing training costs and 10% of internship costs from CSR funds.
  - ***Industrial Parks:***
    - Facilitation of development of investment-ready **"plug and play"** industrial parks with complete infrastructure in or near 100 cities, in partnership with states and private sector.
    - Sanctioning of twelve industrial parks under the National Industrial Corridor Development Programme.
- **Rental Housing:** Facilitation of rental housing with dormitory-type accommodation for industrial workers in PPP mode with VGF support and commitment from anchor industries.
- **Shipping Industry:** Implementation of ownership, leasing, and flagging reforms to improve the share of the Indian shipping industry and generate more employment.
- **Critical Mineral Mission:**
  - Setting up of a Critical Mineral Mission for domestic production, recycling, and overseas acquisition of critical mineral assets.
  - Mandate includes technology development, skilled workforce, extended producer responsibility framework, and suitable financing mechanism.
  - **Offshore Mining of Minerals:** Launch of the auction of the first tranche of offshore blocks for mining, building on previous exploration.

- **Digital Public Infrastructure Applications:** Development of DPI applications at population scale for productivity gains, business opportunities, and innovation in credit, e-commerce, education, health, law and justice, logistics, MSME, services delivery, and urban governance.
- **Integrated Technology Platform for IBC Ecosystem:** Setting up an Integrated Technology Platform to improve outcomes under the Insolvency and Bankruptcy Code (IBC) for consistency, transparency, timely processing, and better oversight.
- **Voluntary Closure of LLPs:** Extension of services of the Centre for Processing Accelerated Corporate Exit (C-PACE) for voluntary closure of LLPs to reduce closure time.
- **National Company Law Tribunals:**
  - Resolution of more than 1,000 companies under IBC, resulting in direct recovery of over ₹3.3 lakh crore to creditors.
  - Disposal of 28,000 cases involving over ₹10 lakh crore before admission.
  - Appropriate changes to IBC, reforms and strengthening of tribunal and appellate tribunals to speed up insolvency resolution.
  - Establishment of additional tribunals, with some notified to decide cases exclusively under the Companies Act.
- **Debt Recovery:** Reforms and strengthening of debt recovery tribunals, with establishment of additional tribunals to speed up recovery.

Priority 5: Urban Development

- **Cities as Growth Hubs:** Development of 'Cities as Growth Hubs' through economic and transit planning and the orderly development of peri-urban areas using town planning schemes.
- **Creative Redevelopment of Cities:** A framework will be formulated for creative brownfield redevelopment of existing cities with transformative impacts, utilizing enabling policies, market-based mechanisms, and regulation.
- **Transit Oriented Development:** Transit Oriented Development plans for 14 large cities with populations **above 30 lakh** will be formulated, along with an implementation and financing strategy.
- **Urban Housing:** The PM Awas Yojana Urban 2.0 will address the housing needs of 1 crore urban poor and middle-class families with an investment of **₹10 lakh crore**, including **₹2.2 lakh crore** central assistance over the next five years, and an interest subsidy to facilitate affordable loans.
- **Rental Housing:** Enabling policies and regulations for efficient and transparent rental housing markets with enhanced availability will also be implemented.
- **Water Supply and Sanitation:** Promotion of water supply, sewage treatment, and solid waste management projects for **100 large cities** through bankable projects, which will also use treated water for irrigation and filling tanks in nearby areas.
- **Street Markets:** Building on the success of the PM SVANidhi Scheme, a scheme to support the development of 100 weekly 'haats' or street food hubs in select cities each year for the next five years.

Priority 6: Energy Security

- **Energy Transition:** A policy document on appropriate energy transition pathways balancing employment, growth, and environmental sustainability will be brought out.
- **PM Surya Ghar Muft Bijli Yojana:** Launched to install rooftop solar plants and provide free electricity up to 300 units per month to 1 crore households.
- **Pumped Storage Policy:** For promoting pumped storage projects for electricity storage and facilitating the integration of renewable energy into the overall energy mix.
- **Research and Development of Small and Modular Nuclear Reactors:** Collaboration with the private sector for setting up Bharat Small Reactors, researching and developing Bharat Small Modular Reactors, and developing new nuclear energy technologies.
- **Advanced Ultra Super Critical Thermal Power Plants**
  - An 800 MW commercial plant using **Advanced Ultra Super Critical (AUSC)** technology will be set up by a joint venture between NTPC and BHEL, supported by government fiscal support.
  - This will also develop indigenous capacity for high-grade steel and other advanced materials.
- **Roadmap for 'Hard to Abate' Industries:** A roadmap for moving 'hard to abate' industries from energy efficiency to emission targets will be formulated, transitioning these industries to the 'Indian Carbon Market' mode.

Priority 7: Infrastructure

- **Infrastructure Investment by Central Government:** The Central Government has provided **11.11 lakh crore** for capital expenditure, which is 3.4% of the GDP, to maintain strong fiscal support for infrastructure over the next five years.
- **Infrastructure Investment by State Governments:** A provision of ₹1.5 lakh crore for long-term interest-free loans to support state resource allocation.
- **Private Investment in Infrastructure:** Promotion of Private sector investment in infrastructure through viability gap funding and enabling policies and regulations, with a market-based financing framework being developed.
- **Pradhan Mantri Gram Sadak Yojana (PMGSY):** Phase IV of PMGSY will be launched to provide all-weather connectivity to **25,000 rural habitations** that have become eligible due to population increase.
  - **First Phase:** The first phase of the PMGSY was launched on December 25, 2000, by the Prime Minister Atal Bihari Vajpayee.

- **Second Phase:** The second phase of PMGSY was initiated in 2013, continuing the effort to improve rural road connectivity.
- **RCPLWEA Component:** In 2016, a new component called the **Road Connectivity Project for Left Wing Extremism Affected Areas** (RCPLWEA) was introduced to build rural roads in areas affected by left-wing extremism.
- **Third Phase:** The third phase of PMGSY began in 2019. To date, approximately 8 lakh kilometers of rural roads have been constructed under the scheme.

- **Irrigation and Flood Mitigation:**
  - Financial support for flood control and irrigation projects in Bihar, including the Kosi-Mechi intra-state link and other schemes totaling **₹11,500 crore.**
  - Assistance will be provided to Assam for flood management and related projects.
  - Himachal Pradesh will receive assistance for reconstruction and rehabilitation after extensive flood losses.
  - Uttarakhand will receive assistance for cloudburst and landslide recovery.
  - Assistance will be provided to Sikkim for recovery from devastating flash floods and landslides.
- **Tourism:**
  - Development of **Vishnupad Temple Corridor** and **Mahabodhi Temple Corridor** in Bihar.
  - Comprehensive development of Rajgir, with its religious significance for Hindus, Buddhists, and Jains.
  - Support for developing Nalanda as a tourist center and reviving Nalanda University.
  - Assistance for developing Odisha's tourist attractions, including temples, monuments, wildlife sanctuaries, landscapes, and beaches.

Priority 8: Innovation, Research & Development

- **Anusandhan National Research Fund:**
  - It will be operationalized for basic research and prototype development.
  - Setting up a mechanism for private sector-driven research and innovation at a commercial scale with a financing pool of **₹1 lakh crore.**
- **Space Economy:** A venture capital fund of **₹1,000 crore** to expand the space economy fivefold in the next 10 years.
  - Although India is a prominent space-faring nation, its share in the global space market is approximately 2%.
  - In 2020, the Indian space sector was opened to private players with the goal of increasing India's presence in the global market.
  - This shift allows the Indian Space Research Organisation (ISRO) to concentrate on scientific missions like Chandrayaan-3, Aditya-L1, and Gaganyaan, while private entities can pursue commercial opportunities.

Priority 9: Next Generation Reforms

- **Economic Policy Framework:**
  - It will be formulated to set the scope for the next generation of reforms, facilitating employment opportunities and sustaining high growth.
  - Reforms to improve the productivity of factors of production and facilitate market and sector efficiency will be initiated.
  - These will cover land, labor, capital, entrepreneurship, and technology as an enabler of improving total factor productivity and bridging inequality.
  - Collaboration between the Union and states for effective implementation of these reforms, incentivizing states with a significant part of the 50-year interest-free loan.
- **Land-Related Reforms by State Governments:** Land-related reforms in rural and urban areas through fiscal support for completion within the next three years.
- **Urban Land-Related Actions:** Digitization of Urban land records with GIS mapping, and an IT-based system for property record administration and tax administration to improve the financial position of urban local bodies.
- **Labour-Related Reforms:**
  - Comprehensive services, including employment and skilling, for labor through the integration of the e-shram portal with other portals.
  - Shram Suvidha and Samadhan portals to be revamped to enhance ease of compliance for industry and trade.
- **Capital and Entrepreneurship-Related Reforms:**
  - A financial sector vision and strategy document will be brought out to meet the financing needs of the economy over the next five years.
  - A taxonomy for climate finance will be developed to enhance the availability of capital for climate adaptation and mitigation.
  - Legislative approval will be sought for a 'variable capital company structure' to finance the leasing of aircraft and ships and pooled funds of private equity.
  - SImplification of Rules and regulations for Foreign Direct Investment and Overseas Investments to facilitate investments, prioritize, and promote the use of the Indian Rupee for overseas investments.
  - **NPS-Vatsalya,** a plan for contributions by parents and guardians for minors, will be started and can be converted into a normal NPS account upon reaching the age of majority.
- **Ease of Doing Business:** The **Jan Vishwas Bill 2.0** to enhance Ease of Doing Business, and states will be incentivized for implementing their Business Reforms Action Plans and digitalization.
- **Data and Statistics:** Utilization of Sectoral databases established under the Digital India mission for improving data governance, collection, processing, and management.

Budget Estimates 2024-25

- **Receipts and Expenditure:**
  - For the year 2024-25, the total receipts other than borrowings are estimated at ₹32.07 lakh crore, and the total expenditure is estimated at ₹48.21 lakh crore.
  - The net tax receipts are estimated at ₹25.83 lakh crore.
  - The fiscal deficit is estimated at 4.9% of GDP.
- **Market Borrowings:**
  - The gross market borrowings through dated securities during 2024-25 are estimated at ₹14.01 lakh crore.
  - The net market borrowings through dated securities during 2024-25 are estimated at ₹ 11.63 lakh crore.
  - Both estimates are less than the borrowings in 2023-24.
- **Fiscal Consolidation:**
  - The fiscal consolidation path announced in 2021 has benefited the economy significantly.
  - The goal is to achieve a deficit below 4.5% next year.
  - From 2026-27 onwards, the aim will be to maintain a fiscal deficit that ensures the Central Government debt is on a declining path as a percentage of GDP.

Indirect Taxes:

- **Goods and Services Tax (GST):** GST has successfully decreased tax incidence on the common man, reduced compliance burdens, lowered logistics costs, and enhanced revenues for central and state governments.
- **Customs Duties:** Customs duty proposals aim to support domestic manufacturing, increase local value addition, promote export competitiveness, and simplify taxation while considering the public and consumer interests.

Sector-Specific Customs Duty Proposals

- **Medicines and Medical Equipment:**
  - To aid cancer patients, three additional medicines will be fully exempt from customs duties.
  - Changes will be made to the Basic Customs Duty (BCD) on x-ray tubes and flat panel detectors for medical x-ray machines to align with domestic capacity.
- **Mobile Phones and Related Parts:** The BCD on mobile phones, mobile PCBAs, and mobile chargers will be reduced to 15%.
- **Critical Minerals:** Customs duties on 25 critical minerals to be fully exempted, and the BCD on two will be reduced to support the processing and refining of minerals essential for various strategic sectors.
- **Solar Energy:** The exemption for solar glass and tinned copper interconnects is not extended due to sufficient domestic manufacturing capacity.
- **Marine Products:** To boost competitiveness, BCD on certain broodstock, polychaete worms, shrimp, and fish feed reduced to 5%. Customs duty will be exempted on inputs for manufacturing shrimp and fish feed.
- **Leather and Textile:**
  - BCD on real down filling material from duck or goose will be reduced to enhance export competitiveness.
  - Additional exemptions to be made for goods used in the manufacture of leather and textile garments and footwear.
  - Duty inversion to be addressed by reducing BCD on Methylene Diphenyl Diisocyanate (MDI) for spandex yarn manufacture from 7.5% to 5%.
- **Precious Metals:** Customs duties on gold and silver will be reduced to 6% and on platinum to 6.4%.
- **Electronics:** To enhance domestic value addition, BCD on oxygen-free copper for resistors to be removed.
- **Chemicals and Petrochemicals:** To support new and existing capacities, BCD on ammonium nitrate to be increased from 7.5% to 10%.
- **Plastics:** To address environmental concerns, BCD on PVC flex banners raised from 10% to 25%.
- **Telecommunication Equipment:** To promote domestic manufacturing, BCD on PCBA of specified telecom equipment increases from 10% to 15%.

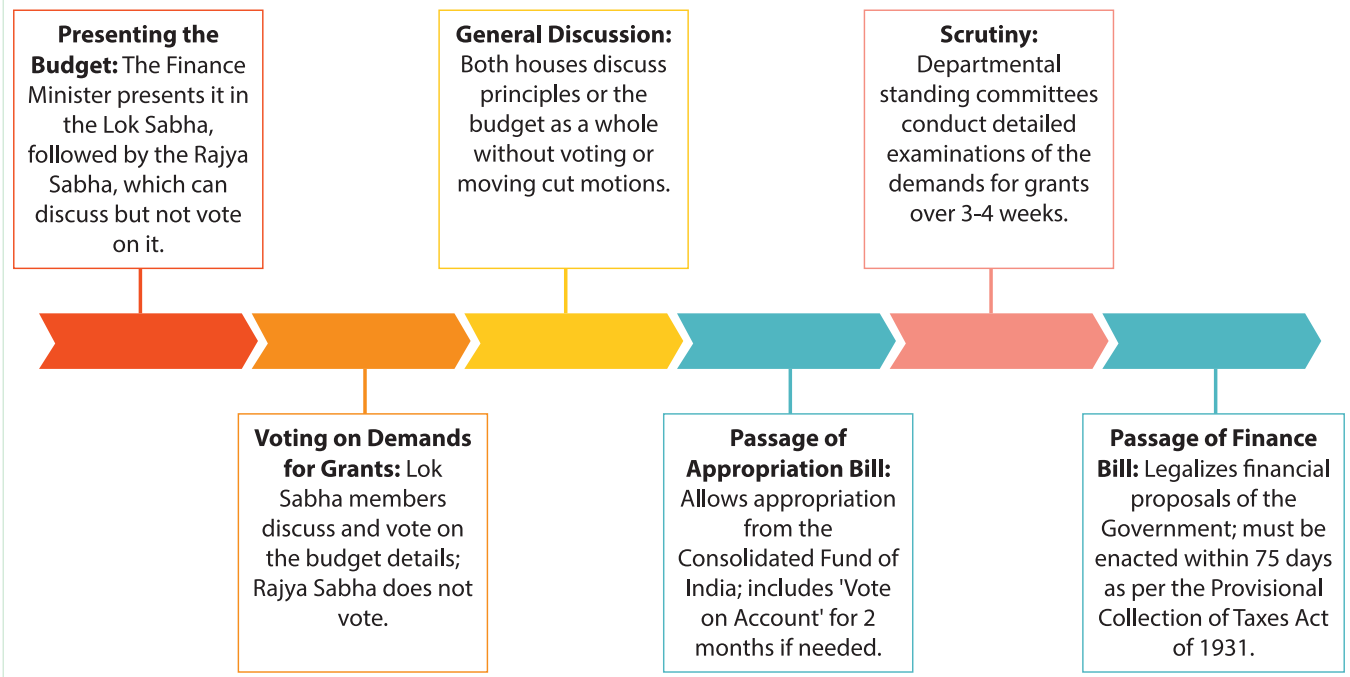
Direct Taxes

- **Simplified Tax Regimes:**
  - Measures have been taken to simplify taxation, including the introduction of simplified tax regimes for corporate tax and personal income tax.
  - In FY 2022-23, 58% of corporate tax came from the simplified regime, and over two-thirds of personal income taxpayers availed the new regime.
- **Comprehensive Review of the Income-tax Act, 1961:**
  - It is planned to make it concise, easy to understand, and reduce disputes and litigation. This review is expected to be completed in six months.
  - Initial simplifications include changes in tax regimes for charities, TDS rate structures, reassessment provisions, search provisions, and capital gains taxation.
- **Simplification for Charities and TDS:**
  - Two tax exemption regimes for charities will be merged into one.
  - TDS rates will be consolidated: 5% rate will merge into the 2% rate, and the 20% TDS rate on mutual fund unit repurchases will be withdrawn.
  - TDS rate on e-commerce operators will be reduced from 1% to 0.1%.
  - TCS credit will be given in TDS deducted on salary.
  - Delay in TDS payment will be decriminalized up to the due date of the statement. A standard operating procedure for TDS defaults and rationalization of compounding guidelines will be introduced.
- **Simplification of Reassessment:**
  - Assessments can only be reopened beyond three years if escaped income is ₹ 50 lakh or more, for a maximum period of five years.

- In such cases, the time limit will be reduced from ten years to six years before the search year.

- **Simplification and Rationalisation of Capital Gains:**
  - **Short-term capital gains** on certain financial assets will be taxed at 20%, while gains on other assets will continue at applicable rates.
  - **Long-term gains** on all assets will be taxed at 12.5%. The exemption limit for capital gains on certain financial assets will be increased to ₹1.25 lakh per year.
  - Listed financial assets held for over a year will be considered long-term; unlisted financial assets and non-financial assets will need to be held for at least two years.
  - Unlisted bonds, debentures, debt mutual funds, and market-linked debentures will attract tax on capital gains at applicable rates.
- **Litigation and Appeals:**
  - The Vivad Se Vishwas Scheme, 2024, will address income tax disputes.
  - Monetary limits for appeals in direct taxes, excise, and service tax will be increased to ₹60 lakh, ₹2 crore, and ₹5 crore, respectively.
  - Safe harbor rules and transfer pricing assessment procedures to be expanded and streamlined to reduce litigation and provide certainty in international taxation.
- **Employment and Investment:**
  - A simpler tax regime will be introduced for foreign shipping companies operating domestic cruises.
  - Safe harbor rates will be provided for foreign mining companies selling raw diamonds in India.
  - The corporate tax rate for foreign companies will be reduced from 40% to 35%.
- **Deepening the Tax Base:**
  - Security Transactions Tax on futures and options will be increased to 0.02% and 0.1%, respectively.
  - Income from share buybacks will be taxed in the hands of the recipient.
- **Other Proposals:**
  - Employer deductions for NPS expenditure will be increased from 10% to 14% of the employee's salary. Private sector and public sector bank employees opting for the new tax regime will receive a similar deduction.
  - Non-reporting of movable foreign assets up to ₹20 lakh will be de-penalized.
- **Personal Income Tax:**
  - In the new tax regime, the standard deduction for salaried employees will be increased from ₹50,000 to ₹75,000. The deduction for family pensions will be increased from ₹15,000 to ₹25,000.
- **Revenue Impact:** The proposals are expected to forgo revenue of about ₹37,000 crore (₹29,000 crore from direct taxes and ₹8,000 crore from indirect taxes) while mobilizing an additional ₹30,000 crore, resulting in a net revenue forgone of about ₹7,000 crore annually.

STAGES OF PASSING OF THE BUDGET



DIFFERENCE BETWEEN REGULAR AND INTERIM BUDGET		
	REGULAR	**INTERIM BUDGET**
Definition	A detailed financial statement for a full fiscal year.	A temporary financial statement, usually in an election year. There is no constitutional provision for an interim budget.
Purpose	Outlines the government's revenue and expenditure for the entire year.	Primarily for seeking Parliament's approval for essential expenditure for a part of the year.
Duration	Covers the entire financial year.	Covers a part of the fiscal year, until a new govt. presents the full budget.
Expenditure	Includes a complete account of expenses and allocations.	Only essential expenditures are covered.
Policy Decisions	Contains major policy decisions, new schemes, and long-term plans.	Generally avoids major policy decisions or new schemes.
Typical Occurrence	Usually presented at the beginning of the financial year.	Occurs when the tenure of the current government is ending and new elections are due.

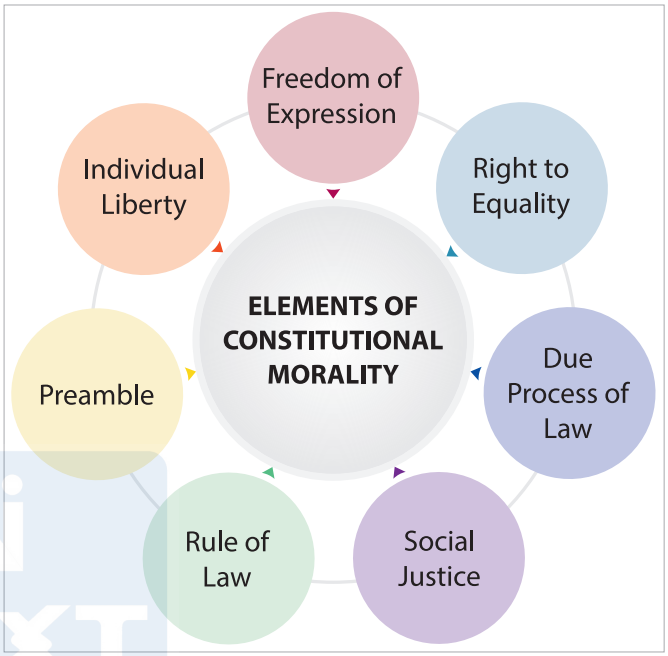
KEY TERMS	
Capital Expenditure	• Expenditure of a capital nature is broadly defined as expenditure incurred with the object of either increasing concrete assets of a material and permanent character or of reducing recurring liabilities.
Capital Receipt	• Capital receipt comprises of loans raised by the Government, borrowing from the Reserve Bank of India and loans taken from foreign Governments/institutions. • It also embraces recoveries of loans advanced by the Government and sale proceeds of government assets, including those realized from divestment of Government equity in PSUs.
Effective Revenue Deficit	• Effective Revenue Deficit is the difference between revenue deficit and grants for creation of capital assets. It can be interpreted as the difference between the government's current expenditure (on revenue account) and revenue receipts less grants for creation of capital assets which is recorded as revenue expenditure. • **Effective Revenue Deficit = Revenue Expenditure - Grants for Capital Expenditure**
Fiscal Deficit	• Excess of total disbursements from the Consolidated Fund of India, excluding repayment of debt over total receipts in the Fund, excluding the debt receipts, during a financial year. • **Fiscal Deficit = Total Expenditure - Total Revenue (excluding borrowings)**
Revenue Deficit	• Excess of revenue expenditure over revenue receipts.
Revenue Expenditure	• Charges on maintenance, repair, upkeep and working expenses, which are required to maintain the assets in a running order and also all other expenses incurred for the day to day running of the organisation, including establishment and administrative expenses are classified as revenue expenditure. • Grants given to State/UT Government and other entities are also treated as revenue expenditure, even if some of the grants may be meant for creating capital assets.
Revenue Receipts	• These include proceeds of taxes and duties levied by the Government, interest and dividend on investments made by the Government, fees and other receipts for services rendered by the Government.
Primary Deficit	• It is a financial metric that assesses a government's fiscal health by focusing on the fiscal gap excluding interest payments on existing debt. • It indicates the government's ability to meet its current spending needs without relying on additional borrowing to cover interest expenses. • **Primary Deficit = Fiscal Deficit–Interest Payments on Previous Borrowings**

CONSTITUTIONAL MORALITY

While addressing the conference of the National Judicial Academy, CJI touched on the issue of "constitutional morality" that paves the way for conditions that respect diversity, promote inclusion and pursue tolerance.

About:

- Morality is a system of principles and values that guides individuals in determining right from wrong, influencing behavior and decisions based on concepts of ethics, justice, and societal norms.
- Constitutional morality refers to the adherence to and respect for the core principles, **values**, and **spirit** of a constitution, ensuring that governance and legal processes align with the constitution's democratic, just, and ethical standards.
  - It often involves balancing majority rule with the protection of minority rights and upholding the rule of law.
- It **goes beyond the literal interpretation** to encompass a commitment to values such as sovereignty, social justice, and equality in constitutional adjudication.
- The term was first coined by British historian **George Grote** in his twelve-volume work, **"A History of Greece".**
- In essence, constitutional morality embodies the **balance between freedom and restraint.** That is, citizens submit to constitutional authorities and, at the same time, have the freedom to criticise those in power.



Constitutional Morality in Indian Constitution:

- Though the term constitutional morality is not explicitly used in the Indian Constitution, **it is deeply embedded in several of its sections:**
- **Preamble:** The Preamble outlines the foundational values of the Indian Constitution, including justice (social, economic, and political), liberty (of thought, expression, belief, faith, and worship), equality (of status and opportunity), and fraternity (assuring the dignity of the individual and the unity and integrity of the nation).
- **Fundamental Rights (Articles 12 to 35):**
  - **Article 12:** Defines the term 'State' to include the government and its agencies, ensuring that Fundamental Rights apply against actions by the state.
  - **Article 13:** States that laws inconsistent with or in derogation of Fundamental Rights are void.
  - **Article 14:** Guarantees the right to equality before the law and equal protection of laws.
  - **Article 19:** Provides freedoms related to speech, assembly, association, movement, residence, and profession.
  - **Article 21:** Guarantees the right to life and personal liberty.
  - **Article 32:** Provides the right to constitutional remedies to enforce Fundamental Rights.
- **Directive Principles of State Policy (Articles 36 to 51):**
  - **Article 36:** Defines the term 'State' for the purposes of Directive Principles.
  - **Article 37:** States that Directive Principles are not justiciable but are fundamental in the governance of the country and should be implemented by the State.
  - **Article 41:** Provides for the right to work, to education, and to public assistance in certain cases.
  - **Article 43:** Ensures the provision of a decent standard of life and conditions of work.
- **Fundamental Duties (Article 51A):**
  - **Article 51A:** Lists the Fundamental Duties of citizens, which include respecting the Constitution, promoting harmony, and upholding the sovereignty and integrity of India.
- **Checks and Balances:**
  - **Article 50:** Advocates for the separation of the judiciary from the executive to ensure impartiality.
  - **Article 123:** Grants the President the power to issue ordinances when Parliament is not in session, which are subject to legislative review.
  - **Article 226:** Allows High Courts to issue writs for the enforcement of Fundamental Rights and for other purposes.
- **Amendment Procedure (Articles 368):**
  - **Article 368:** Outlines the procedure for amending the Constitution, which includes both simple and complex

amendments, ensuring that changes reflect broad consensus and respect the Constitution's core values.

- **Election Commission and Democratic Processes:**
  - **Article 324:** Establishes the Election Commission to oversee and ensure free and fair elections, reinforcing democratic principles and accountability.
- **Federal Structure:**
  - **Article 1:** Declares India as a Union of States, ensuring a federal structure with a clear distribution of powers between the central and state governments.
- **Judicial Review:**
  - **Article 226 and Article 32:** Provide mechanisms for judicial review, allowing courts to review and strike down unconstitutional laws or executive actions, thus safeguarding constitutional principles and rights.

Supreme Court's Pronouncements on Constitutional Morality:

- **Kesavananda Bharati v. State of Kerala (1973):**
  - In the Kesavananda Bharati case, the Supreme Court articulated the "basic structure doctrine," which asserts that certain fundamental features of the Constitution cannot be altered or destroyed through amendments.
  - The Court emphasized that adherence to constitutional morality is crucial for preserving the Constitution's core values and structure.
- **Indira Nehru Gandhi v. Raj Narain (1975):** In this case, the Supreme Court addressed issues of electoral fraud and executive authority. The Court underscored the importance of constitutional morality in ensuring fair and transparent governance, reinforcing the principle that even high-ranking officials are not above the law.
- **S. R. Bommai v. Union of India (1994):** The Supreme Court examined the use of Article 356, which allows the central government to dismiss state governments. The Court held that such actions must align with constitutional morality, emphasizing that constitutional provisions must be implemented with respect to democratic principles and not for political gain.
- **Krishnamoorthy Case (2015):** In the 2015 Krishnamoorthy case, the court emphasized that constitutional morality is essential for good governance.
  - This case highlighted the importance of adhering to the principles of the Constitution to ensure that governance practices reflect the values and ethics enshrined in the Constitution.
- **Puttaswamy v. Union of India (2017):**
  - In Justice K. S. Puttaswamy v. Union of India, the Supreme Court upheld the Aadhaar scheme while imposing limitations to protect privacy.
  - The decision reinforced the need for executive actions to conform to constitutional values and safeguards, emphasizing the role of constitutional morality in the protection of individual rights.
- **Shayara Bano v. Union of India (2017):** In this case, the Supreme Court struck down the practice of instant triple talaq, highlighting that practices violating constitutional principles of equality and justice cannot be sustained.
  - The Court's decision was based on constitutional morality, emphasizing gender justice and equality.
- **Navtej Singh Johar v. Union of India (2018):**
  - In this landmark case, the Supreme Court decriminalized consensual same-sex relations by striking down Section 377 of the Indian Penal Code.
  - The Court emphasized that laws should uphold the principles of equality and dignity, reflecting constitutional morality and respecting individual rights.

Significance:

- **Fundamental Rights and Personal Freedoms:** Constitutional morality ensures the protection of individual rights and personal freedoms, emphasizing human dignity, access to justice, and freedom of expression while safeguarding against arbitrary detention.
- **Limiting Arbitrary Power:** It restricts the misuse of power by ensuring that executive and legislative actions adhere to constitutional principles, promoting accountability, preventing excessive surveillance, and maintaining checks on authority.
- **Rule of Law and Judicial Review:** Constitutional morality upholds the supremacy of the Constitution by ensuring laws and actions conform to constitutional values, supporting judicial independence, and safeguarding minority rights through consistent legal precedents.
- **Equality and Non-Discrimination:** It supports equal opportunities and anti-discrimination measures, promotes affirmative action for marginalized groups, and addresses gender justice to ensure fair treatment for all individuals.
- **Democratic Governance and Accountability:** Constitutional morality promotes transparent and fair electoral processes, encourages public participation, ensures separation of powers, and maintains accountability in governance.
- **Protection of Individual Privacy:** It advocates for robust data protection laws, consent for data use, limitations on state surveillance, and adaptation of privacy rights to the digital age, ensuring personal information is secured.
- **Social Reform and Progress:** It supports legal reforms and social inclusion, adapts constitutional principles to modern challenges, and promotes social justice, helping to address evolving societal issues and enhance cohesion.

Challenges:

- **Ambiguity in Constitutional Principles:**
  - Constitutional principles such as "justice," "equality," and "liberty" are often broadly defined, leading to varying interpretations and applications.
  - For instance, the concept of "reasonable restriction" under Article 19(2) of the Indian Constitution allows limitations on fundamental freedoms. Determining what constitutes a reasonable restriction can lead to differing judicial interpretations, impacting the consistent application of constitutional morality.
- **Resistance from Political and Social Institutions:**
  - Political leaders and institutions may resist constitutional reforms that threaten existing power dynamics or challenge entrenched practices. The implementation of gender-neutral laws, such as those addressing sexual harassment, has faced resistance from various quarters.
  - The resistance to the implementation of the Vishaka Guidelines (later replaced by the Sexual Harassment of Women at Workplace Act, 2013) illustrates how social and institutional resistance can delay necessary reforms.
- **Judicial Interpretation and Consistency:**
  - Variability in judicial interpretation can lead to inconsistent enforcement of constitutional morality.
  - For example, the Supreme Court's shifting stance on privacy rights—ranging from the judgment in **Kharak Singh v. State of Uttar Pradesh (1964)**, which upheld surveillance, to the landmark **Justice K.S. Puttaswamy v. Union of India (2017)** ruling affirming privacy as a fundamental right—shows how evolving judicial interpretations impact the enforcement of constitutional principles.
- **Public and Institutional Awareness:**
  - Limited awareness of constitutional morality among the public and institutions can impede the effective application of constitutional principles.
  - The widespread lack of awareness about the Right to Information (RTI) Act and its implications for transparency and accountability demonstrates how insufficient knowledge can hinder the realization of constitutional values.
- **Conflicts with Popular Sentiments:**
  - Enforcing constitutional morality may conflict with prevailing public sentiments or cultural norms, creating friction between legal principles and societal attitudes.
  - For instance, the decriminalization of same-sex relationships in **Navtej Singh Johar v. Union of India (2018)** faced significant public resistance, as societal attitudes were not fully aligned with the constitutional principle of equality and non-discrimination.
- **Enforcement Mechanisms:**
  - Effective enforcement requires robust institutions and mechanisms, which may be under-resourced or lacking in some regions.
  - The implementation of environmental regulations aimed at protecting fundamental rights related to a healthy environment often faces challenges due to inadequate enforcement mechanisms and lack of resources, impacting the effective realization of constitutional values related to environmental justice.

Upholding Constitutional Morality:

- **Advocacy and Criticism:** Actively oppose practices and policies that contradict constitutional principles, ensuring that governance aligns with democratic values and protecting the constitution from misuse.
- **Public Education and Awareness:** Promote a deeper understanding of constitutional principles through public education and awareness campaigns, fostering an informed citizenry capable of upholding democratic values.
- **Judicial Integrity and Interpretation:** Ensure that court decisions are guided by constitutional morality rather than popular sentiment, maintaining the judiciary's independence and aligning interpretations with fundamental values.
- **Commitment to Constitutional Values:** Emphasize adherence to the constitution as the supreme law, ensuring that all laws and governance practices reflect its core principles, such as the rule of law and equality.
- **Protection of Fundamental Rights:** Employ constitutional morality to protect fundamental rights, especially those of marginalized and vulnerable groups, ensuring that these rights are upheld in all legal and governmental actions.
- **Definition and Boundaries:** Define and establish clear guidelines for the application of constitutional morality to prevent its misapplication and ensure consistent and accurate judicial use.
- **Institutional Accountability:** Promote transparency and accountability in government institutions, ensuring that all decisions and actions are aligned with constitutional principles.
- **Checks and Balances:** Strengthen checks and balances among the executive, legislative, and judicial branches to prevent the concentration of power and ensure adherence to constitutional principles.
- **Ethical Leadership:** Integrity in Governance: Encourage leaders to demonstrate a commitment to constitutional values through ethical behavior, setting a positive example and fostering trust in public institutions.

Conclusion:

- Constitutional morality evolves with societal changes, reflecting shifting norms and values. It adapts to ensure that constitutional principles remain relevant and effective, promoting justice and equity in a dynamic society.
- This adaptability is crucial for maintaining the integrity and progress of constitutional governance.

HATHRAS STAMPEDE

A stampede at a religious gathering in Hathras (U.P.) has claimed the lives of over 100 people.

About:

- A stampede is a rapid, uncontrolled movement of a large crowd, often leading to injuries and fatalities due to overcrowding, panic, or perceived threats.
- According to the **National Crime Records Bureau** figures, from 2000 to 2013, almost 2,000 people died in stampedes in India. A 2013 study published by International Journal of Disaster Risk Reduction (IJDRR) points out that religious gathering and pilgrimages have been venues for 79% of the stampedes in India.

REASONS BEHIND 'DERA CULTURE'

- **Charismatic Leadership:** Charismatic leaders often attract followers through their personal magnetism, spiritual claims, or promises of solutions to life's problems. These leaders can create a strong emotional bond with their followers, fostering a sense of community and loyalty.
  - For instance, leaders like **Gurmeet Ram Rahim Singh of the Dera Sacha Sauda** have garnered large followings due to their charismatic appeal and claims of divine blessings.
- **Socio-Economic Support:** Deras frequently provide various socio-economic benefits, such as educational institutions, healthcare services, and financial aid. This support can be especially appealing in regions with limited government services. The educational and healthcare initiatives of many deras help attract and retain followers by addressing essential needs.
- **Social and Cultural Identity:** Deras often emphasize cultural and religious practices that resonate with local traditions and values. They can offer a sense of belonging and identity to communities, particularly those that feel marginalized or disconnected from mainstream society.
  - For example, some deras promote cultural activities and traditional festivals, reinforcing local cultural practices.
- **Alternative to Traditional Institutions:** For some individuals, deras offer an alternative to traditional religious institutions or the established socio-political system, which may be perceived as corrupt or ineffective. Deras often position themselves as more accessible and less hierarchical, appealing to those disillusioned with mainstream institutions.
- **Promises of Spiritual and Material Benefits:** Many deras promise not only spiritual enlightenment but also material benefits such as prosperity, health, and protection. This dual appeal of spiritual and tangible rewards can attract a wide range of followers. Deras often use these promises to build a loyal and dedicated following.
- **Community and Social Welfare Initiatives:** Deras frequently engage in community service and social welfare activities, such as organizing food drives, medical camps, and disaster relief efforts. These initiatives help build a positive reputation and strengthen community bonds, leading to increased support and influence.
- **Psychological and Emotional Appeal:** The psychological and emotional support provided by deras can be significant for individuals facing personal or social challenges. Deras often offer counseling, spiritual guidance, and a sense of purpose, which can be particularly appealing to those seeking solace and direction.

Reasons Behind Stampede:

- **High Crowd Density and Poor Management:** The **2013 Allahabad Kumbh Mela** saw a stampede due to the enormous number of pilgrims in a congested area, combined with inadequate crowd control measures.
  - The surge of people towards the riverbanks led to a tragic stampede.
- **Inadequate Infrastructure and Design:** During the **2011 Mumbai local train stampede at Elphinstone Road station**, overcrowded platforms and narrow stairways exacerbated the situation.
  - The design and layout of the station failed to handle the heavy passenger flow during peak hours.
- **Panic and Lack of Proper Communication:** In the **2018 Varanasi Sheetla Mata Temple stampede**, panic among the large crowd during a religious festival led to a rush towards the temple premises.
  - The lack of effective communication and crowd management contributed to the chaos.
- **Insufficient Emergency Preparedness:** The **2017 Nashik Maha Kumbh Mela** experienced a stampede when an unexpected rush of pilgrims to the riverbanks occurred.
  - The lack of adequate emergency response plans and infrastructure to handle sudden influxes of people contributed to the disaster.
- **Social and Cultural Factors Leading to High-Density Gatherings:** The **2020 Kolkata Durga Puja stampede** was caused by the high density of visitors at popular pandals during the festival.
  - The cultural significance of the event led to large crowds, and inadequate planning for crowd control led to a stampede.
- **Lack of Adequate Crowd Control Measures:** In the **2016 Pushkar Camel Fair and 2022 Mata Vaishno Devi Shrine** a stampede occurred when the crowd surged towards the fairgrounds.

- The event lacked sufficient crowd control measures, such as barriers and trained personnel, leading to confusion and a dangerous situation.

- **Unplanned Large-Scale Events:** During the **2018 Maha Shivaratri celebrations** at the Siddhivinayak Temple in Mumbai, a stampede happened due to the unplanned management of the massive number of devotees. The lack of a well-organized system to handle such a large-scale event contributed to the stampede.

INTERNATIONAL INCIDENTS OF STAMPEDE

- **Moscow (1896):** More than 1,000 people died in a stampede triggered by a rumor-induced surge.
- **Allahabad (1954):** Approximately 800 fatalities occurred at the Kumbh Mela due to inadequate planning and crowd control.
- **Lima (1963):** During a football match, 326 people lost their lives as a result of panic caused by tear gas.
- **Wai (2005):** Over 340 deaths were reported at a temple, caused by slippery steps.
- **Mina (2015):** The death toll ranged from 769 to over 2,000 during the Hajj pilgrimage due to intersecting crowds.

Way Forward:

- **Effective Crowd Management and Planning:** Implement detailed crowd management plans, including clear entry and exit points, and deploy trained personnel to guide and control crowds. ***For example***, at large public events, organizers can use barriers and signage to direct crowd flow and prevent overcrowding in specific areas.
- **Infrastructure Improvements:** Upgrade infrastructure to handle large crowds safely. This includes widening pathways, increasing the number of exits, and improving the overall design of event spaces to accommodate high-density crowds. ***For example***, ensuring that train stations and public venues have adequate and well-marked emergency exits can prevent bottlenecks during peak times.
- **Real-Time Monitoring and Communication:** Use real-time monitoring systems, such as surveillance cameras and crowd density sensors, to track crowd movement and density. Establish effective communication channels for both staff and attendees to manage any arising issues promptly. ***For instance***, live updates on crowd conditions can be communicated via public address systems or mobile apps.
- **Comprehensive Emergency Preparedness:** Develop and regularly practice emergency response plans, including evacuation procedures and first aid training. Conduct drills to ensure all staff are prepared to handle emergencies. ***For example***, having a clear and rehearsed evacuation plan for festivals and large gatherings ensures quick and efficient response in case of a crisis.
- **Public Awareness and Education:** Educate the public on safety protocols and the importance of adhering to instructions during large events. This can be done through pre-event briefings, signage, and public awareness campaigns.
  - ***For example***, informing attendees about the layout of the venue and emergency procedures helps reduce panic and confusion.
- **Coordination with Local Authorities:** Collaborate with local law enforcement, emergency services, and other relevant authorities to ensure adequate support and coordination during events. This includes having police and medical teams on standby to address any incidents swiftly.
  - ***For instance***, coordinating with local authorities for large religious festivals can ensure proper crowd control and emergency response.
- **Post-Event Evaluation and Improvement:** Conduct post-event evaluations to assess what went well and identify areas for improvement. Use feedback from participants and staff to enhance future crowd management strategies.
  - ***For example***, reviewing incidents and gathering feedback from past events can help refine safety measures and planning for future events.

NDMA GUIDELINES ON CROWD MANAGEMENT

- The National Disaster Management Authority (NDMA) has formulated guidelines on crowd management to prevent and mitigate the risks of crowd disasters at events and venues of mass gatherings.
- **Risk Assessment and Planning:** Develop a comprehensive crowd management plan based on the risk assessment, outlining roles and responsibilities, communication protocols, and emergency response procedures.
- **Infrastructure and Facilities:** Ensure adequate space, entry/exit points, signage, lighting, and sanitation facilities at the venue.
- **Crowd Flow Management:** Use technology like CCTV cameras and drones to monitor crowd movement and identify potential risks. Deploy trained personnel to guide and assist the crowd.
- **Emergency Response:** Develop an emergency response plan for incidents like stampedes, fires, medical emergencies, or terrorist attacks. Ensure adequate medical facilities and trained personnel are available at the venue.
- **Training and Awareness:** Provide training to organizers, security personnel, volunteers, and other stakeholders on crowd management techniques and emergency procedures.
- **Use of Technologies:** Use of technology like Artificial Intelligence (AI) and data analytics for crowd prediction and behavior analysis.

KERALA'S WAYANAD LANDSLIDES

Ecologist Madhav Gadgil, has termed the disaster in Wayanad a man-made tragedy, attributing it to the failure of implementing crucial ecological recommendations.

About:

- Landslides are a geological phenomenon that involves the sudden and rapid movement of a mass of rock, soil, or debris down a slope under the influence of gravity.
- Landslides, usually, occur in areas having characteristics like Steep terrain such as hilly or mountainous areas, Presence of joints and fissures or areas where surface runoff is directed or land is heavily saturated with water.

CAUSES AND DYNAMICS OF LANDSLIDES: A CASE STUDY OF KERALA

- In Kerala, nearly half of the land area — 19,301 sq km or **49.7% of the total landmass** — is prone to landslides, according to an assessment by the Geological Survey of India (GSI).
- The region's heavy rainfall and the slope of the Western Ghats make areas like Wayanad particularly vulnerable.

Natural Factors Contributing to Landslides:

- **Heavy Rainfall:**
  - **Intensity and Duration:** Heavy rainfall saturates the ground, reducing soil stability and increasing the risk of landslides.
  - Wayanad, with **31.54% of its district highly susceptible to landslides**, often experiences intense downpours.
- **Topography:**
  - ***Slope of the Western Ghats:***
    - The steep slopes of the Western Ghats are naturally prone to landslides.
    - The region's topography contributes to the gravitational pull on saturated soil, leading to slope failure.
- **Climate Change:**
  - ***Rainfall Patterns:***
    - Climate change has altered rainfall patterns, with the warming of the Arabian Sea contributing to the formation of deep cloud systems.
    - This results in extremely heavy rainfall over shorter periods, increasing the likelihood of landslides.
  - ***Changing Environment:***
    - Kerala is witnessing a shift from a cool, humid environment with year-round drizzles to one with drier, hotter summers and intense monsoon downpours.
    - This change exacerbates the risk of landslides as dry soils absorb less water, and heavy rainfalls lead to runoff that can trigger landslides.

Committee's Recommendations:

- **Mr. Madhav Gadgil** led the **Western Ghats Ecology Expert Panel**, which submitted its report in 2011.
- The panel recommended that the **entire Western Ghats region**, spanning **1,29,000 square km across six states**, be declared an **Ecologically Sensitive Zone (ESZ).**
- The proposed division into **three broad zones (ESZ 1, ESZ 2, and ESZ 3)** came with varying levels of development restrictions:
  - **ESZ 1:** The strictest zone, where development activities were to be severely limited. This included:
    - A ban on land use changes
    - A moratorium on mining and quarrying
    - Limits on hydropower projects
    - No new railway lines or major roads
    - Strictly regulated minimal ecotourism
  - All three taluks of Wayanad fell under ESZ 1, highlighting the region's ecological sensitivity.
  - **ESZ 2 and ESZ 3:** Zones with progressively fewer restrictions but still aimed at conserving the region's ecological balance.
- **Western Ghats Ecology Authority:** Under the **Environment (Protection) Act, 1986,** a professional body to manage the ecology of the region and to ensure its sustainable development was recommended by the committee.

SPECIFIC CASE: MUNDAKKAI & MEPPADI PANCHAYAT

- The village of Mundakkai, which was recently devastated by a landslide, is within the Meppadi panchayat.
- This area had been spotlighted as one of 18 proposed ecologically sensitive localities in Kerala under the Gadgil panel's recommendations.

- **Rejection and Dilution of the Gadgil Report:**
  - The Gadgil panel report faced significant backlash due to concerns over its impact on livelihoods and economic growth, leading to its rejection by all state governments.
  - A subsequent panel led by **former ISRO chief K. Kasturirangan** diluted the recommendations, suggesting that **only 37% of the Western Ghats** be declared ecologically sensitive.
  - Despite these changes, much of Wayanad remained within the protected area.
- **Implementation Challenges:**
  - ***Draft Notification:***
    - A draft notification on Western Ghats protection, first issued in March 2014, has remained in draft form for over a decade.

- Its sixth version was issued by the Union government just a day after the Wayanad landslide struck.
- ***Balancing Conservation and Development:***
  - A 2022 committee was established to address states' concerns and balance conservation with the rights, privileges, needs, and developmental aspirations of the region.
- This committee is yet to submit its report.

- **Key Challenges and Future Directions:**
  - ***Public Backlash and Livelihood Concerns:***
    - The Gadgil report's strict recommendations faced opposition due to fears of economic and livelihood impacts.
    - Effective conservation strategies need to balance ecological preservation with the socio-economic needs of local communities.
  - ***Implementation Delays:***
    - Prolonged delays in implementing protection measures have left the region vulnerable.
    - Swift action is needed to finalize and enforce protective regulations.
  - ***Integrated Approach:***
    - Combining ecological sensitivity with sustainable development practices is crucial.
    - This includes promoting ecotourism, sustainable agriculture, and responsible construction practices.
- **Community Engagement:** Engaging local communities in conservation efforts and addressing their concerns can foster greater acceptance and cooperation.
- **Long-term Monitoring and Adaptation:** Continuous monitoring of ecological conditions and the impact of conservation measures will help in adapting strategies to changing environmental and socio-economic dynamics.

Current Measures and Challenges:

- **Landslide Forecasting:**
  - ***Regional Bulletins:***
    - Since the onset of the 2024 monsoon, regional landslide forecast bulletins have been issued to state and district authorities in Wayanad.
    - Most days have shown a "low" probability of landslides, with a "moderate" probability predicted on July 30.
  - **Accuracy and Predictive Capability:** The accuracy and predictive capability of these forecasts are crucial for effective risk management, but currently, they are still in the developmental phase.
- **Community Response and Cooperation:**
  - **Frequent Minor Landslides:** Minor landslides occur frequently in the region. Many villagers were hesitant to cooperate in evacuation efforts due to fear of losing their holdings.
  - **Evacuation Challenges:** Local officials report difficulties in persuading villagers to evacuate, highlighting the need for better communication and trust-building between authorities and the community.
- **Infrastructure for Resilience:**
  - **Climate-Resilient Community Shelters:** A proposal to build climate-resilient community shelters in safe areas, using materials and building techniques designed to withstand severe weather conditions, has yet to be implemented.
  - **Delays in Implementation:** The delay in building these shelters underscores the need for prompt action to ensure the safety and resilience of vulnerable communities.

Way Forward:

- **Enhancing Early Warning Systems:**
  - **Development and Testing:** Accelerate the development and testing of the early warning system to ensure it becomes operational as soon as possible.
  - **Data Collection and Analysis:** Improve data collection and analysis techniques to enhance the accuracy of landslide predictions.
- **Community Engagement and Education:**
  - **Risk Awareness Programs:** Conduct risk awareness programs to educate villagers about the dangers of landslides and the importance of evacuation.
  - **Incentives for Cooperation:** Develop incentives for cooperation during evacuation efforts, such as compensation for temporary relocation or protection of property.
- **Building Resilient Infrastructure:**
  - **Implementing Shelter Plans:** Expedite the construction of climate-resilient community shelters to provide safe havens during emergencies.
  - **Sustainable Building Techniques:** Use sustainable building techniques that can withstand extreme weather conditions and ensure long-term durability.
- **Policy and Governance:**
  - **Strengthening Regulations:** Implement and enforce regulations that support landslide risk reduction and sustainable land use practices.
  - **Inter-agency Coordination:** Enhance coordination between GSI, state authorities, and local communities to streamline efforts and resources for landslide management.
- **The Disaster Management Act, of 2005** provides a comprehensive legal and institutional framework for the management of various disasters including landslides.
- **The National Landslide Risk Management Strategy (2019)** covers all aspects of landslide disaster risk reduction and management, such as hazard mapping, monitoring, and early warning systems.
- **The National Disaster Management Authority (NDMA)** has issued Guidelines on Landslide Hazard Management (2009) that outline the steps that should be taken to reduce the risk of landslides.

DEMAND FOR SEPARATE "BHIL PRADESH"

The members of the Bhil tribe have again demanded a separate 'Bhil Pradesh'.

About:

- The Bhil community has been demanding that **49 districts** be carved out of the parts of **Rajasthan, Madhya Pradesh, Gujarat and Maharashtra** to establish Bhil Pradesh.
- Bhil social reformer and spiritual leader **Govind Guru** first raised the demand for a separate state for **tribals back in 1913.**
  - This was after the **Mangarh massacre**, which took place six years before Jallianwalla Bagh and is sometimes referred to as the "**Adivasi Jallianwala".**
  - It saw hundreds of Bhil tribals being killed by British forces on November 17, 1913, in the hills of Mangarh on the Rajasthan-Gujarat border.
- Post-Independence, the demand for Bhil Pradesh was raised repeatedly.

BHIL TRIBE

- The Bhil tribal community mainly resides in **Rajasthan, western Madhya Pradesh, Gujarat and northern Maharashtra.**
- Some families have migrated to other states like **Tripura for jobs in tea gardens.**
- In the Bhil tribe, sub-tribes Bhil-Garasia and Dholi Bhil are included.
- It is believed that their name emerged from the **Dravidian language word "billu"** means bow and arrow.

PROCESS TO FORM/RENAME A STATE IN INDIA

- **Article 3** authorizes the Parliament to:
  - form a new state by separation of territory from any state or by uniting two or more states or parts of states or by uniting any territory to a part of any state;
  - increase the area of any state;
  - diminish the area of any state;
  - alter the boundaries of any state; and
  - alter the name of any state.
- However, **Article 3** lays down two conditions in this regard:
  - a bill contemplating the above changes can be introduced in the Parliament only with the prior recommendation of the President;
  - and before recommending the bill, the President has to refer the same to the state legislature concerned for expressing its views within a specified period.
- The **President (or Parliament) is not bound** by the views of the state legislature and may either accept or reject them.
- Moreover, the **Indian Constitution (Article 4)** itself declares that laws made for alteration of names of existing states (under Articles 3) are not to be considered as amendments of the Constitution under **Article 368**
  - Such laws can be passed by a simple majority and by the ordinary legislative process.

REASONS FOR BEHIND DEMAND FOR A SEPARATE STATE BY BHILS

- **Cultural and Linguistic Homogeneity:**
  - The Bhil community, which spans across parts of Gujarat, Maharashtra, Madhya Pradesh, and Rajasthan, shares a common language (Bhili) and cultural practices. Advocates argue that a separate state would enhance the preservation and promotion of their distinct cultural heritage.
  - Historical considerations, such as those by the Fazl Ali Commission, emphasize the importance of linguistic and cultural homogeneity as a factor for state formation, recognizing the role of shared cultural identity in governance.
- **Geographic Considerations:**
  - The proposed Bhil Pradesh would include 49 districts from the four states, encompassing regions with significant tribal populations and deep historical and cultural connections that cross current state boundaries.
  - Geographic unity is seen as crucial for effective administration and development, ensuring that policies can be tailored to the specific needs and characteristics of the region.
- **Political Marginalization:**
  - Tribal leaders argue that existing political structures have not adequately addressed the needs and aspirations of the Bhil community, leading to a sense of marginalization. A separate state is viewed as a means to provide more focused governance and representation for the community.
  - Political marginalization often results in the underrepresentation of minority groups, which can hinder their ability to influence policy and access resources effectively.
- **Developmental Focus:**
  - Proponents believe that the creation of Bhil Pradesh would lead to more focused developmental policies, improving resource utilization and addressing specific tribal welfare needs.

- Historical issues, such as delays in implementing laws like the **Panchayats (Extension to Scheduled Areas) Act, 199**6, highlight the necessity for more localized governance to address these concerns effectively.
- A separate state could facilitate tailored development programs that better address local issues and ensure more efficient allocation of resources for community upliftment.

Factors Responsible for Demands for a Separate State:

- **Linguistic and Cultural Identity:** Language-based movements often aim to preserve and promote cultural heritage that is perceived to be overshadowed or diluted in a larger state. This can foster a sense of pride and autonomy among communities.
  - For instance, the demand for Telangana was significantly driven by linguistic and cultural differences from the rest of Andhra Pradesh. Telangana has a distinct identity with its own language and traditions, which many felt were not adequately acknowledged within the unified state.
- **Regional Disparities:** Economic disparities can lead to uneven distribution of resources and investment, prompting regions with fewer benefits to seek autonomy to better manage their development.
  - For **example**, the demand for the creation of a **separate state of Vidarbha** has been driven by perceived economic and developmental neglect compared to the rest of Maharashtra. The **Vidarbha region** has historically faced economic challenges, leading to calls for a separate state to address its specific developmental needs.
- **Political Representation:** Regions with significant minority populations often seek statehood to ensure that their unique political and administrative needs are better addressed through localized governance.
  - The demand for **Gorkhaland in West Bengal** reflects concerns over inadequate political representation and local governance for the Gorkha community, which feels marginalized within the larger West Bengal state structure.
- **Resource Allocation:** Resource allocation challenges can arise from dividing state assets and managing shared resources, leading to potential conflicts and demands for equitable distribution.
  - The creation of **Uttarakhand from Uttar Pradesh** involved disputes over resource distribution, particularly in areas like water resources and revenue allocation. The newly formed state needed to navigate complex negotiations over these issues.
- **Historical Grievances:** Historical grievances can stem from perceptions of historical injustice or ongoing discrimination, driving efforts to establish a separate state as a means of redress and progress.
  - The demand for a separate state of Jharkhand was partly fueled by historical grievances related to exploitation and neglect of tribal areas within Bihar. The movement sought to address long-standing issues of underdevelopment and marginalization.

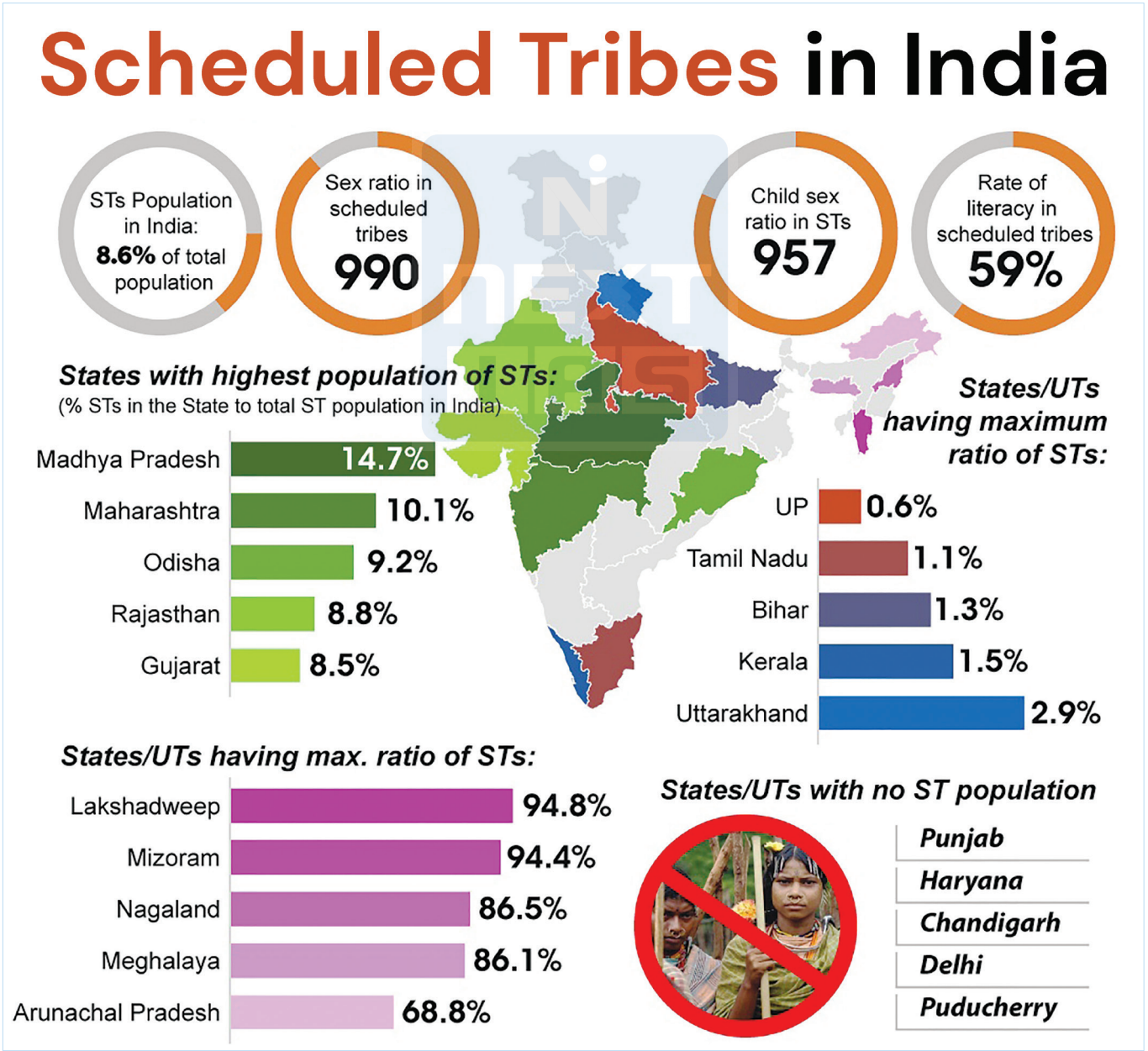
Challenges:

- **Political Opposition:** Political opposition can arise from those who perceive that state reorganization may undermine their influence, create instability, or alter existing power dynamics.
  - Like, the bifurcation of Andhra Pradesh to create Telangana faced substantial opposition from various political factions and stakeholders within Andhra Pradesh who feared loss of political power and economic resources.
- **Administrative Reorganization:** Administrative reorganization requires comprehensive planning to ensure effective governance, continuity of services, and minimal disruption during the transition.
  - **For instance**, the creation of new administrative structures and boundary delineations during the formation of Telangana resulted in significant administrative challenges, including the need to establish new government institutions and manage transitions.
- **Resource Allocation:** Resource allocation issues can lead to conflicts between newly formed states and require careful negotiation to avoid disputes and ensure fair distribution.
  - **For Instance,** The division of Punjab to create Haryana in 1966 led to disputes over the allocation of water resources, particularly from the river systems that spanned both states. Negotiations over these resources were protracted and complex.
- **Social Integration:** Social integration challenges include managing diverse ethnic, linguistic, and cultural identities, which can impact community cohesion and integration efforts.

Way Ahead:

- **Comprehensive Deliberation:** Engaging with various stakeholders to understand and address their concerns, balancing competing interests, and ensuring that decisions are made in the best interest of regional and national stability.
- **Strengthening the National Integration Council:** Enhance the role of the National Integration Council to more effectively address regionalism challenges. This could involve increasing its mandate and resources to tackle regional disparities and promote national unity.
- **Forming a High-Powered Commission:** Establish a high-powered commission to evaluate the effectiveness of existing laws and policies related to regional issues. This commission should propose necessary amendments to better address regional concerns and ensure more equitable governance.

- **Enhancing Panchayati Raj and Urban Local Bodies:** Build on the foundation provided by the 73rd and 74th Constitutional Amendments by further strengthening Panchayati Raj Institutions and Urban Local Bodies. Focus on capacity building, financial empowerment, and ensuring constitutional safeguards to improve local governance and address regional needs.
- **Expanding Aspirational Districts Programme:** Expand the scope of programs like the NITI Aayog's Aspirational Districts Programme to include regions demanding statehood. Launch similar initiatives aimed at addressing underdevelopment and fostering regional progress.
- **Creating Regional Dialogue Mechanisms:** Create regional-level dialogue mechanisms similar to the Inter-State Council to facilitate better center-state interactions and address regional issues more effectively. These platforms can help mediate regional demands and ensure more balanced regional development.
- **Focused Development Plans:** Developing targeted strategies to address regional disparities and promote equitable development, enhancing the effectiveness of governance and resource management in newly formed states.
- **Strengthening Social Cohesion:** Implementing measures to foster social integration and cohesion, addressing the needs of diverse communities, and ensuring that cultural and linguistic identities are respected and preserved.



GRAM NYAYALAYA

The Supreme Court (SC) has sought a full report from States and High Courts on the establishment and functioning of Gram Nyayalayas.

Concerns of Supreme Court:

- **Slow Implementation:** The Gram Nyayalayas Act of 2008 aimed to decentralize justice and de-clog courts.
  - However, only about 450 of the 16,000 planned Gram Nyayalayas have been set up, with only around 300 operational.
- **Pending Cases:** The backlog of over four crore cases in trial courts is exacerbated by the insufficient number of functional Gram Nyayalayas, hindering efforts to reduce judicial congestion.
- **Access to Justice:** The Supreme Court is concerned that the slow progress in establishing Gram Nyayalayas impedes the goal of providing timely and affordable justice to rural populations.
- **Lack of Reporting:** States and High Courts have not submitted required affidavits on the status of Gram Nyayalayas, indicating a lack of compliance and commitment.
- **Resistance in Tribal Areas:** States like Jharkhand and Bihar have resisted setting up Gram Nyayalayas in tribal areas due to conflicts with local or traditional laws.
- **Other Associated Issues:**
  - Section 3 of the Gram Nyayalayas Act does not mandate the establishment of Gram Nyayalayas, leading to gaps in implementation.
  - Confusion about the mandate due to overlap with other specialized courts.
  - Decreased necessity due to the establishment of regular courts at the Taluk level.
  - Low awareness and reluctance among stakeholders, including police officials and lawyers.
  - Insufficient initial budget and recurring expense support from the Central Government.

ABOUT GRAM NYAYALAYAS

- **Mandate:**
  - **Objective:** Gram Nyayalayas are designed to deliver affordable and accessible justice to people residing in rural areas. The goal is to bring the judicial system closer to the rural population, ensuring that justice is available at their doorstep.
- **Background:**
  - **Legislative History:** The Gram Nyayalayas Bill was passed by the Indian Parliament in 2008. Following this, the Gram Nyayalayas Act came into effect on October 2, 2009.
  - **Recommendations:** The establishment of Gram Nyayalayas was recommended by the Law Commission of India in its 114th Report, emphasizing the need for a judiciary accessible to rural communities.
  - **Geographical Scope:** The Act applies to the entire country, with exceptions including the states of Nagaland, Arunachal Pradesh, Sikkim, and certain tribal areas where the implementation of Gram Nyayalayas is not covered.

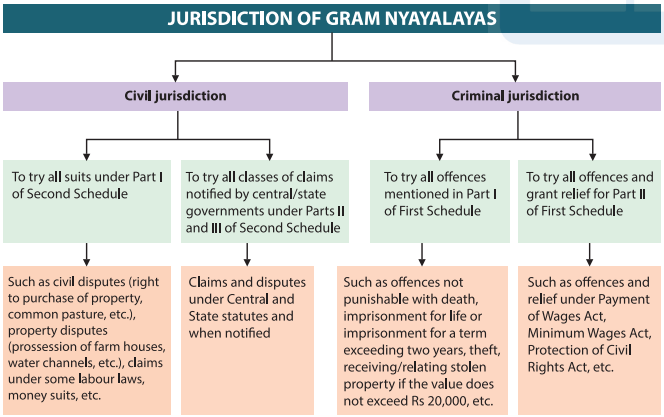
Salient features of the Gram Nyayalayas Act:

- **Establishment:**
  - **Court Type:** Each Gram Nyayalaya functions as a court of Judicial Magistrate of the First Class.
  - **Presiding Officer:** The Nyayadhikari, appointed by the State Government in consultation with the High Court, presides over the court.
    - The **qualification** for such an officer is that he/she shall be eligible to be appointed as a Judicial Magistrate of the first class.
  - **Location:** Established for every intermediate Panchayat or a group of contiguous Panchayats within a district. The seat is at the headquarters of the intermediate Panchayat, with the Nyayadhikari traveling to villages to dispose of cases.
- **Jurisdiction:**
  - **Area of Jurisdiction:** Defined by a notification from the State Government in consultation with the High Court.
  - **Mobile Courts:** Nyayadhikaris can hold mobile courts and conduct proceedings in villages.
  - **Scope:** Gram Nyayalayas have both civil and criminal jurisdiction.
- **Amendment Power:** Both Central and State Governments can amend the First and Second Schedules.
  - **Pecuniary Jurisdiction:** Fixed by the respective High Courts.
  - **Case Transfers:** High Courts can transfer eligible cases from District Courts to Gram Nyayalayas.
  - **Conciliation:** Emphasizes resolving disputes through conciliation, using appointed conciliators.
- **Summary Procedure:**
  - **Procedure:** Gram Nyayalayas follow a summary procedure in criminal trials, which is faster and simpler than ordinary procedures. Suitable for cases with fewer issues requiring prompt resolution.

ADDITIONAL INFORMATION

- **Summary procedure:** It is a legal process designed for the swift resolution of cases without a full trial. It involves simplified and expedited procedures, typically used for clear-cut cases with minimal factual disputes, such as small claims or uncontested matters. The goal is to deliver a quick judgment while reducing court time and legal costs.
- **Pecuniary jurisdiction:** It defines a court's authority to hear cases based on the monetary value in dispute, determining which court can adjudicate cases of varying financial amounts.
- **Decree:** It is a formal legal order issued by a court that settles a dispute and outlines the rights and obligations of the parties involved, effectively concluding the legal case.

  - **Judgments and Orders:** Considered as decrees.
  - **Rules of Evidence:** Not bound by the Indian Evidence Act, 1872, but guided by principles of natural justice and any High Court rules.
- **Appeal:**
  - **Criminal Cases:** Appeals lie with the Court of Session, to be heard and disposed of within six months from the filing date.
  - **Civil Cases:** Appeals lie with the District Court, to be heard and disposed of within six months from the filing date.
  - **Plea Bargaining:** Accused individuals may file an application for plea bargaining.



Issues with Gram Nyayalayas

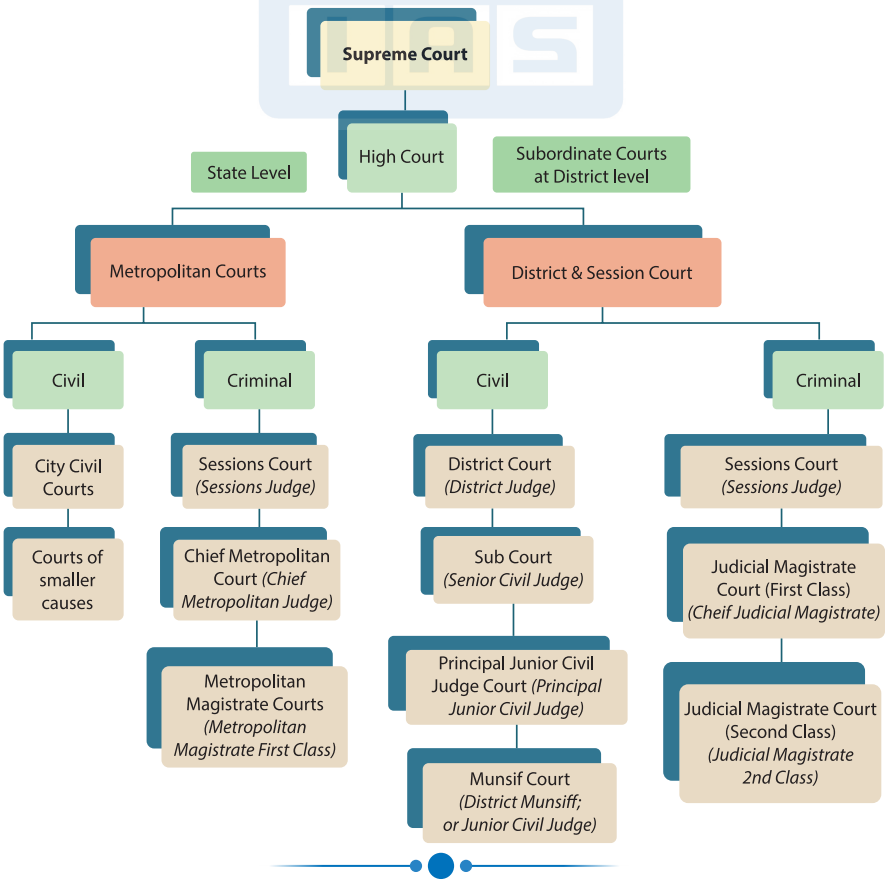
- **Judicial Vacancies:**
  - **Shortfall of Officers:** Gram Nyayalayas face a significant shortage of judicial officers willing to serve in rural areas. This is largely due to challenging working conditions, such as inadequate infrastructure and lower incentives compared to urban postings.
  - **Incentive Deficiency:** The lack of attractive incentives and career progression opportunities for judicial officers in rural settings exacerbates the problem, leading to high turnover rates and difficulty in attracting qualified candidates.
- **Inadequate Facilities:**
  - **Lack of Basic Amenities:** Many Gram Nyayalayas operate without essential facilities like dedicated court buildings, proper seating arrangements for litigants, and necessary office equipment. This impacts their ability to function effectively and provide a professional environment.
  - **Infrastructure Deficiencies:** The absence of adequate infrastructure undermines the credibility and efficiency of these courts, making it challenging for them to handle cases properly and maintain an organized workspace.
- **Pendency of Cases:**
  - **Backlog Issues:** Despite the objective to provide quick and accessible justice, Gram Nyayalayas struggle with a significant backlog of cases. This backlog contradicts the intended purpose of expeditious case resolution and hampers the delivery of timely justice.
  - **Slow Disposal Rates:** The slow pace of case disposal in these courts further aggravates the problem, leading to delays in justice and dissatisfaction among rural litigants.
- **Lack of Proper Training:**
  - **Inadequate Training Programs:** Judicial officers and staff in Gram Nyayalayas often lack specialized training in rural jurisprudence and the socio-economic context of rural areas. This gap affects the quality of justice, as officers may not fully understand or address the unique needs of rural communities.
  - **Skill Development Needs:** There is a pressing need for comprehensive training programs to enhance the capabilities of judicial officers and staff, ensuring they are well-equipped to handle the complexities of rural cases effectively.
- **Delay in Notification:**
  - **Slow Implementation:** Many states have been sluggish in notifying and establishing Gram Nyayalayas, despite the legal mandate. This delay results in uneven implementation and limited access to justice in many rural areas.
  - **Uneven Coverage:** The inconsistency in the establishment of Gram Nyayalayas across different states affects the uniformity of justice delivery and creates disparities in access to legal remedies.
- **Insufficient Numbers:**
  - **Required vs. Established:** While approximately 16,000 Gram Nyayalayas are deemed necessary to cover rural areas adequately, only a little over 450 have been set up, with around 300 actually functional. This significant shortfall indicates a gap in meeting the legal and administrative requirements.

- **Operational Gaps:** The disparity between the required and established number of Gram Nyayalayas highlights the challenges in achieving comprehensive rural justice coverage.

- **Coordination Issues:**
  - **Administrative Challenges:** The lack of effective coordination between state governments and the judiciary creates administrative and operational hurdles. This misalignment impacts the smooth functioning of Gram Nyayalayas and their integration into the broader judicial system.
  - **Operational Inefficiencies:** Inefficient coordination leads to delays, misunderstandings, and inefficiencies in the operation of Gram Nyayalayas, affecting their overall effectiveness and service delivery.
- **Financial Constraints:**
  - **Inadequate Funding:** Financial allocations for the establishment and maintenance of Gram Nyayalayas are often insufficient. This financial shortfall affects their ability to function properly, maintain facilities, and support staff adequately.
  - **Sustainability Issues:** Limited financial resources hinder the long-term sustainability and operational effectiveness of Gram Nyayalayas, impacting their ability to fulfill their mandate of providing accessible justice to rural populations.

Way Ahead:

- **Address Judicial Vacancies:** Enhance incentives, provide career progression opportunities, and improve working conditions in rural areas to attract and retain qualified judicial officers. Develop specialized programs to make rural postings more appealing.
- **Infrastructure Development:** Invest in building dedicated court facilities with essential amenities and modern office equipment. Ensure that Gram Nyayalayas are equipped with the necessary resources to function efficiently and provide a professional environment.
- **Enhance Training Programs:** Implement comprehensive training programs for judicial officers and staff focused on rural jurisprudence and the socio-economic context of rural areas. Continuous professional development should be prioritized to improve the quality of justice delivered.
- **Accelerate Implementation:** Expedite the notification and establishment of Gram Nyayalayas across states. Ensure that the setup process is streamlined and that all rural areas are covered to provide equitable access to justice.
- **Strengthen Coordination and Financial Support:** Improve coordination between state governments and the judiciary to address administrative and operational challenges. Increase financial allocations to ensure sustainable operations and maintenance of Gram Nyayalayas.



WIRELESS NETWORK ARCHITECTURE IN RURAL INDIA

Recently, Institute of Electrical and Electronics Engineers (IEEE) approved a wireless network architecture for affordable broadband access in rural areas, developed at IIT Bombay.

About:

- The connectivity for mobile devices is **enabled via a cellular (mobile) wireless network.**
- A cellular network, **such as a 5G network,** includes a set of network equipment connected by communication links.
- They work together to move data between different devices and to other networks, e.g., the Internet.
- **A cellular network can be divided into two sub-networks:** the access network (AN) and the core network (CN).

Access and Core Networks:

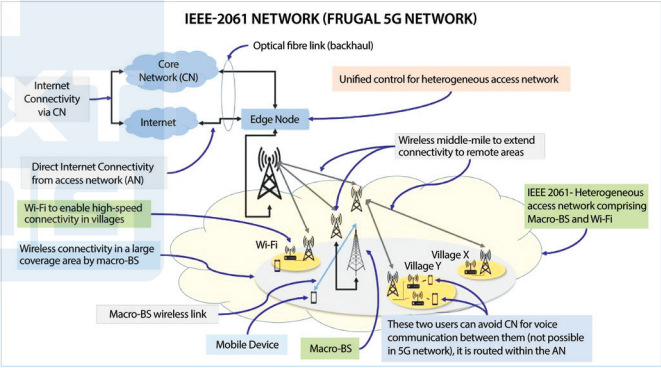
- **The AN** consists of **base stations** that provide wireless connectivity to mobile devices in a limited geographical area, called the coverage area.
- **The CN** of a **cellular network** has equipment that provides connectivity to other networks, such as the **Internet.**
- **Unlike AN base stations**, the **CN** operates in a central location, and possibly far from any of the base stations.
- Data from a user's device **must pass through both a base station and the CN** to reach its desired destination, such as the Internet or another user's device.

Reasons for Low Rural Connectivity:

- **Uneven Deployment of Cellular Networks:**
  - **Urban vs. Rural:** Despite the widespread presence of cellular networks, there is a significant disparity in their deployment and usage between urban and rural areas, especially in developing countries like India.
  - **Tele-density Statistics:** According to the Telecom Regulatory Authority of India (TRAI), the urban tele-density stands at 127%, whereas the rural tele-density is only 58%.
- **Factors Contributing to the Digital Divide:**
  - **Lower Income in Rural Areas:**
    - ***Affordability:*** A major factor hindering the deployment and usage of cellular networks in rural areas is the lower income levels of the population. Many rural residents find mobile services unaffordable, limiting their access to cellular networks.
  - **Population Distribution:**
    - ***Density and Clusters:*** Rural areas typically have a lower population density, with populations distributed in clusters, such as villages, often separated by vast empty spaces. This distribution poses challenges for network infrastructure development.
    - ***Remoteness:*** The remoteness of rural areas further complicates the deployment of cellular networks, as the infrastructure costs are higher and the returns on investment are lower due to the sparse population.

IEEE 2061-2024 Standard:

- IIT Bombay, has been working on affordable rural connectivity for many years. The standard defines a **wireless network architecture for affordable broadband access in rural areas.**
- The IEEE-2061 network also **includes a CN and AN** similar to cellular networks.
  - However, the IEEE-2061 AN is **heterogenous** wherein different types of base stations coexist: it includes base stations covering large coverage areas — called macro-BS — supplemented by small coverage area Wi-Fi.
- It is different from the 5G network, where the AN is homogeneous comprising base stations of the same type and typically smaller coverage area.



- **Significance:** A key capability of the system is that it allows a device to move from a Wi-Fi based connectivity to a macro-BS connectivity without any service disruption.
  - As wireless systems evolve, both legacy and new technologies — including 4G, 5G, 6G, Wi-Fi and networks — will coexist and complement each other.
  - In such a heterogeneous network, an integrated AN control functionality like the one included in the IEEE-2061 standard will help avoid issues like call drops.

Middle-Mile Network:

- The IEEE-2061 standard proposes the use of a multi-hop wireless middle-mile network to extend connectivity to areas where **optical-fibre links are not available.**
- A multi-hop wireless middle-mile provides **cost-effective connectivity over long distances,** eliminating the need for a costly and difficult-to-deploy optical fibre.
- An IEEE-2061 network can flexibly use one or more technologies like **satellites, or long-range Wi-Fi for the middle-mile.**

TECHNOLOGY UPGRADATION NEED FOR MSMEs

Recently, the Union Minister for MSMEs gave six pillars as focus areas for the growth of the MSME sector and its green transition.

About:

- MSMEs or Micro, Small, and Medium Enterprises are businesses that are defined by their **investment and turnover levels.**
- They are considered an important sector of the economy as they create jobs, generate income, and promote entrepreneurship.

Six Pillars to Focus upon for the Growth of the MSME:

- **Formalization and Access to Credit:**
  - Enhancing the formalization of businesses, particularly in the micro, small, and medium enterprise (MSME) sector, is crucial.
  - This involves integrating informal businesses into the formal economy, allowing them to access formal credit systems.
  - Improved access to credit can empower these enterprises to expand, innovate, and contribute more significantly to economic growth.
- **Increased Access to Markets and E-Commerce Adoption:**
  - Expanding market access, particularly through the adoption of e-commerce platforms, can significantly boost the reach of businesses.
  - This includes facilitating online sales channels, enabling MSMEs to reach a broader customer base, both domestically and internationally.
  - By leveraging digital marketplaces, businesses can overcome traditional geographic limitations and compete in the global market.
- **Increased Productivity Through Modern Technology:**
  - The adoption of modern technologies is vital for improving productivity across industries.
  - This includes the integration of automation, data analytics, and digital tools in manufacturing and services.
  - By leveraging these technologies, businesses can streamline operations, reduce costs, and enhance output quality, leading to more competitive and sustainable growth.
- **Enhanced Skill Levels and Digitalization in the Service Sector:**
  - Investing in skill development and digitalization within the service sector is essential for fostering economic resilience and growth.
  - This involves upskilling workers to meet the demands of a digital economy and ensuring that service-based businesses are equipped with the necessary tools and knowledge to operate efficiently in an increasingly digital world.

EXISTING & REVISED DEFINITION OF MSMES

Existing MSME Classification

Criteria: Investment in Plant & Machinery or Equipment

Classification	Micro	Small	Medium
Mfg. Enterprises	Investment<Rs. 25 lac	Investment<Rs. 5 cr.	Investment <Rs. 10 cr.
Services Enterprise	Investment<Rs. 10 lac	Investment<Rs. 2 cr.	Investment<Rs. 5 cr.

REVISED MSME CLASSIFICATION

Composite Criteria: Investment and Annual Turnover

Classification	Micro	Small	Medium
Manufacturing & Services	Investment<Rs. 1 cr. and Turnover Rs.5 cr.	Investment<Rs. 10 cr. and Turnover < Rs.50 cr.	Investment<Rs. 20 cr. and Turnover Rs.100 cr.

- **Support to Khadi, Village, and Coir Industries for Globalization:**
  - There is a need to promote traditional industries such as Khadi, Village, and Coir on a global scale.
  - By providing support through capacity building, branding, and market access initiatives, these industries can tap into international markets, thereby preserving cultural heritage while also contributing to economic diversification and employment generation.
- **Empowerment of Women and Artisans Through Enterprise Creation:**
  - Empowering women and artisans by fostering entrepreneurship is critical for inclusive economic development.
  - This can be achieved by providing training, financial support, and access to markets, enabling these groups to create and sustain their own businesses.
  - Such initiatives not only enhance individual livelihoods but also contribute to the overall socio-economic development of communities.

Contribution of MSMEs:

- **Contribution in Economy:** MSMEs are often called the backbone of the Indian economy; they account for more than 11 crore jobs and contribute around **27% of India's GDP.**
- **Employment Generation:** The sector consists of around 6.4 crore MSMEs , with 1.5 crore of them registered on the Udyam portal and employs around **23% of the Indian labor force**, making it the **second-largest employer in India after agriculture.**
- **Output and Exports:** They account for **38.4% of the total manufacturing** output and contribute **45.03% of the country's total exports.**

Challenges faced by MSMEs in India:

- **Access to Finance:** MSMEs struggle to secure capital due to a lack of collateral, limited credit history, or inadequate access to formal financial institutions.
- **Bureaucratic Red Tape:** Navigating complex regulations and bureaucratic procedures can be time-consuming and costly for MSMEs, often diverting resources away from core business activities.
- **Increased Competition:** MSMEs face stiff competition from larger, more established companies that have greater resources and market influence.
- **Lack of Technological knowledge:** Many MSMEs lack the technical expertise needed to modernize their operations, adopt new technologies, and stay competitive in the market.
- **Marketing and Networking Opportunities:** Limited resources and networks prevent MSMEs from effectively marketing their products and services, making it difficult to reach new customers and grow their businesses.
- **Lack of Formalization:** Many MSMEs operate informally or are unregistered, which limit their access to government support, financial services, and other benefits that are available to formally registered businesses.

Government Initiatives to Promote the MSME Sector:

- **MSME Champions scheme:** The objective of the scheme is to modernize MSMEs' manufacturing processes, reduce wastages, encourage innovativeness, sharpen business competitiveness and facilitate their National and Global reach and excellence.
- **Udyam Registration:**
  - It is an online registration process to simplify the registration of MSMEs.
  - The primary objective is to provide MSMEs with a streamlined process to avail themselves of various benefits and incentives offered by the government.
- **Section 15 of the Micro, Small, and Medium Enterprises Development (MSMED) Act, 2006,** and newly enacted **Section 43B(h) of the Income-tax Act** says that businesses must pay these MSME Registered Enterprises within 15 days, or up to 45 days if they have an agreement.
- **Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE):** This scheme provides collateral-free credit to micro and small enterprises through a credit guarantee mechanism.

Way Ahead:

- For MSMEs to sustain and grow in the current challenging situation, the **non-performing asset (NPA) timeline** must be extended to **180 days from 90 days.**
  - It will provide relief to the sector as many MSMEs are struggling because of this.
- **The Interest Equalisation Scheme** which supports exports must be extended for a period of five years.
- For the textile and garment sector, which is dominated by MSMEs, the **Remission of Duties and Taxes on Exported Products** and **Rebate of State and Central Taxes and Levies schemes** should be extended for another five years for the sector.
- Therefore, with schemes that provide funds for **infrastructure creation, technology upgradation and climate change adaptation,** the MSME sector will be able to contribute even more for the economy.

LOGISTIC CHALLENGES IN TRADE

India's goods exports in June grew 2.55 percent year-on-year to $35.2 billion amid continued demand recovery in key export markets such as the US and the European Union (EU).

About:

- **Trade Deficit:** As per the data released by the Commerce and Industry Ministry, a 20 percent jump in petroleum import bill year-on-year in June widened the **trade deficit to $20.98 billion from $19.19 billion** during the previous year.
- India's exports gained in the four out of the top five export destinations.
  - Exports to the US jumped 6 percent, outbound shipments jumped by 14 percent to the UAE, 6 percent to the Netherlands, 13 percent to the UK.
  - However, exports to Australia slipped by **18 percent.**
- **India's Import:** China continued to be India's top import source followed by Russia, UAE and the US.
  - Imports from China jumped 18.37 percent compared to the previous year, 18.57 percent from Russia and 48.15 percent from the UAE.
- **Future Projection:** Going by the ongoing situation, India will be crossing $800 billion total exports during the current financial year.
  - Services exports are growing in a sustained manner.
  - The major drivers of growth are engineering goods, electronic, drugs and pharmaceutical, organic and inorganic goods.

Overview of India's Logistics Landscape:

- **Significance and Scale:**
  - **Global Standing:** The Indian logistics sector is among the largest in the world, offering a substantial addressable opportunity.
  - **Economic Importance:**
    - This sector is vital for India's economic growth, acting as the backbone that connects various elements of the economy.
    - It encompasses transportation, warehousing, and other supply chain solutions, effectively linking suppliers to end customers.
- **Components of the Sector:**
  - **Transportation:** This includes road, rail, air, and sea transport, facilitating the movement of goods across the country and beyond.
  - **Warehousing:** Storage solutions that ensure the safekeeping and efficient distribution of goods.
  - **Supply Chain Solutions:** Comprehensive services that manage the entire flow of goods, information, and finances from the point of origin to the end customer.
- **Characteristics and Evolution:**
  - **Dynamism:** The Indian logistics industry is characterized by its dynamic nature, constantly evolving to meet growing and changing demands.
  - **Technological Advancements:** The adoption of new technologies, such as automation, IoT, and AI, is revolutionizing logistics operations, making them more efficient and cost-effective.
  - **Infrastructure Enhancements:** Significant investments are being made to improve infrastructure, including the construction of highways, dedicated freight corridors, and modern ports, which are crucial for the sector's growth.

Key Advantages of Efficient Logistics Infrastructure:

- **Supply chain efficiency:** Logistics ensures a smooth and efficient supply chain, minimising delays and reducing lead times.
  - This efficiency is vital for businesses to meet consumer demand promptly and optimize production processes.
- **Connectivity and Accessibility:** Logistics networks enhance connectivity and accessibility, linking various regions and markets.
  - This connectivity contributes to economic integration by enabling businesses to reach a wider customer base and fostering trade between states and regions.
- **Cost reduction and competitiveness:** Efficient logistics operations contribute to cost reduction in transportation, storage, and distribution.
  - This, in turn, enhances the competitiveness of businesses as they can offer products at competitive prices in the market.
- **Job creation:** The logistics sector is a significant source of employment, providing jobs in transportation, warehousing, distribution, and related services. The sector is projected to add 1 crore jobs by 2027.
- **Technology adoption:** The industry's embrace of technology (such as GPS tracking, RFID, and advanced analytics) improves operational efficiency, reduces costs, and enhances overall productivity.
  - This technological advancement positively influences the broader economic landscape.
- **Economic integration:** A well-developed logistics sector facilitates economic integration by connecting various economic zones and promoting a seamless flow of goods and services.

Logistics Challenges:

- Indian Exporters are going through logistics challenges such as lack of container availability, shipping space, irregular shipping schedule and ships skipping Indian ports.
  - The exports would have recorded close to "double-digit growth" in June 2024 in the absence of these disruptions.
- The shortages have been accentuated due to the European Union's 37.6 percent tariffs on imports of Chinese electric vehicles that kicked in earlier this month.
  - India is dependent on Chinese-made containers for exports.
- There are other challenges such as infrastructural deficits and regulatory intricacies, the industry stands poised for significant expansion, presenting domestic and international entities with opportunities to flourish within India's burgeoning market.

Government Initiatives:

- **Dedicated freight corridors:** To facilitate the seamless transportation of goods and commodities across India, high-speed, large-capacity railway corridors – known as dedicated freight corridors – have been established.
  - As of January 2023, 1,724 kilometres of dedicated freight corridors have been completed. These corridors connect Delhi, Mumbai, Chennai, and Howrah, which are already part of the Indian Railways Network.
- **Multi-modal logistics parks:** Spread across at least 100 acres, these parks offer access to various modes of transportation, including road, rail, and air.
  - They also provide advanced storage solutions such as mechanised warehouses, cold storage facilities, and essential services like customs clearance and quarantine zones.
- **Parivahan portal:** To standardise processes and promote seamless information sharing across locations, the government has introduced the Parivahan portal.
  - This initiative streamlines administrative procedures and provides easy access to information related to registration cards and driver's licenses, facilitating smoother logistics operations.
- **Introduction of e-way bill:** Implementing the e-way bill system mandates using electronic documentation for truckloads valued above Rs. 50,000.
  - This digital documentation eliminates the need for physical paperwork and state boundary check posts, simplifying inter-state vehicle movement.
- **GatiShakti:** It was launched in 2021 and aims to improve logistics efficiency, and reduce costs by coordinating planning among different agencies.
  - PM GatiShakti seeks to minimise disruptions and enhance efficiency by focusing on multi-modal connectivity and timely project completion.
- **National Logistics Policy:** It was released in 2022 (NLP) and aims to boost economic growth by making the logistics sector more seamless and integrated.
  - It plans to create a single-window e-logistics market and make MSMEs more competitive.
  - This would lower logistics costs as a percentage of GDP.
- **Logistics Efficiency Enhancement Programme (LEEP):** LEEP is designed to improve freight transport efficiency.
  - Associated cost, transportation time, and logistics practices like goods transferring and tracking through infrastructure technology and process interventions.

Way Ahead:

- There is a need to take steps on the liquidity front with deeper interest subvention support and extension of interest equalisation scheme for 5 years.
- Besides addressing the Middle East geopolitical situation, Red Sea challenges by ensuring availability of containers, marine insurance and rationale increase in freight charges.
- The sector also needs easy & low cost of credit, marketing support and conclusion of some of the key FTAs with UK, Peru and Oman soon.

Groups / Categories	Achievers	Fast Movers	Aspirers
Coastal	Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu	Kerala, Maharashtra	Goa, Odisha, West Bengal
Landlocked	Haryana, Punjab, Telangana, Uttar Pradesh	Madhya Pradesh, Rajasthan, Uttarakhand	Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand
North-East	Assam, Sikkim, Tripura	Arunachal Pradesh, Nagaland	Manipur, Meghalaya, Mizoram
Union Territories	Chandigarh, Delhi	Andaman & Nicobar, Lakshadweep, Puducherry	Daman & Diu/ Dadra & Nagar Haveli, Jammu & Kashmir, Ladakh

Logistics Ease Across Different States (LEADS) Report, 2023

INDIA-RUSSIA STRATEGIC RELATIONSHIP

Prime Minister Modi on July 8 began a high-profile visit to Russia to hold the 22nd India-Russia annual summit with President Vladimir Putin, in his first trip since the start of Moscow's invasion of Ukraine.

Key Highlights:

- **Eastern Maritime Corridor:** The Eastern Maritime Corridor is a proposed sea route between Chennai, India, and Vladivostok, Russia, passing through the Sea of Japan, the South China Sea, and the Malacca Strait. India and Russia are collaborating on this initiative to enhance connectivity.
- **Diplomatic Initiatives:** India will establish two new consulates in Russia, located in Kazan and Yekaterinburg, to strengthen bilateral ties and support Indian nationals.
- **Honor for PM Modi:** In 2019, PM Modi was awarded Russia's highest national honor, "The Order of St. Andrew the Apostle," in recognition of his efforts to enhance India-Russia relations.
- **Indian Nationals in Russia:** Russia has agreed to India's request to ensure the early release and return of Indian nationals working in the Russian military as support staff.
- **Bilateral Trade Target:** Both leaders have agreed to set a bilateral trade target of USD 100 billion by 2030 to further strengthen economic ties between the two nations.

Significance:

- **Historical Ties:**
  - Historically, India and Russia developed close relations due to **mutual affinity for socialism and skepticism towards the United States**, which drove them towards a strategic partnership.
  - The **Treaty of Peace and Friendship in 1971** solidified their diplomatic ties, emphasizing mutual trust and cooperation. After the dissolution of the Soviet Union in 1991,India continued to maintain strong ties with Russia.
- **Geopolitical:**
  - **Strategic Autonomy:** India values its strategic autonomy and multi-alignment policy,balancing relationships with major powers like the US,Russia,and China.Russia remains a crucial partner in this strategy.
  - **Balancing China:** Russia plays a role in India's strategy to counterbalance China's growing influence in the region.Despite Russia's own strategic partnership with China,it continues to support India's stance on various issues,including at forums like the UN.
  - **Regional Security:** Cooperation in areas like Afghanistan and Central Asia is critical for regional stability.Both countries share concerns over terrorism,extremism,and the influence of non-state actors in these regions.
  - **BRICS and SCO:** India and Russia are members of international groups like BRICS (Brazil, Russia, India, China, and South Africa) and the Shanghai Cooperation Organization (SCO), where they collaborate on various global issues.
  - **United Nations:** Russia supports India's bid for a permanent seat on the United Nations Security Council, recognizing India's growing global stature.
  - **Multipolar World Order:** Both India and Russia advocate for a multipolar world order,challenging the dominance of any single power.Their partnership is pivotal in promoting a balanced global power structure.
- **Geo-Strategic:**
  - India's External Affairs Minister Dr. S. Jaishankar had stated in 2019, **"Russia is a Pacific Power which has Indian Ocean interests"** while **"India is an Indian Ocean power with very strong and growing Pacific interest".**
  - Both countries have **special and privileged partnerships.**
  - While the US frequently criticizes India on its democracy and human rights, Russia never indulges in passing value based judgements. This is a unique aspect of **India's relationship with Russia vis-a-vis the USA**.
  - Russia has mostly stood by India. For instance, during the **Galwan standoff** last year, at India's request, Russia rushed ammunition and spares, much to the annoyance of China.
  - But given the growing proximity between Moscow and Beijing, and the geopolitical flux, India can no longer be assured of Russian support, particularly if a conflict breaks out with China.
- **Geo economic:**
  - **Trade and Investment:**
    - While the trade volume is below potential,it includes sectors like pharmaceuticals,chemicals,and agricultural products. As per figures from the **Department of Commerce**, bilateral trade during Financial Year 2022-23 amounted to **US$ 49.36 billion.** Indian exports amounted to **US$ 3.14 billion,** while imports from Russia amounted to **US$ 46.21 billion.**
    - **Eurasian Economic Union (EAEU):** India has shown interest in enhancing trade ties with the EAEU,of which Russia is a leading member.
    - **International North-South Transport Corridor (INSTC):** This corridor aims to reduce the time and cost of transporting goods between India and Russia,enhancing trade connectivity.
    - **Arctic Cooperation:** India has expressed interest in participating in Arctic projects,given Russia's significant presence in the region.

- **Energy Security:**
  - **Nuclear Energy:** Russia is a key partner in India's nuclear energy program,with collaborations in building nuclear reactors,such as the Kudankulam Nuclear Power Plant.
  - **Renewable Energy:** Both countries are exploring cooperation in renewable energy sectors,including solar and wind energy,to diversify their energy mix and reduce carbon footprints.
  - **Oil and Gas:** Russia's vast hydrocarbon reserves are vital for India's energy security.India has invested in Russian oil fields and has signed long-term agreements for the supply of oil and gas,which helps diversify its energy sources and reduce dependence on Middle Eastern oil.
- **Defense Collaboration:**
  - **Arms Supply:** Russia has been a principal supplier of arms to India,providing a range of equipment including fighter jets (like the Sukhoi Su-30MKI),tanks (T-90),and submarines (INS Chakra,an Akula-class submarine).
  - **Joint Ventures:** Both countries have engaged in several joint defense projects.Examples include the BrahMos supersonic cruise missile and the development of the fifth-generation fighter aircraft (FGFA) project,although the latter faced delays and complications.
  - **Military Exercises:** Regular joint military exercises,such as INDRA (a joint military exercise),enhance interoperability and strategic understanding between the armed forces of both countries.
  - **Defense Manufacturing:** Collaborative projects,such as the production of AK-203 rifles and the BrahMos missile,contribute to India's indigenous defense capabilities,aligning with the "Make in India" initiative.
  - **Bilateral Agreements:** Numerous agreements have been signed to bolster defense and security cooperation,including the Inter-Governmental Agreement on Military Technical Cooperation. Significant defense deals,like the purchase of the S-400 air defense system,underscore the depth of the defense partnership.
- **Cultural Ties:**
  - **Literature and Arts:** Russian literature has been widely translated and appreciated in India.Tolstoy,Pushkin,and Dostoevsky are well-known figures among Indian readers. Indian literature,especially the works of Rabindranath Tagore,has been translated into Russian,fostering a mutual appreciation.
  - **Cinema:**
    - Indian films,particularly Bollywood movies,have enjoyed immense popularity in Russia since the 1950s.
    - Raj Kapoor's movies like "Awaara" and "Shree 420" were particularly popular and contributed to the cultural bond between the two nations.
  - **Education and Science:**
    - Many Indian students have studied in Russian universities,particularly in fields like medicine,engineering,and the sciences.
    - Joint scientific research and technological collaborations have been a significant aspect of the relationship.
  - **Cultural Festivals and Exchanges:**
    - Cultural festivals,exhibitions,and reciprocal visits by artists and intellectuals have been regular features of India-Russia relations.
    - The "Days of Russian Culture" in India and "Days of Indian Culture" in Russia are examples of such initiatives.
- **Technological and Space Collaboration:**
  - **Space:** India and Russia have a history of collaboration in space technology.The Russian space agency has assisted ISRO in various missions,including human spaceflight programs.
  - **Technology Transfer:** Russia has been a reliable partner in transferring critical technologies in various fields,bolstering India's technological and industrial base

Issues in India-Russia Relations:

- **New friends syndrome:**
  - **Russia-China relations:** Russia moved closer to Pakistan and China aiming for a greater Eurasian partnership.
  - **Indo-US:** At the same time, India has partnered with the US (via QUAD) to counteract China's regional influence + pledged to buy more weapons from USA.
  - **Russia-Pakistan:** Russia's improving relationship with Pakistan - sale if helicopters and three military exercises - a source of frustration for India.
- **Arms Dependency and Defense Procurement:** India's historical reliance on Russian defense equipment faces challenges in diversification and technological advancement. According to SIPRI, Russia supplied around 49% of India's arms imports during 2016-2020, highlighting the significant role of Russian defense exports to India.
- **Economic Diversification and Trade Relations:** Bilateral trade between India and Russia, while substantial, is concentrated in traditional sectors like defense and energy, necessitating diversification.
- **Energy Dynamics:** India's growing energy needs,and the changing global energy landscape have influenced its relations with Russia,particularly in terms of energy cooperation and pricing agreements.
- **Economic Sanctions:** Western sanctions on Russia have had indirect impacts on India-Russia trade and investment.

INDIA'S STAND ON RUSSIA-UKRAINE WAR

- **Non-Alignment and Neutrality:**
  - India's stance of neutrality in the Russia-Ukraine conflict aligns with its historical policy of non-alignment. This policy was originally crafted during the Cold War to maintain independence from both Western and Eastern blocs.
  - By not taking sides, India aims to preserve its diplomatic flexibility and avoid being drawn into the geopolitical rivalry between Russia and Western nations.
- **Emphasis on Dialogue and Diplomacy:**
  - India emphasizes the need for dialogue and diplomacy to resolve international conflicts, including the Russia-Ukraine crisis. This approach reflects India's belief in peaceful conflict resolution through multilateral negotiations and adherence to international law.
  - India has advocated for constructive engagement among all parties involved in the conflict to de-escalate tensions and find a sustainable solution that respects Ukraine's sovereignty and territorial integrity.
- **Strategic Autonomy in Decision-Making:**
  - India's strategic autonomy allows it to independently assess global developments and make decisions that best serve its national interests. This autonomy is crucial in navigating complex geopolitical landscapes and safeguarding India's sovereignty.
  - By refraining from condemning Russia outright, India maintains the flexibility to engage with all stakeholders involved in the conflict diplomatically, without aligning with any specific camp or alliance.
- **Humanitarian Concerns and Global Stability:**
  - India has expressed concerns over the humanitarian impact of the conflict, including civilian casualties and displacement. This underscores India's commitment to human rights and international humanitarian law.
  - At the same time, India's neutral stance aims to contribute to global stability by promoting dialogue and preventing further escalation, which could have broader implications for regional and global security.
- **Impact on Bilateral Relations:**
  - India's stance on the Russia-Ukraine conflict also considers its bilateral relations with both Russia and Ukraine. While India values its longstanding strategic partnership with Russia, it also seeks to expand economic and cultural ties with Ukraine.
  - Balancing these interests requires careful diplomacy and pragmatic engagement to ensure that India's relations with both countries remain constructive and mutually beneficial.

Note:

- Morgenthau's 4th principle – Universal moral principles cannot be applied to a state's action in the abstract universal formulations.
- Realism believes that states are not expected to observe the same standards of morality as individuals. **(Can be used in INDIA's UKRAINE STAND).**

Way Forward:

- **Defense Cooperation:** India is a major importer of Russian military equipment,including fighter jets,tanks,and submarines.
  - Strengthening this defense partnership through joint ventures,technology transfers,and co-production agreements could deepen bilateral ties.
- **Energy Partnerships:** Russia is a significant energy supplier to India,particularly in the form of crude oil and natural gas. Expanding energy cooperation to include renewable energy and nuclear power could diversify and strengthen this aspect of the relationship.
- **Economic Collaboration:** Enhancing bilateral trade and investment through initiatives like the International North-South Transport Corridor (INSTC) can boost economic ties. Focus areas could include infrastructure development, pharmaceuticals, and information technology.
- **Strategic Alignment:** India and Russia share converging interests on global issues such as counterterrorism,UN reforms,and a multipolar world order.Continued alignment on these issues and coordination in multilateral forums can reinforce their strategic partnership.
- **Technology and Innovation:** Collaboration in high-tech sectors such as space exploration,artificial intelligence,and biotechnology can open up new avenues for cooperation and mutual benefit.
- **Cultural and People-to-People Ties:** Promoting cultural exchanges,educational collaborations,and tourism can foster greater understanding and goodwill between the people of both countries.
- **Regional Connectivity:** Strengthening connectivity projects like the North-South Transport Corridor (INSTC) and exploring opportunities in Afghanistan post-peace process can enhance regional stability and economic integration.

Conclusion:

- India and Russia share a robust partnership anchored in strategic autonomy and mutual respect. Their collaboration spans defense, energy, space, and cultural exchanges. While navigating global dynamics independently, both nations prioritize stability, dialogue, and economic cooperation. This enduring relationship underscores shared interests in regional stability and global peace.

SCO SUMMIT

External Affairs Minister S. Jaishankar represented India at the Shanghai Cooperation Organisation (SCO) Summit in Astana, Kazakhstan.

About:

- **Belarus joined** the Shanghai Cooperation Organization (SCO), becoming its 10th member state. Belarus became a dialogue partner in the **SCO in 2010** and an observer state in **2015.**
- **Focus on Combating Terrorism:** Dr. Jaishankar read Prime Minister Modi's address at the summit. PM Modi emphasized that terrorism in any form cannot be justified.He called for decisive action against cross-border terrorism. The Prime Minister stressed the need to counter terrorism financing and recruitment.

Significance:

- **Geopolitical Significance:**
  - **Regional Stability:** The SCO's founding members, China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan, cover vast territories spanning Central Asia and parts of East Asia, ensuring stability in a critical geopolitical region.
  - **Conflict Resolution:** The SCO provides a platform for dialogue and mediation, contributing to peaceful resolution of border disputes and conflicts among member states.
  - **Diplomatic Cooperation:** Regular summits and ministerial meetings allow member states to discuss and coordinate on political, security, and economic issues affecting the region.
- **Geo-economic Significance:**
  - **Trade and Economic Cooperation:** Intra-SCO trade has grown significantly, reaching billions of dollars annually. For instance, China's trade with SCO countries exceeded **$250 billion** in 2020, demonstrating robust economic ties.
  - **Investment and Development:** SCO initiatives like the SCO Development Bank and the SCO Business Council promote investment and economic development projects across member states.
  - **Energy Cooperation:** Collaboration on energy resources, including oil, natural gas, and renewable energy, supports energy security and economic growth within the region.
- **Strategic Significance:**
  - **Military Exercises and Security Cooperation:** SCO member states conduct joint military exercises such as **"Peace Mission"** to enhance military cooperation, counter-terrorism capabilities, and border security.
  - **Strategic Partnerships:** Observer states and dialogue partners, including Afghanistan, and Belarus, expand the SCO's strategic influence and cooperative potential in Eurasia.
  - **Regional Security Architecture:** The SCO contributes to shaping regional security frameworks and policies through **RATS (Regional Anti-Terrorist Structure),** addressing transnational threats and challenges collectively.
- **Cultural Significance:**
  - **Cultural Exchanges:** Cultural festivals, art exhibitions, and academic exchanges promote cultural diversity and mutual understanding among SCO member states.
  - **Educational Collaboration:** Scholarships, joint research projects, and academic partnerships foster educational excellence and knowledge sharing within the SCO community.
  - **Youth Engagement:** Programs like the **SCO Youth Council** encourage youth participation in regional cooperation activities, promoting future leaders and intergenerational dialogue.

CONFLICTS AMONG MEMBERS

- **India and China Border Issues:** Despite 18 rounds of Corps Commander Level Meetings between India and China, no breakthrough has been achieved in easing tensions over their border disputes.
- **India and Pakistan Terrorism Concerns:** State-sponsored terrorism remains a significant source of tension between India and Pakistan. Frequent ceasefire violations along the India-Pakistan border further exacerbate these tensions.
- **Kyrgyzstan and Tajikistan Border Disputes:** The escalation of conflict between Kyrgyzstan and Tajikistan, notably in September and November 2022, poses a significant challenge to regional stability in Central Asia and its neighboring regions.

Challenges:

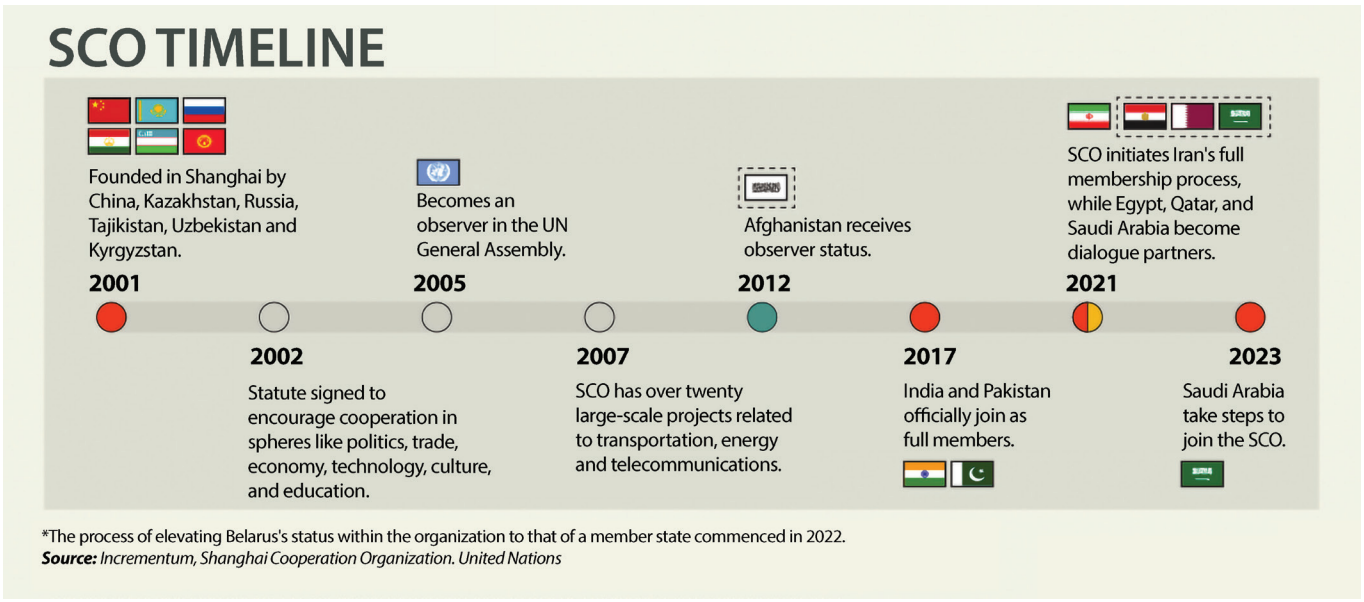
- **Middle Kingdom's Ascendancy:** China's rise is positioning it as a dominant force in inner Asia, drawing external pressures from regional powers like the United States, which seeks to manage China's influence and contain its ascent.
- **Institutional Limitations:** While the SCO includes bodies such as the Council of Heads of State, the Council of Ministers of Foreign Affairs, and the Council of National Coordinators, these lack formal decision-making and enforcement powers essential for effective governance. Moreover, the SCO lacks a formal mechanism for resolving disputes among member states.
- **Divergent Interests and Disputes:** The SCO encompasses member states with varying political systems, economic models, and strategic priorities such as the CPEC and border infrastructure projects.

- These differences can lead to internal conflicts and disagreements, particularly concerning economic cooperation and security.

- **Geographical Constraints:** The SCO's operational focus is primarily on Eurasia and neighboring regions, limiting its capacity to engage with global challenges and issues beyond its immediate geographical scope.
- **Western Critique:** Western countries critique the SCO for its perceived lack of democratic governance, support for authoritarian regimes, and internal disputes and border conflicts among its member states.
- **Economic Disparities**: China's economy dwarfs those of smaller SCO members like Tajikistan and Kyrgyzstan. This economic asymmetry can influence infrastructure projects and economic initiatives within the SCO.
  - For *example*, **China's Belt and Road Initiative (BRI)** investments in Central Asia highlight disparities in economic capacity and project scope among member states.
- **Counterterrorism Efforts:** The SCO conducts joint military exercises and shares intelligence to combat terrorism. The SCO's **Regional Anti-Terrorist Structure (RATS)** facilitates information sharing. For instance, **6th Edition of Exercise PEACEFUL MISSION: 2021 of SCO Member States hosted by Russia.**
- **Infrastructure Development:** China's BRI aims to enhance connectivity and infrastructure across Eurasia, benefiting SCO members. However, concerns over debt sustainability and environmental impacts have been raised.
  - For example, the construction of infrastructure projects like the **China-Pakistan Economic Corridor (CPEC)** has sparked debates over debt burdens and environmental consequences in Pakistan.

Way Forward:

- **Enhanced Dialogue and Confidence-Building Measures:** Facilitate regular high-level dialogues and confidence-building measures among member states. This could include more frequent summit meetings, ministerial exchanges, and cultural exchanges to foster mutual understanding and trust.
- **Focus on Practical Cooperation:** Emphasize practical cooperation in areas of mutual interest, such as counterterrorism, cybersecurity, and disaster management. Strengthening joint military exercises, intelligence sharing, and capacity-building efforts can improve effectiveness in tackling shared security challenges.
- **Economic Integration and Development:** Promote greater economic integration through infrastructure projects that benefit all member states. Encourage sustainable and inclusive development initiatives, ensuring projects uphold environmental standards and contribute to local economies.
- **Conflict Resolution and Mediation:** Actively engage in conflict resolution and mediation efforts among member states, particularly in areas of historical tension like India-Pakistan relations. Utilize the SCO's platform to facilitate dialogue and peaceful resolution of disputes.
- **Promotion of Cultural and People-to-People Exchanges:** Promote cultural exchanges, educational programs, and people-to-people contacts among member states. Encourage greater understanding and appreciation of each other's cultures, languages, and traditions to build stronger societal ties.
- **Adaptability and Innovation:** Remain adaptable to changing geopolitical dynamics and technological advancements. Embrace innovation in areas such as **digital economy cooperation, green technologies, and public health** collaboration to address emerging challenges and opportunities.



*The process of elevating Belarus's status within the organization to that of a member state commenced in 2022.
Source: *Incrementum, Shanghai Cooperation Organization. United Nations*

QUEST OF SOUTHEAST ASIAN NATIONS TO JOIN BRICS

The Southeast Asian countries like Malaysia and Thailand wants to join BRICS grouping.

What are the key benefits of Joining BRICS?:

- **Strengthening Trade Ties:**
  - **Enhanced Economic Connectivity:** Joining BRICS can deepen economic ties with key global players, particularly China, which is a central economic hub within the bloc.
    - For Malaysia and Thailand, this means improved access to Chinese markets and participation in joint trade initiatives, potentially leading to increased exports and economic growth.
  - **Investment Opportunities:** BRICS membership could attract more foreign direct investment (FDI) from other member countries, diversifying the sources of investment and stimulating economic development in sectors such as infrastructure, technology, and manufacturing.
- **Economic Growth and Investment:**
  - **Technological Integration:** By joining BRICS, Malaysia can tap into advanced digital financial systems and innovative technologies from other member nations.
    - This integration could enhance its own digital economy and financial sector capabilities, driving modernization and efficiency.
  - **Sector-Specific Investments:** Thailand could benefit from targeted investments in key industries. For instance, BRICS members may invest in Thailand's manufacturing sector, providing capital and technology to boost production capabilities and improve global competitiveness.
- **Geopolitical Influence:**
  - **Increased Autonomy:** Membership in BRICS provides Malaysia and Thailand with a platform to assert their interests and influence global governance structures, countering Western dominance and advocating for a more balanced international order.
  - **Strategic Leverage:** By aligning with BRICS, Southeast Asian countries can leverage their strategic position in the region to influence global policy discussions and negotiations, enhancing their geopolitical stature and negotiation power on the global stage.
- **South-South Cooperation:**
  - **Knowledge Sharing:** BRICS offers a framework for sharing experiences and solutions among developing nations. Malaysia and Thailand can benefit from successful strategies employed by BRICS countries in areas such as poverty alleviation, health care, and education.
  - **Collaborative Projects:** Participation in BRICS opens opportunities for joint projects and initiatives in areas like infrastructure development, technology transfer, and research collaborations, which can drive growth and development in Southeast Asia.
- **Diversifying Economic Partnerships:**
  - **Reducing Economic Dependence:** Membership allows Malaysia and Thailand to mitigate over-reliance on traditional Western economic partners, providing a buffer against economic fluctuations and geopolitical tensions that might impact their economies.
  - **Exploring New Markets:** By engaging with a diverse group of emerging economies, they can explore new markets for exports and investment, enhancing economic resilience and fostering new business opportunities.
- **Aligning with BRICS Principles:**
  - **Support for Sovereignty and Diversity:** BRICS' principles of respecting national sovereignty and embracing diversity align with **ASEAN's values,** providing a foundation for stronger regional cooperation and mutual support on global issues.
  - **Advocacy for Reform:** BRICS' commitment to reforming global institutions and addressing deficiencies in the existing international order aligns with the interests of Southeast Asian nations seeking a more equitable global governance system. This alignment helps them advocate for changes that reflect their priorities and concerns.
- **Enhanced Diplomatic Engagement:**
  - **Broader Diplomatic Reach:** BRICS membership can expand Malaysia's and Thailand's diplomatic networks, providing them with additional avenues for bilateral and multilateral engagements beyond their traditional allies.
  - **Platform for Voice:** Being part of BRICS gives these countries a stronger platform to articulate their positions on global issues, enhancing their influence in international forums and negotiations.
- **Cultural and Educational Exchange:**
  - **Increased Collaboration:** BRICS membership facilitates cultural and educational exchanges, fostering greater understanding and cooperation among member countries in areas such as academia, research, and cultural diplomacy.
  - **Educational Opportunities:** Southeast Asian countries can benefit from joint educational programs and research initiatives with other BRICS members, enhancing their capabilities in science, technology, and innovation.

- **Regional Integration:**
  - **Stronger Regional Ties:** Joining BRICS can bolster regional integration efforts by aligning Southeast Asian nations with other emerging economies, promoting regional stability and economic cooperation within Southeast Asia and beyond.
  - **Infrastructure Development:** Collaboration within BRICS can support regional infrastructure projects, improving connectivity and economic integration across Southeast Asia and facilitating better regional trade and investment flows.

BRICS

BRICS is an acronym representing a coalition of major emerging economies: Brazil, Russia, India, China, and South Africa.

- **Origin:** The term "BRIC" was first coined by British economist Jim O'Neill in 2001 to describe Brazil, Russia, India, and China as significant emerging markets.
- **Formalization:** The grouping was officially established with the first BRIC Foreign Ministers' meeting in 2006.
- **Expansion:** South Africa joined the group in December 2010, leading to the adoption of the acronym BRICS.
- **Recent Developments:** The Johannesburg Declaration of 2023 announced that Argentina, Egypt, Ethiopia, Iran, Saudi Arabia, and the United Arab Emirates (UAE) would become full members starting January 1, 2024.
- **Economic Impact:** Prior to this expansion, BRICS accounted for 41% of the global population, 24% of global GDP, and 16% of global trade.
- **Summits:** Since 2009, BRICS has held annual summits.

Challenges:

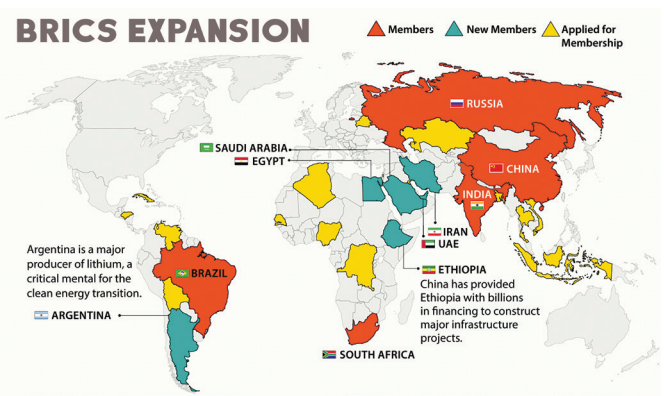
- **Geopolitical Tensions and Balancing Interests:**
  - **Alignment Risks:** Southeast Asian nations joining BRICS may encounter difficulties in balancing their relationships with major global powers. For instance, countries with existing strong ties to the U.S., like Thailand, might face challenges in maintaining these relationships while being part of BRICS.
  - **Regional Rivalries:** The inclusion of Southeast Asian nations in BRICS could intensify regional tensions, particularly if there are existing disputes or rivalries, such as maritime disputes in the South China Sea.
- **Economic and Trade Dependencies:**
  - **Economic Dependencies:** Closer ties with BRICS could increase dependency on the bloc's major economies, potentially exposing Southeast Asian nations to economic fluctuations or trade disruptions affecting key BRICS members.
  - **Trade Imbalances:** There might be risks of trade imbalances or competitive disadvantages within BRICS, especially if the economic structures or policies of Southeast Asian nations differ significantly from those of other member countries.
- **Political and Economic Alignment:**
  - **Policy Conflicts:** Divergent political and economic policies among BRICS members could lead to conflicts or challenges for Southeast Asian countries in aligning their national policies with those of the bloc.
  - **Institutional Integration:** Integrating with BRICS institutions, such as the New Development Bank, could necessitate adjustments in domestic policies and regulatory environments, which might be complex and resource-intensive.
- **Diplomatic and Strategic Dilemmas:**
  - **Diplomatic Tensions:** Membership in BRICS might lead to diplomatic tensions with countries outside the bloc, particularly if BRICS adopts stances that are at odds with the interests of non-member states.
  - **Strategic Uncertainty:** The evolving nature of BRICS and its internal dynamics could create strategic uncertainty for Southeast Asian nations, affecting their long-term foreign policy and economic strategies.
- **Domestic and Regional Reactions:**
  - **Public and Political Backlash:** There might be domestic or regional reactions to BRICS membership, including public criticism or political opposition, particularly if there are concerns about sovereignty or alignment with controversial international issues.
  - **ASEAN Dynamics:** Membership in BRICS could impact the role of Southeast Asian nations within ASEAN, potentially leading to shifts or tensions within the regional organization.
- **Institutional and Implementation Challenges:**
  - **Capacity Building:** Southeast Asian nations may need to build or enhance institutional capacities to effectively participate in BRICS initiatives and benefit from them.
  - **Operational Integration:** Aligning with BRICS' operational frameworks and standards might present challenges, requiring adjustments in national policies and practices to meet the bloc's expectations.

HOW INDIA CAN LEVERAGE BRICS

- **Economic Cooperation:** BRICS (Brazil, Russia, India, China, South Africa) represents a significant portion of the global economy. India can use this platform to foster economic cooperation, trade, and investment opportunities among member nations. This can include joint ventures, trade agreements, and initiatives like the **New Development Bank (NDB)** for infrastructure financing.

- **Political Influence:** As a member of BRICS, India gains a platform to engage politically on global issues such as climate change, terrorism, and global governance reforms.
  - It allows India to align with other emerging economies to push for its interests on international platforms like the United Nations.
- **Cultural Exchange:** BRICS provides a platform for cultural exchange, promoting understanding and collaboration among diverse cultures.
  - India can showcase its rich cultural heritage through events, exchanges, and collaborations in fields such as arts, education, and tourism.
- **Technology and Innovation:** Collaboration within BRICS can accelerate technological advancements and innovation through joint research, technology transfer, and sharing best practices.
  - This can boost India's capabilities in areas such as information technology, space exploration, and renewable energy.
- **Regional Stability:** BRICS plays a role in promoting regional stability and security. India can cooperate with other member nations on issues like counter-terrorism, cybersecurity, and maritime security, which are crucial for regional stability in Asia and beyond.
- **Multilateral Diplomacy:** BRICS provides India with a platform for multilateral diplomacy, enabling it to engage with other major powers outside traditional Western-centric alliances.
  - This enhances India's diplomatic clout and influence on global issues.

Note: As External Affairs Minister S Jaishankar suggested, India could be viewed as a **south-western power,** a blend of the West and the developing world. Through BRICS, India seems to be mediating between the two identities.



Way Ahead:

- **Enhance Inclusivity and Cooperation:**
  - **Strengthen Integration Mechanisms:** Develop and implement clear guidelines and mechanisms to integrate new members effectively, ensuring their active participation and contribution to the bloc's goals.
  - **Foster Inclusivity:** Ensure that the interests and concerns of all members, including new ones, are addressed to maintain cohesion and mutual benefit within the group.
- **Promote Balanced Development:**
  - **Address Imbalances:** Work towards balancing the influence of major members (China and Russia) with the interests of newer and smaller members to ensure equitable representation and decision-making.
  - **Support Economic Development:** Implement initiatives that support the economic development of all members, focusing on both emerging and established economies.
- **Strengthen Institutional Frameworks:**
  - **Enhance Institutional Capacity:** Invest in building and strengthening the institutional frameworks of BRICS, such as the New Development Bank and the Contingent Reserve Arrangement, to support member countries effectively.
  - **Streamline Decision-Making:** Improve the decision-making processes within BRICS to ensure that they are efficient and reflective of the diverse interests of all members.
- **Foster Regional and Global Partnerships:**
  - **Expand Global Influence:** Use BRICS membership to forge strategic partnerships with other regional and global entities, enhancing the bloc's influence in international affairs.
  - **Collaborate on Global Challenges:** Engage in joint initiatives to address global challenges such as climate change, economic instability, and geopolitical tensions.
- **Navigate Geopolitical Dynamics:**
  - **Balance Great Power Interests:** Manage the dynamics between major powers (China and Russia) and smaller or newer members to avoid dominance by any single country and ensure collective progress.
  - **Address Geopolitical Tensions:** Develop strategies to manage and mitigate geopolitical tensions within BRICS and with external actors, ensuring the bloc's stability and effectiveness.

Conclusion:

- Joining BRICS offers Southeast Asian nations significant benefits, including enhanced trade opportunities and geopolitical influence.
- To maximize these advantages, they must balance alliances, adapt policies, manage risks, and build strong institutional capacities while maintaining regional support and stability.

INDIA'S MYANMAR POLICY

Recently, the experts on Myanmar have called for India to review its policy and establish channels with the Ethnic Armed Organizations (EAOs) to help the affected civilians.

Background:

- The conflict between **Ethnic armed organizations (EAOs)** and the **Military Junta** in **Myanmar** has created a serious humanitarian crisis.
- **Since October 2023**, the ethnic armed groups and the PDF (People's Defence Force) in Myanmar have been coordinated in their effort to resist the military junta. They have been able to hold at least **45%** of the territory in Myanmar.

India's Policy towards Myanmar:

- **Developing Good Relations with the Military Junta**

  Strategic Interests: India shares a long border with Myanmar, making stability in the region crucial for its national security. Engaging with the military junta helps address issues like insurgency and cross-border terrorism.

  Economic Cooperation: Myanmar is a vital part of India's Look East Policy, which aims to enhance economic ties with Southeast Asia. By maintaining good relations with the junta, India secures investment opportunities and infrastructure projects like the Kaladan Multi-Modal Transit Transport Project.

  Geopolitical Positioning: Engaging with Myanmar also helps counterbalance China's growing influence in the region. India's strategic interests include ensuring that Myanmar does not fall into China's sphere of influence, thereby maintaining a degree of regional balance.

- **Supporting Democratic Forces based on Ethical and Moral Stance:**

  Human Rights Advocacy: India has traditionally emphasized its commitment to democratic values and human rights. Supporting Myanmar's democratic forces aligns with these principles and enhances India's moral authority on the global stage.

  Developmental Support: By aiding democratic movements and civil society, India can contribute to long-term stability and development in Myanmar. This approach helps build a positive image and foster goodwill among the Myanmar populace.

Need for Changes in Policy:

- **Refugee Influx:** The ongoing conflict in Myanmar is leading to an influx of refugees into India, creating a humanitarian challenge and necessitating support and management strategies.
- **China's Dual Role:**

  Support to Ethnic Armed Organizations (EAOs): China is providing support to various resistance groups within Myanmar, influencing the conflict dynamics.

  Relations with Military Junta: Despite supporting resistance groups, China maintains strong relations with Myanmar's military junta, complicating the geopolitical landscape.

- **Control of Trade Routes:** Many resistance groups have taken control of key trade routes along the India-Myanmar, Myanmar-China, and Thailand-Myanmar borders, affecting regional trade and stability.
- **Weak Military Regime:** The Myanmar military regime has struggled to assert control over the country, leading to widespread rebellion. The military's inability to decisively overcome resistance has resulted in a prolonged stalemate.
- **National Interest for India:**

  Political Stability: The political stability of Myanmar is crucial for India, particularly for its northeastern region and strategic connectivity projects.

  Kaladan Multi-modal Transit Transport Project (KMTTP): The KMTTP is a key regional connectivity initiative and a significant part of India's strategy to counter Chinese influence and enhance stability in its northeastern territories. Ensuring the stability and success of this project is vital for India's strategic interests and regional development.

BRIEF ON INDIA- MYANMAR RELATIONS

- **Location:** India shares a long land border of over 1643 kms with Myanmar as well as a maritime boundary in the Bay of Bengal.

  Four northeastern states, viz., Arunachal Pradesh, Nagaland, Manipur and Mizoram, have a boundary with Myanmar.

- **Diplomatic Relations:** Diplomatic relations between India and Myanmar have generally been friendly, with high-level visits and engagements strengthening ties at the governmental level. India and Myanmar signed a Treaty of Friendship in 1951.
- **Historical and Cultural Ties:** Both Nations share deep historical and cultural connections, with influences from Buddhism, Hinduism, and trade routes shaping their interactions over millennia.
- **Geopolitical Significance:** Myanmar holds significant geopolitical importance for India due to its strategic location, acting as a bridge between South Asia and Southeast Asia.

  India is seeking to enhance its cooperation with Myanmar in line with our 'Act East' and 'Neighborhood First' Policies.

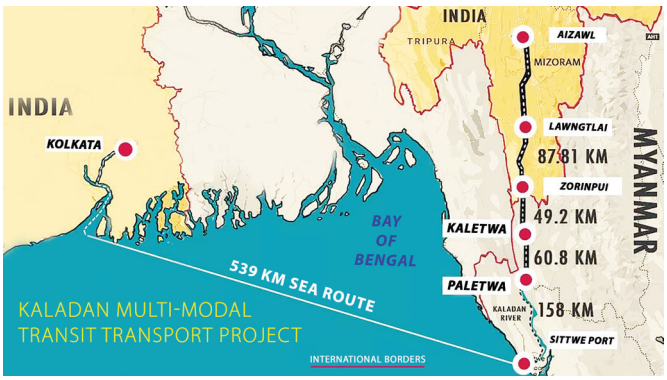
- **Geo-economic:** The bilateral trade stood at US$ 1.03 billion in 2021-22. Bilateral trade is conducted under ASEAN-India Trade in Goods Agreement (AITIGA) and India's DutyFree Tariff Preference (DFTP) scheme.
- **Connectivity Projects:** India is involved in various connectivity projects aimed at improving infrastructure and connectivity between the two countries. The **Kaladan Multi-Modal Transit Transport Project** and the **India-Myanmar-Thailand Trilateral Highway** are notable examples.

NEGATIVE IMPACTS ON INDIA-MYANMAR TRADE RELATIONS DUE TO COUP

- **Trade Disruption:** Border closures and security issues have disrupted goods movement, particularly impacting agriculture and textiles. Supply chain vulnerabilities and loss of market access have led to increased costs and a decline in bilateral trade.
- **Project Delays:** Indian infrastructure projects, like the Kaladan Transit Project, face delays, affecting regional connectivity. These delays lead to cost overruns and harm India's reputation, potentially reducing future investment attractiveness in Myanmar.
- **Investor Confidence:** Political instability in Myanmar has deterred Indian investors, reducing FDI. Investors seek safer destinations, while currency volatility further discourages investment, diverting capital to more stable regions.
- **Sanctions and Retaliation:** India's sanctions on Myanmar military officials have triggered retaliatory trade restrictions, severely affecting SMEs. Diplomatic relations are strained, reducing cooperation on border security and counterinsurgency efforts.
- **Humanitarian and Social Impact:** Human rights abuses and displacement from the coup have caused a refugee crisis in India's border regions, increasing social and economic pressures and exacerbating cross-border tensions.
- **Geopolitical Ramifications:** The coup has shifted the regional geopolitical landscape. China's influence in Myanmar challenges India's strategic interests, prompting India to strengthen ties with ASEAN countries to maintain its regional strategy.
- **Economic Impact on Border Communities:** Border trade disruptions have led to economic hardship, unemployment, and poverty in border communities. Illegal trade has risen, causing security concerns and revenue losses for governments.
- **Cultural and Social Relations:** Cultural ties are strained as political tensions divide communities. Tourism, education, and people-to-people connections suffer, while the Indian diaspora in Myanmar faces uncertainty and potential threats to their safety and livelihoods.

Way Ahead:

- **Manage Humanitarian Impact:** Strengthen support mechanisms for refugees, including humanitarian aid and integration programs, while working with international organizations to address the crisis effectively. Enhance border security and management to handle the influx of refugees and prevent illegal activities related to the conflict.
- **Navigate China's Dual Role:** Engage in diplomatic efforts to address the complexities of China's support for both resistance groups and the military junta. Explore channels for dialogue to mitigate tensions and align regional strategies. Build partnerships with other regional and global players to counterbalance China's influence and support for different factions in Myanmar.
- **Address Trade Route Disruptions:** Work with Southeast Asian countries to secure and stabilize key trade routes affected by the conflict. Strengthen regional cooperation to ensure uninterrupted trade and connectivity. Invest in alternative trade routes and infrastructure to mitigate the impact of disruptions and enhance regional connectivity.
- **Support Myanmar's Stability:** Apply diplomatic pressure on all parties involved to seek a peaceful resolution and support efforts for political dialogue and reconciliation in Myanmar. Collaborate with international organizations and regional partners to support stability and peace-building efforts in Myanmar.
- **Advance Strategic Projects:** Prioritize the completion and operationalization of the Kaladan Multi-modal Transit Transport Project (KMTTP) to strengthen regional connectivity and counter Chinese influence. Enhance connectivity initiatives in the northeastern region and beyond, aligning them with broader strategic goals to bolster India's position in the region.
- **Strengthen Regional Alliances:** Strengthen alliances with Southeast Asian countries and other regional stakeholders to foster cooperation and mutual support in addressing regional challenges. Actively participate in regional forums and organizations to promote stability, economic integration, and collaborative approaches to regional issues.



STATE OF THE WORLD'S MANGROVES, 2024

The Global Mangrove Alliance (GMA) has released a report titled 'The State of the World's Mangroves, 2024' on World Mangrove Day (26 July).

Key Highlights of the Report:

- **Distribution:** Southeast Asia accounts for 33.6 percent of global mangrove cover with **Indonesia alone having 21 percent** of the world's mangroves.
- **Area under threat:**
  - Mangrove areas of Indonesia, northeast Brazil and northwest Mexico are experiencing significant losses.
  - Mangroves in Lakshadweep archipelago and on the coast of Tamil Nadu are critically endangered.
- **Reasons for Loss:**
  - Conversion to aquaculture, oil palm plantations and rice cultivation together accounts for **43 percent of mangrove losses** between 2000 and 2020.
  - **Shrimp farms** that are mostly constructed within the vital intertidal zones, resulting in the total removal of mangroves.

DISTRIBUTION OF MANGROVES WITHIN DIFFERENT REGIONS OF THE GLOBE

Region	Sum of area km²	Sum of % global
East & Southern Africa	7,749	5.3%
Middle East	358	0.2%
South Asia	9,749	6.6%
Southeast Asia	49,500	33.6%
East Asia	221	0.2%
Australia & New Zealand	10,348	7.0%
Pacific Islands	5,790	3.9%
North & Central America & Caribbean	21,270	14.4%
South America	19,469	13.2%
West & Central Africa	22,802	15.5%
Grand Total	**147,256**	**100%**

Mangroves:

- A mangrove is a **small tree or shrub** that grows along coastlines, taking root in salty sediments, often underwater.
- Mangroves are flowering trees, belonging to the families **Rhizophoraceae, Acanthaceae, Lythraceae, Combretaceae, and Arecaceae.**
- **Features:**
  - **Saline Environment:** A speciality of mangroves is that they can survive under extreme hostile environments such as high salt and low oxygen conditions.
    - The roots filter out 90% of the salt they come into contact with within the saline and brackish water.
  - **Low oxygen:** Underground tissue of any plant needs oxygen for respiration. The mangrove root system absorbs oxygen from the atmosphere.
  - **Store Freshwater:** Mangroves, like desert plants, store fresh water in thick succulent leaves.
  - **Mangroves are viviparous:** Their seeds germinate while still attached to the parent tree. Once germinated, the seedling grows into a propagule.
- The **Sundarbans in West Bengal** are the largest mangrove region in the world and a **UNESCO World Heritage Site.**
- The second largest mangrove forest in India is **Bhitarkanika (Ramsar site**) in Odisha created by the two river deltas of **Rivers Brahmani and Baitarani.**

GLOBAL MANGROVE PROTECTION STATUS

- Globally, 40% of the world's remaining mangrove forests are in protected areas. For many countries, such as Brazil, Mexico, and Bangladesh, over 75% of their mangroves are protected.
- However, in countries like Malaysia, Papua New Guinea, and Myanmar, less than 5% of mangrove forests are under protection.
- The Global Mangrove Alliance (GMA) has set an ambitious target of doubling the protection of mangroves by 2030.
- Achieving 80% global protection poses a significant challenge, necessitating a substantial increase in the application of Other Effective Area-based Conservation Measures (OECMs).

Importance of Mangroves:

- **Environmental Importance:**
  - **Biodiversity Hotspots**: Mangroves support diverse flora and fauna, providing habitat for various species, including fish, birds, and invertebrates.
  - **Coastal Protection**: Mangroves act as natural barriers against storm surges, tsunamis, and coastal erosion by stabilizing sediments with their complex root systems.
  - **Carbon Sequestration**: Mangroves sequester carbon dioxide, playing a crucial role in mitigating climate change by storing large amounts of carbon in their biomass and sediments.
  - **Water Filtration**: Mangroves filter pollutants and nutrients from water, improving water quality and protecting coral reefs and seagrass beds from sedimentation.
- **Economic Importance:**
  - **Fisheries:** Mangroves are nurseries for many fish species, supporting commercial and subsistence fisheries. Their loss can directly impact fish populations and the livelihoods dependent on them.

- **Tourism:** Mangrove ecosystems attract ecotourism, providing economic benefits to local communities through activities like bird watching, boating, and guided tours.
- **Timber and Non-timber Products:** Mangroves provide resources like timber, honey, and medicinal plants, supporting local economies.

- **Social Importance:**
  - **Livelihoods:** Coastal communities rely on mangroves for fishing, harvesting materials, and tourism-related activities.
  - **Cultural Significance:** Many communities have cultural and spiritual connections to mangrove ecosystems, integrating them into their traditions and practices.
  - **Food Security:** Mangroves contribute to food security by supporting fisheries and providing edible resources like fruits and crustaceans.

NUTRIENT POLLUTION

- Anthropogenically driven pollutants are a rapidly growing threat to mangrove ecosystems.
- Estuarine mangroves, which receive high volumes of freshwater inflow, are particularly vulnerable to nutrient pollution.
- **Impact of Nitrogen Pollution**
  - **Role of Nitrogen:**
    - Nitrogen is a necessary macronutrient that sustains mangrove productivity by aiding plant growth and microbial survival.
    - However, it is also a primary cause of eutrophication, leading to oxygen depletion and adverse effects on aquatic life.
  - **Sources of Nitrogen Pollution:** The rapidly growing pressures of agriculture and aquaculture in and around mangrove ecosystems, and along upstream riverine systems, result in pockets of nitrogen-enriched water being released directly into mangrove patches.
- **Case Study: Indian Sundarbans**
  - **Current Situation:**
    - The Indian Sundarbans report dissolved inorganic nitrogen pools as high as >50μM.
    - This level is sufficient to stall the productivity of resident aquatic microbial communities, disrupting the balance of these ecosystems.
  - **Source of Pollutants:**
    - The Sundarbans receive freshwater from the Ganges-Brahmaputra-Meghna Delta, which brings down high concentrations of riverine pollutants, including nitrogen.
    - Long-term data from the Ganga Ecological Time Series indicates numerous point sources of nitrogen pollution into the River Ganga.

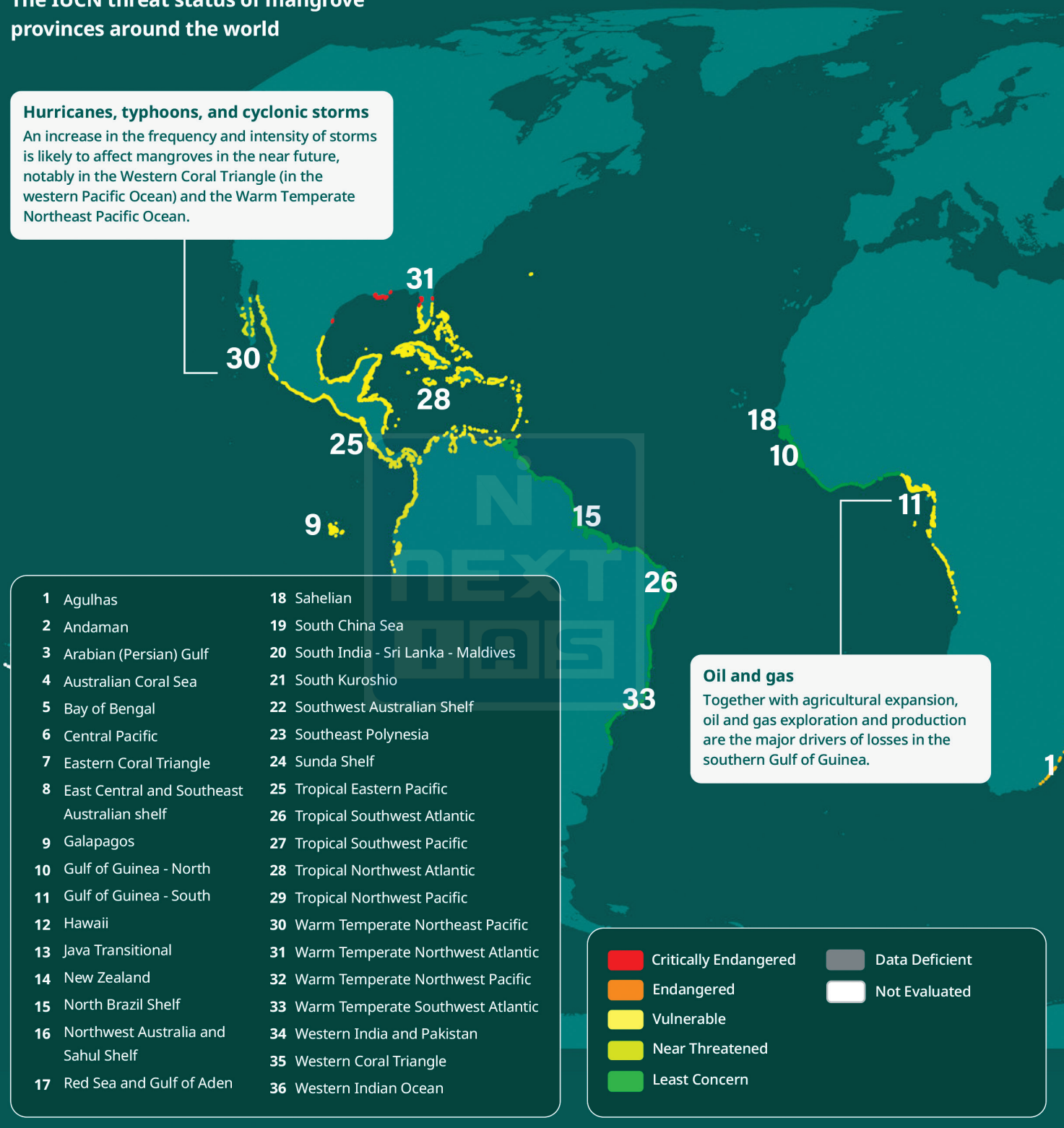
Steps Taken:

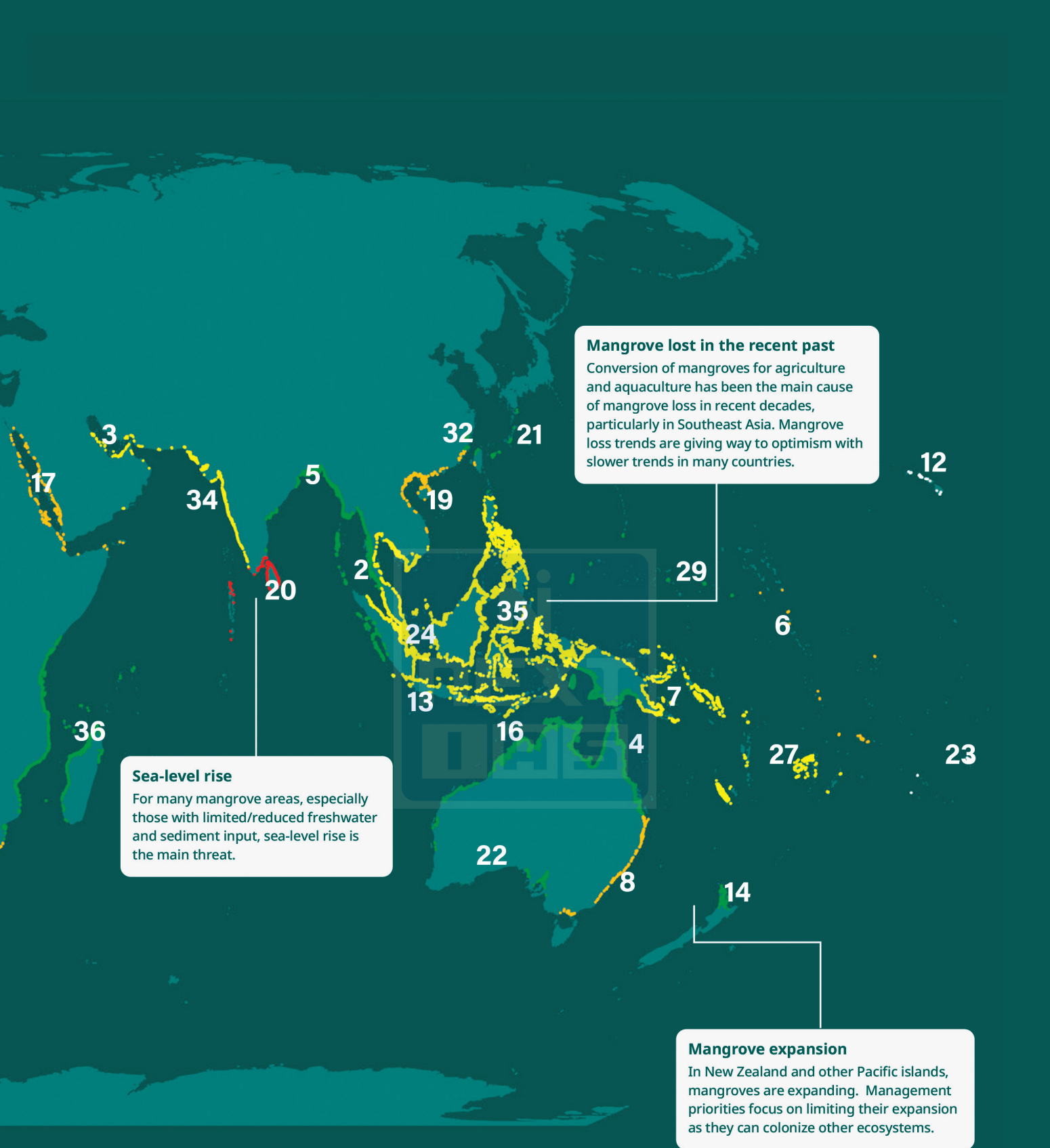
- **Indian Initiatives**
  - ***Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI) Programme:***
    - **Objective:** Aims to protect and revive mangrove ecosystems on the Indian coast while enhancing the socio-economic status of coastal communities.
    - **Approach:** Focuses on sustainable livelihood opportunities for local communities through mangrove conservation and restoration activities.
  - ***Conservation and Management of Mangroves and Coral Reefs:***
    - **Scheme:** Implemented through a Central Sector Scheme under the National Coastal Mission Programme of the Ministry of Environment, Forest & Climate Change.
    - **Goal:** Promotes measures for the conservation and management of mangrove and coral reef ecosystems, ensuring their protection and sustainable use.
- **Global Initiatives:**
  - ***Global Mangrove Alliance (GMA):*** A joint effort of more than 30 organizations, including the International Union for Conservation of Nature (IUCN). It aims to expand the global extent of mangrove habitats by 20% by the year 2030. It also focuses on restoration, conservation, and sustainable management of mangrove ecosystems globally.
  - ***Mangrove Alliance for Climate (MAC):*** Led by the United Arab Emirates (UAE) and Indonesia, with India as a member. It seeks to educate and spread awareness worldwide on the role of mangroves in curbing global warming and their potential as a solution for climate change. It also engages in global advocacy, research, and implementation of policies aimed at mangrove conservation and climate change mitigation.

Way Ahead:

- **Strengthening Legal Framework:** Enhance enforcement of mangrove protection laws, integrate community rights, and leverage traditional knowledge for effective conservation.
- **Community Involvement and Education:** Launch awareness programs and empower local communities through training, making them active participants in mangrove management and conservation.
- **Scientific Research and Monitoring:** Conduct ecosystem mapping and establish long-term monitoring programs to assess mangrove health, track biodiversity, and evaluate climate change impacts.
- **Restoration and Rehabilitation:** Implement reforestation projects using native species, and deploy nature-based solutions to combat coastal erosion while involving local communities.

The IUCN threat status of mangrove provinces around the world





The IUCN threat status of 36 mangrove provinces worldwide.

PHASE-II BALLISTIC MISSILE DEFENCE SYSTEM

The Defence Research & Development Organisation (DRDO) successfully flight-tested the Phase-II Ballistic Missile Defence (BMD) system.

India's BMD Programme:

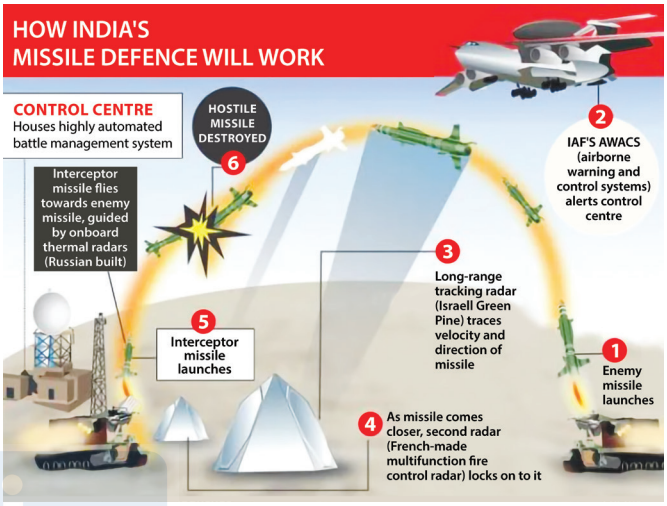
- **Origins of India's BMD Systems:** India's BMD system was initiated in response to growing missile threats from China and Pakistan, coupled with the nuclearization of the subcontinent.
  - The DRDO was tasked with developing a multi-tiered defence network to counter missiles with ranges of up to 2000 km in Phase 1 and 5000 km in Phase 2.
  - This strategic initiative aims to safeguard against evolving regional missile threats.
- **Multi-Layered Defence System:** The programme utilizes a two-tiered approach with interceptor missiles: Prithvi Air Defence (PAD) for high-altitude interception and Advanced Air Defence (AAD) for low-altitude threats.
- **Phase Two and Future Developments:** The Defence Research and Development Organisation (DRDO) is leading Phase Two, which includes developing advanced anti-ballistic systems like THAAD and longer-range missiles such as the AD-II.

MEANING OF BMD

It refers to a system designed to detect, track, and intercept incoming ballistic missiles, providing a defensive shield against potential missile attacks. The goal of BMD systems is to protect a country or region from the threat of missile strikes, typically from hostile nations or groups.

Components India's Ballistic Missile Defense (BMD) Network:

- **Detection and Tracking:** Long-range surveillance radars, such as Swordfish, are used to detect incoming missiles. Multi-object tracking radars continuously monitor their trajectories.
- **Command and Control Centres:** Mission control centres analyze real-time tracking data to determine missile trajectories, launch interceptors, and coordinate responses across the network.
- **Interceptor Launchers:** These containers house interceptor missiles and are connected to the tracking and command nodes. They are equipped with electromechanical systems to launch missiles at hostile projectiles based on trajectory predictions.
- **Communications Network:** A robust communications infrastructure is crucial for the BMD system. It ensures reliable connectivity between sensors, interceptors, and control centres, using wired or high-frequency radio links to facilitate coordinated defense operations.



India's Two-Tier Ballistic Missile Defence (BMD) System:

- It is designed to offer comprehensive protection against ballistic missile threats and comprises two key interceptor missile systems: the Prithvi Air Defence (PAD) and the Advanced Air Defence (AAD) missiles.
- **High Altitude PAD Interceptors:**
  - The PAD interceptors are engineered to engage longer-range ballistic missiles at higher altitudes (50-80 km) in exo-atmospheric space. The PAD system includes:
  - **Pradyumna Missile:** A two-stage solid and liquid-fueled missile designed for quick reaction, capable of intercepting missiles at altitudes of up to 80 km with a maximum speed of Mach 5.
  - **Prithvi Defence Vehicle:** An advanced variant featuring a kinetic kill vehicle mounted on a dual-stage PAD interceptor, which collides with hostile missiles in space rather than using explosives.
- **Lower Altitude AAD Interceptors:**
  - The AAD system adds another layer of defense by targeting missiles in the lower altitude range (15-30 km) within the atmosphere:
  - **AAD Ashwin Interceptors:** Single-stage solid rocket-propelled missiles capable of speeds up to Mach 4.5, with a range of 100 km and an operational altitude of 20 km, designed to neutralize incoming projectiles within the atmosphere.

Significance:

- **National Security:** BMD systems provide a critical layer of defense against potential ballistic missile threats, including

those carrying Weapons of Mass Destruction (WMDs). By intercepting and destroying incoming missiles before they reach their targets, these systems safeguard civilian and military infrastructure.

- **Deterrence:** By deploying effective BMD systems, a nation can deter adversaries from launching missile attacks, knowing that their missiles are likely to be intercepted.
  - This contributes to strategic stability and reduces the likelihood of conflict escalation.
- **Operational Flexibility:** A multi-tier BMD system, like India's, offers a layered approach to interception, covering different altitude ranges and stages of the missile's trajectory.
  - This increases the chances of successful interception and provides flexibility in responding to various missile threats.
- **Technological Advancement:** Developing and deploying BMD systems drives advancements in technology, including radar systems, interceptor missiles, and command and control infrastructure. These innovations can have broader applications in other areas of defense and technology.
- **Alliances and Partnerships:** BMD systems can enhance security cooperation and partnerships with other nations. Sharing technology and participating in joint defense initiatives can strengthen alliances and foster international collaboration in addressing missile threats.
- **Civil Defense:** By protecting urban centers, critical infrastructure, and strategic assets from missile attacks, BMD systems contribute to the overall safety and security of the civilian population.
- **Strategic Capability:** Possessing advanced BMD capabilities enhances a nation's strategic posture and can serve as a force multiplier in geopolitical negotiations and defense planning.

Challenges:

- **Technological Complexity:** The BMD system integrates specialized technologies such as interceptor missiles, tracking radars, and command centres. Developing key interception missiles like the Advanced Air Defence (AAD) illustrates the sophisticated technological barriers encountered.
- **Limited Interceptor Range:** Current Indian interceptor missiles have a maximum interception range of around 80 km, which limits defense coverage against adversaries with longer-range missile capabilities. This poses challenges in defending against extended-range threats.
- **Simultaneous Multi-Vector Threats:** India faces potential threats from multiple geographies simultaneously. Providing 360-degree missile defense against coordinated attacks is an operational challenge with the existing systems.
- **Resource and Cost Implications:** The substantial investments required for BMD systems strain budgets and skill allocations. This results in opportunity costs, as funds may be diverted from conventional capacity upgrades. Balancing resources between offensive and defensive capabilities is a critical challenge.
- **Fast-Advancing Threat Dynamics:** Adversaries are rapidly modernizing missile technologies and may employ counter-measures. India must continuously upgrade its BMD systems to keep pace with evolving and unpredictable threats.
- **Technology Access Issues:** Despite external partnerships, India's indigenous missile defense relies significantly on technology transfer and access to controlled items. Export control regimes, driven by global non-proliferation norms, affect the availability of advanced technologies crucial for enhancing BMD capabilities.

Way Forward:

- **Enhancing Technological Capabilities:** Invest in research and development to advance interceptor technology, radar systems, and command and control infrastructure. Focus on overcoming current technological barriers and improving interception range and accuracy.
- **Indigenous Development:** Strengthen indigenous capabilities in missile defense technology to reduce reliance on external technology transfers and improve self-sufficiency.
- **Development of Long-Range Interceptors:** Develop and deploy interceptor missiles with extended operational ranges to better address long-range missile threats and enhance overall defense coverage.
- **Addressing Multi-Vector Threats:** Upgrade BMD systems to provide comprehensive 360-degree coverage against coordinated and simultaneous missile attacks from multiple geographies.
- **Balancing Resources and Costs:** Strategically allocate resources between offensive and defensive capabilities. Prioritize investments that offer the best balance between improving missile defense and upgrading conventional forces.
- **Adapting to Evolving Threats:** Regularly update and modernize BMD systems to counteract rapidly advancing missile technologies and emerging counter-measures from adversaries.
- **Improving Technology Access:**
  - **Strengthening Partnerships:** Foster international collaborations and partnerships to gain access to advanced technologies while mitigating the impact of export control regimes.
  - **Policy Advocacy:** Engage in advocacy for more favorable export control policies to facilitate the acquisition of critical technologies for missile defense.

DEFENSE PRODUCTION HIT RECORD HIGH IN 2023-24

The value of defense production in India has gone up to ₹1,26,887 crore in FY 2023-24, reflecting a growth of 16.7% over the defense production of FY 2022-23.

About:

- **Since 2019-20,** the value of defense production has been increasing steadily, and has grown by over **60%.** Of the total value of production in **2023-24**, about **79.2%** has been contributed by the Public Sector and **20.8%** by the private sector.
- **Defense sector of India:**
  - India's defense budget of **US$ 74.7 billion** ranked fourth highest globally in 2024. India has the world's fourth largest defense expenditure, as of 2022, and India has set a target of **US$ 6.02 billion** worth of annual defense exports by **2028-29.**
  - Defense exports was **₹21,083 crore** in **FY 2023-24,** reflecting a growth of **32.5%** over the last fiscal when the figure was **₹15,920 crore.**

Advantages of Growth in Defense Production:

- **Self-Defense:**
  - **Enhanced National Security:** Strengthening domestic defense capabilities ensures robust protection against external threats, safeguarding the nation's borders and strategic interests.
  - **Deterrent Effect:** A formidable and technologically advanced defense system acts as a deterrent to potential aggressors, reducing the risk of conflicts and enhancing national stability.
- **Strategic Advantage:**
  - **Geopolitical Influence:** Self-reliance in defense production reduces dependency on foreign military supplies, enhancing a nation's strategic autonomy and influence in global affairs.
  - **Defense Exports:** An advanced defense sector can lead to lucrative defense exports, improving diplomatic relations and expanding a country's influence through strategic partnerships.
- **Technological Advancement:**
  - **Driving Innovation:** Advances in defense technology often lead to breakthroughs in related fields such as aerospace, electronics, and cyber technologies, fostering overall technological growth.
  - **Economic Benefits:** Innovations and technologies developed for defense applications can stimulate growth in other industries, supporting a diversified and competitive economy.
- **Economic Impact:**
  - **Reduced Import Dependency:** Developing domestic defense capabilities minimizes reliance on foreign suppliers, conserving foreign exchange and reducing trade imbalances.
  - **Boost to Domestic Manufacturing:** Expansion in the defense sector stimulates growth in domestic manufacturing, creating a ripple effect that benefits various economic sectors and promotes industrial advancement.
- **Employment Opportunities:**
  - **Job Creation:** Growth in defense production generates a range of employment opportunities, from high-tech engineering roles to manufacturing and support positions, impacting diverse sectors.
  - **Skill Development:** Specialized training programs associated with defense production enhance workforce skills, leading to higher technical expertise and broader career prospects.
- **Infrastructure Development:**
  - **Improved Facilities:** The expansion of defense production often leads to the development of advanced manufacturing facilities and infrastructure, which can have broader economic benefits.
  - **Regional Development:** Establishing defense production facilities in various regions can stimulate local economies, providing a boost to infrastructure and services in underserved areas.
- **National Pride and Self-Reliance:**
  - **Boost to National Pride:** Developing indigenous defense capabilities fosters a sense of national pride and accomplishment, reinforcing national identity and unity.
  - **Enhanced Self-Reliance:** Achieving self-reliance in defense reduces vulnerability to international pressures and disruptions, enhancing overall national resilience.
- **Research and Development (R&D):**
  - **Increased R&D Investment:** Growth in the defense sector drives higher investments in research and development, leading to technological advancements and innovative solutions with potential civilian applications.
  - **Collaboration Opportunities:** Increased R&D efforts in defense can lead to collaborations with academic and research institutions, fostering innovation and contributing to scientific progress.

Challenges:

- **High Costs:**
  - Developing and maintaining advanced defense capabilities requires substantial financial investments, which can strain national budgets and divert resources from other critical sectors like education and healthcare.
  - The cost of cutting-edge research and development in defense technology is high, with uncertain returns on investment and long timelines for technology deployment.
- **Technological and Operational Complexity:**
  - Integrating advanced defense technologies into existing systems can be technically challenging, requiring sophisticated engineering solutions and ongoing maintenance.
  - The advancement of defense technology increases vulnerability to cyber-attacks, necessitating robust cybersecurity measures to protect sensitive information and systems.
- **Environmental Impact:**
  - Defense manufacturing processes can produce significant environmental pollution, including hazardous waste, which poses challenges for environmental management and sustainability.
  - The production of defense equipment requires substantial natural resources, raising concerns about environmental degradation and resource depletion.
- **Geopolitical Tensions:**
  - Expanding defense capabilities can trigger regional arms races, leading to heightened geopolitical tensions and potential conflicts with neighboring countries.
  - Aggressive defense expansion might strain diplomatic relations with other nations, particularly if perceived as a threat to regional stability.
- **Domestic and International Criticism:**
  - High defense spending can face criticism from the public and advocacy groups concerned about the diversion of funds from essential social services.
  - Increased defense production may attract international scrutiny and criticism, particularly if it leads to perceived imbalances or escalates global arms proliferation.
- **Dependency on Foreign Technology:**
  - Despite efforts to be self-reliant, many defense systems still depend on imported components and technology, which can undermine the goal of complete self-sufficiency.
  - Reliance on international supply chains for critical components can create vulnerabilities, especially during geopolitical tensions or trade disruptions.
- **Ethical and Legal Issues:**
  - Advances in defense technology raise concerns about the proliferation of weapons and their potential use in conflicts, impacting global security and stability.
  - There may be ethical issues related to the development and deployment of advanced weaponry, including the potential for misuse and violations of international humanitarian laws.
- **Skill Shortages and Training Needs:**
  - Attracting and retaining highly skilled professionals for defense-related roles can be challenging, particularly in a competitive job market.
  - Ensuring that personnel are adequately trained to operate and maintain advanced defense systems requires continuous investment in education and training programs.

Government initiatives:

- **Industries (Development and Regulation) Act, 1951:** Defence Products list requiring Industrial License has been rationalized and manufacture of most of parts or components does not require Industrial License.
  - The initial validity of the Industrial Licence granted has been **increased from 03 years to 15 years** with a provision to further extend it by 03 years on a case-to-case basis.
- Government schemes such as **iDEX (Innovations for Defence Excellence)** and **DTIS (Defence Testing Infrastructure Scheme)** to enable innovation within the Defence & Aerospace ecosystem.
- **FDI in the Defence Sector:** It has been enhanced up to 74% through the Automatic Route and 100% by Government Route, to promote export and liberalize foreign investments.

- **Defence Industrial Corridors:** The government has established **2 dedicated Defence Industrial Corridors** in the States of **Tamil Nadu and Uttar Pradesh** to act as clusters of defense manufacturing that leverage existing infrastructure, and human capital.
- **Defence Acquisition Council (DAC):** It boosted the **'Make in India'** initiative by **Acceptance of Necessity (AoN)** — to capital acquisition proposals worth **US$ 1.07 billion** (Rs. 7,965 crore) — for modernisation and operational needs of armed forces.

FIFTH POSITIVE INDIGENISATION LIST (PIL)

- The Ministry of Defence (MoD) has announced the fifth PIL, featuring 346 defence items.
- The list is part of an effort to promote Aatmanirbharta (self-reliance) in defence and reduce reliance on imports by Defence Public Sector Undertakings (DPSUs).

Key aspects include:

- Exclusive procurement of these items from Indian industry, with a focus on Micro, Small, and Medium Enterprises (MSMEs) and startups.
- The list includes essential components like Line Replacement Units (LRUs), systems, sub-systems, assemblies, spares, and raw materials.

DRAFT DEFENCE PRODUCTION AND EXPORT PROMOTION POLICY 2020 (DPEPP)

- **Turnover and Export Goals:** Targeting a turnover of ₹1,75,000 crore, including ₹35,000 crore in exports of Aerospace and Defence goods and services by 2025.
- **Defence Industry Development:** Aims to build a dynamic, competitive defence industry, focusing on quality products for the Armed Forces, reducing import dependence, and supporting **"Make in India"** initiatives.
- **Export Promotion:** Seeks to integrate India into global defence value chains by promoting exports of defence products.
- **Research and Development (R&D):** Encourages R&D, innovation, and Indian Intellectual Property (IP) creation to foster a self-reliant defence industry.
- **Procurement Reforms:**
  Establishing a Project Management Unit (PMU) for technology development and lifecycle management of defence systems.
  Moving towards indigenous design, development, and production with ownership of design rights and IP.
  Creating a Technology Assessment Cell (TAC) to evaluate industrial capabilities for major defence systems.
- **Indigenisation and Support for MSMEs/Startups:** Aiming to indigenize 5,000 imported components by 2025. Encouraging over 50 startups to develop military-use technologies/products.
- **Resource Allocation Optimization:** Increasing domestic procurement from ₹70,000 crore to ₹1,40,000 crore by 2025 to reduce import dependence.

Way Forward:

- **Green Channel Status Policy (GCS):**
  - **Enhanced Private Sector Investment:** Implementing the GCS will streamline regulatory processes for private defense firms, reducing bureaucratic delays and encouraging more private sector investments in defense production.
  - **Increased Efficiency:** The GCS Policy will help in faster approval of defense projects, improving overall efficiency in the procurement and production processes.
- **Growth of Defense Tech Startups:**
  - **Innovation and Technology Development:** Encouraging the development and expansion of defense tech startups can foster innovation, leading to advancements in defense technologies and solutions tailored to specific needs.
  - **Public-Private Collaboration:** Strengthening partnerships between startups and established defense firms or government agencies can drive the commercialization of cutting-edge technologies and enhance defense capabilities.
- **Focus on Self-Reliance and Foreign Investment:**
  - **Atma Nirbhar Bharat Initiative:** By reducing restrictions on foreign investment and promoting self-reliance, the government can attract more international partnerships and collaborations, boosting domestic defense production and technology development.
  - **Balanced Approach:** A balanced approach to self-reliance and foreign investment can ensure that domestic industries grow while benefiting from global technological advancements and investments.
- **Strengthening Research and Development (R&D):**
  - **Increased Funding:** Allocating more resources to defense R&D can accelerate the development of advanced technologies and improve the country's defense capabilities.
  - **Collaboration with Academic Institutions:** Partnering with universities and research institutions can foster innovation and leverage academic expertise to solve complex defense challenges.
- **Enhancing Workforce Skills and Training:**
  - **Skill Development Programs:** Investing in training and skill development for defense personnel can ensure they are well-equipped to handle advanced technologies and systems.
  - **Attracting Talent:** Creating incentives to attract and retain skilled professionals in the defense sector can address skill shortages and contribute to the sector's growth.
- **Improving Infrastructure and Logistics:**
  - **Upgrading Facilities:** Investing in modern infrastructure and logistics will support efficient defense production and ensure timely delivery of defense equipment and services.
  - **Streamlining Supply Chains:** Enhancing supply chain management and reducing dependencies on foreign suppliers can improve the resilience and efficiency of defense production processes.

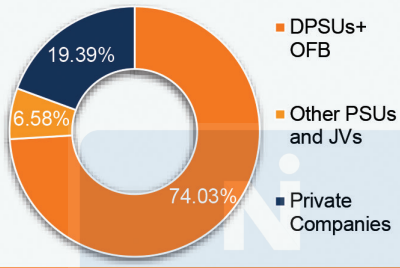
DEFENCE MANUFACTURING

MARKET SIZE

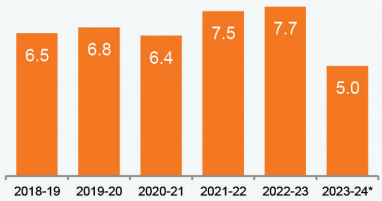
Defence Production in India (US$ billion)

SECTOR COMPOSITION

Defence Production in India by Sector in FY23 (%)



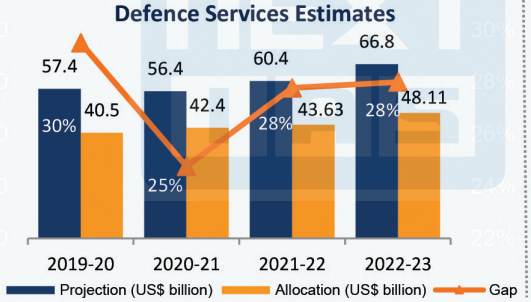
Value of Production by Defence PSUs (US$ billion)



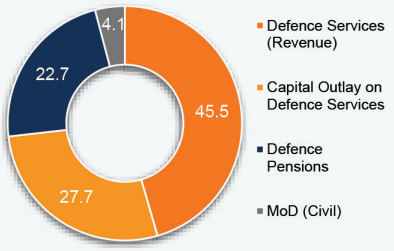
Note: *Until November 17, 2023*

KEY TRENDS

MoD's Resource Projection and Allocation under Defence Services Estimates



Breakdown of fund allocation in Defence Industry as per the Budget 2024-25



GOVERNMENT INITIATIVES

Increased Cooperation with Vietnam on Surveillance and Shipbuilding Technology

रक्षा मंत्रालय
MINISTRY OF DEFENCE

Defence Production and Export Promotion Policy 2020

Defence Park in Kerala to Promote MSMEs and Boost 'Make in India' Initiative

ADVANTAGE INDIA

- **Growing demand:** Till April 2023, a total of 606 industrial licences were issued to 369 companies operating in the defence sector. Defence exports rose 240% over five years in FY23, to US$ 1.9 billion (Rs. 15,918.16 crore); India now exports to over 85 countries due to collaborative efforts. Defence exports US$ 2.63 billion in FY24, up by 32.5% from last year
- **Competitive advantage**: India has the world's fourth-largest defence expenditure, as of 2022, and has set a target of US$ 6.02 billion (Rs. 50,000 crore) worth of annual defence exports by 2028-29. India's defence budget of US$ 74.7 billion ranked fourth highest globally in 2023.
- **Government support**: Under the Atmanirbhar Bharat Initiative, five positive indigenization lists of 509 products have been promulgated by the Department of Military Affairs and Ministry of Defence to be manufactured domestically for the defence sector, instead of being sourced via imports.
- **Opportunities**: The government has established 2 Defence Industrial Corridors in Uttar Pradesh and Tamil Nadu. India has around 194 defence tech startups building innovative tech solutions to empower and support the

SC VERDICT ON RELEASE OF GM MUSTARD

The Supreme Court pronounced a split verdict on the validity of the Centre's 2022 decision granting conditional approval for environmental release of genetically modified (GM) mustard crops.

About:

- In 2022, the **Genetic Engineering Appraisal Committee (GEAC)**— a statutory body under the Ministry of Environment, Forest and Climate Change and regulator of genetically modified organisms in the country— recommended the environmental release.
  - A subsequent decision was taken approving the environmental release of **transgenic mustard hybrid DMH-11**, a variety of GM mustard.
- In its recent judgment, the SC asked the Centre to **formulate a national policy** with regard to GM crops for research, cultivation, trade and commerce in the country.
- The case would now be referred to a three-judge Bench **to be constituted by the Chief Justice of India.**

GENETIC ENGINEERING APPRAISAL COMMITTEE (GEAC)

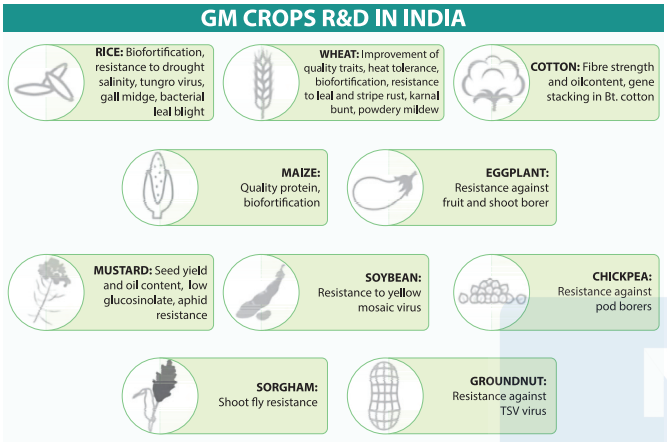
- **Establishment and Authority:** The GEAC is a statutory committee established under the "Rules for the Manufacture, Use / Import / Export and Storage of Hazardous Microorganisms / Genetically Engineered Organisms or Cells (Rules, 1989)," framed under the Environment (Protection) Act, 1986.
  - It operates under the Ministry of Environment, Forest, and Climate Change (MoEF&CC).
- **Functions:**
  - **Approval of Hazardous Microorganisms:** The GEAC is responsible for approving activities involving the large-scale use of hazardous living microorganisms and recombinants in research and industrial production from an environmental perspective.
  - **Appraisal of GE Organisms:** The committee evaluates proposals for the release of genetically engineered (GE) organisms and products into the environment, including experimental field trials.
  - **Mandatory Clearance:** Clearance from GEAC is required for the environmental release of genetically modified (GM) crops.

Genetically Modified Crops:

- **Definition:** Genetically Modified (GM) crops are those whose DNA has been altered through genetic engineering to introduce specific desirable traits. These modifications aim to enhance various attributes of the crops, such as resistance to pests or herbicides, improved nutritional content, or increased yield.
- **Process of Creating GM Crops:**
  - **Identification of Desired Traits:** Scientists first identify the traits they want to introduce, such as pest resistance or improved nutritional value.
  - **Isolation of Genes:** Genes responsible for these traits are isolated from other organisms or from the same plant species.
  - **Insertion into Crop Genome:** The isolated genes are inserted into the genome of the crop using various techniques.
  - **Expression of the Trait:** The crop is then grown and tested to ensure that the desired trait is expressed effectively and consistently.
- **Techniques Used in Genetic Engineering:**
  - **Gene Guns:** A method where DNA is coated onto microscopic gold or tungsten particles and shot into plant cells.
  - **Electroporation:** A technique that uses an electric field to increase the permeability of the cell membrane, allowing DNA to enter.
  - **Microinjection:** Directly injecting DNA into plant cells using a fine needle.
  - **Agrobacterium-mediated Transformation:** Utilizing a bacterium (Agrobacterium tumefaciens) to transfer DNA into plant cells.
- **Types of Genetic Modifications:**
  - **Transgenic:** Involves introducing genes from different species into the crop's genome.
  - **Cis-genic:** Involves transferring genes from the same species or closely related species, often to improve traits without introducing foreign DNA.
  - **Subgenic:** Involves silencing or knocking down specific genes within the same genome to alter traits.
  - **Multiple Trait Integration:** Involves combining multiple traits into a single crop, such as herbicide resistance and pest resistance.
- **Main Trait Types in GM Crops:**
  - **Herbicide Tolerance (HT):** Crops modified to withstand specific herbicides, allowing farmers to use these chemicals to control weeds without damaging the crop.
  - **Insect Resistance (IR):** Crops engineered to produce toxins that repel or kill specific insect pests, reducing the need for chemical insecticides.
  - **Stacked Traits:** Crops containing multiple genetically engineered traits, such as both herbicide tolerance and insect resistance, provide comprehensive benefits.

Indian Scenario in GM Crops:

- **Bt Cotton:** In 2002, the GEAC had allowed the commercial release of Bt cotton.
  - Bt cotton has two alien genes from the soil bacterium Bacillus thuringiensis (Bt) that allows the crop to develop a protein toxic to the common pest **pink bollworm.**
  - It is the only GM crop that is allowed in India.
- Many varieties of GM crops are under different stages of development, like **Bt brinjal** and **DMH-11 mustard.**



REGULATORY FRAMEWORK FOR GM CROPS IN INDIA

- **Key Acts and Rules:**
  - **Environment Protection Act, 1986 (EPA):** Provides a framework for the protection and improvement of the environment, including regulations on GM crops to ensure environmental safety.
  - **Biological Diversity Act, 2002:** Regulates the conservation of biological diversity and the equitable sharing of benefits arising from genetic resources, including GM crops.
  - **Plant Quarantine Order, 2003:** Overseen by the Department of Agriculture, this order addresses the quarantine requirements for plants and plant products, including those related to GM crops.
  - **GM Policy under Foreign Trade Policy:** Governs the import and export of GM crops and products, ensuring compliance with national and international regulations.
  - **Food Safety and Standards Act, 2006:** Regulates the safety and standards of food products, including those derived from GM crops, to ensure consumer health and safety.
  - **Drugs and Cosmetics Rule (8th Amendment), 1988:** Includes provisions relevant to the testing and approval of GM crops used in pharmaceuticals and other related products.

Need for GM Crops:

- **Food Security:** Genetically modified (GM) crops have the potential to significantly enhance food security by improving crop yields and making them more resilient to various environmental stresses such as pests, floods, frost, and drought.
  - These modifications can lead to more stable and predictable food supplies, which is crucial for feeding the growing global population and mitigating the impacts of climate change.
- **Sustainable Food System:** GM crops can contribute to a more sustainable food system by reducing the environmental footprint of agriculture.
  - For instance, modifications can lead to crops that require fewer chemical inputs like pesticides and fertilizers, thus reducing carbon emissions and runoff into water bodies. Additionally, certain GM crops are engineered to improve soil health and reduce the need for tillage, further supporting environmental sustainability.
- **Higher Productivity:** GM crops are designed to optimize the use of resources, enabling higher productivity on less land. This is particularly important as arable land becomes increasingly scarce.
  - By enhancing crop efficiency and reducing the need for chemical inputs, GM crops can help meet global food demands while minimizing environmental degradation.
  - The fact that GM crop production uses only about 10% of the land compared to non-GM crop production underscores their potential for efficient resource use.
- **Nutritional Security:** Genetic modifications can enhance the nutritional profile of crops, addressing deficiencies in essential vitamins and minerals.
  - For example, **Golden Rice** has been engineered to produce higher levels of vitamin A, which can help combat vitamin A deficiency in developing countries. Such enhancements can contribute to better public health outcomes and improve nutritional security globally.
- **Meeting Consumer Preferences:** GM crops can be tailored to address specific consumer needs and preferences. This includes modifying crops for extended shelf life, improved flavor, or unique cooking qualities. These modifications not only enhance the eating experience but also reduce food waste by extending the storage life of produce, contributing to overall food security.

Reasons for Opposition to GM Crops:

- **Unintended Side Effects:** The long-term effects of GM crops on human health and the environment remain a subject of ongoing research. Critics argue that unintended side effects could arise from genetic modifications, which may not be immediately apparent.

- The potential for unforeseen consequences makes some stakeholders cautious about the commercial release of GM crops until more comprehensive studies are conducted.

- **Threat to Biodiversity:** GM crops engineered to produce their own toxins against pests could have unintended ecological impacts.
  - For example, the toxins might affect non-target species, including beneficial insects or wildlife that interact with the crops. This disruption can potentially harm local ecosystems and reduce overall biodiversity.
- **Health Risks:** Concerns about health risks related to GM crops include the potential for antibiotic resistance. Some GM crops are engineered with antibiotic-resistant genes as markers, which might persist in the human body and contribute to the development of antibiotic-resistant bacteria.
  - This poses a long-term threat to public health by reducing the effectiveness of antibiotics and increasing the risk of superbugs.
- **Social and Economic Issues:** The dominance of multinational agribusiness companies in GM crop production raises concerns about the consolidation of agricultural power and the impact on small farmers.
  - Dependence on GM seed companies can lead to financial burdens for farmers due to the cost of seeds and associated technologies. This can result in economic disparity and decreased autonomy for small-scale farmers.
- **Public Concern:** There is a general public wariness towards GM crops due to their artificial nature. Many people are uncomfortable with the idea of crops being engineered in a lab, as opposed to those grown through traditional breeding methods.
  - This skepticism stems from a broader unease about biotechnology and the perceived risks associated with genetic manipulation, contributing to resistance against GM crop adoption.

Way Forward:

- **Unintended Side Effects**
  - **Enhanced Long-term Research:** Invest in extensive long-term studies to monitor and evaluate the potential unintended effects of GM crops on human health and the environment.
  - **Rigorous Testing Protocols:** Implement more stringent pre-commercial release testing protocols to assess and mitigate potential risks.
- **Threat to Biodiversity:**
  - **Integrated Pest Management:** Promote the use of integrated pest management (IPM) practices to reduce the reliance on GM crops that produce their own toxins, thereby protecting non-target species.
  - **Biodiversity Monitoring:** Establish continuous monitoring systems to assess the ecological impacts of GM crops and adjust management practices accordingly.
- **Health Risks:**
  - **Regulation of Antibiotic Markers:** Develop and enforce regulations to minimize or eliminate the use of antibiotic resistance genes in GM crops to prevent potential health risks.
  - **Public Health Surveillance:** Conduct ongoing public health surveillance to track any emerging health issues related to GM crop consumption and address them proactively.
- **Social and Economic Issues:**
  - **Support for Small Farmers:** Implement policies and programs to support small farmers, including subsidies and technical assistance, to mitigate the financial burden of adopting GM crops.
  - **Fair Licensing Practices:** Promote fair licensing and seed pricing practices to prevent the monopolization of seed markets by multinational agribusinesses.
- **Public Concern:**
  - **Transparent Communication:** Enhance public education and communication regarding the benefits and safety of GM crops to build trust and address concerns.
  - **Engagement with Stakeholders:** Engage with diverse stakeholders, including consumers, environmental groups, and scientists, to discuss GM crops openly and address their concerns.
- **Regulatory and Ethical Considerations:**
  - **Strengthened Regulations:** Develop and enforce comprehensive regulatory frameworks that ensure GM crops are tested for safety and efficacy before approval.
  - **Ethical Guidelines:** Establish clear ethical guidelines for genetic modification practices to address moral and philosophical concerns related to altering genetic material.
- **International Cooperation:**
  - **Global Standards:** Work towards harmonizing international standards and regulations for GM crops to facilitate global trade and ensure consistent safety measures.
  - **Collaborative Research:** Foster international collaborations in research and development to share knowledge and address global challenges related to GM crops.

Conclusion:

- Addressing challenges of GM crops requires robust research, stringent regulations, public engagement, and international cooperation. Balancing benefits with risks ensures sustainable advancements in agriculture and food security.

INTERNATIONAL YEAR OF QUANTUM SCIENCE AND TECHNOLOGY (IYQ)

The United Nations proclaimed 2025 as the International Year of Quantum Science and Technology (IYQ) to raise awareness about quantum science and technology).

About:

- Quantum mechanics is a subfield of physics that describes the behavior of particles- atoms, electrons, photons and almost everything in the molecular and submolecular realm.
- It explains how extremely small objects simultaneously have the characteristics of both particles (tiny pieces of matter) and waves (a disturbance or variation that transfers energy). This phenomenon is also known as the wave-particle duality.
- In **classical mechanics**, objects exist in a specific place at a specific time. In quantum mechanics, objects instead exist in a haze of probability; they have a certain chance of being at point A, another chance of being at point B and so on.
- Quantum Technology exploits the principles of s**uperposition, entanglement, and measurement.**

CONCEPTUAL UNDERSTANDING

- **Superposition:** In quantum mechanics, superposition refers to the ability of a quantum system to exist in multiple states at the same time. For example, a qubit (quantum bit) can be in a state of 0, 1, or any combination of both 0 and 1 simultaneously. This principle allows quantum computers to perform many calculations at once, potentially solving problems much faster than classical computers.
- **Entanglement:** Entanglement is a quantum phenomenon where two or more particles become interconnected in such a way that the state of one particle instantly influences the state of another, no matter how far apart they are.
  - This means that the measurement of one entangled particle's state will immediately determine the state of the other particle, even if they are separated by large distances.
  - Entanglement is a key resource in quantum communication and quantum computing, enabling tasks like quantum teleportation and superdense coding.
- **Measurement:** Measurement in quantum mechanics is the process of observing or measuring a quantum system's properties, such as position, momentum, or spin. When a quantum system is measured, it 'collapses' from a superposition of multiple possible states into a single definite state.

ESTIMATES RELATED TO QUANTUM TECHNOLOGY

According to an estimate computed by consulting firm **McKinsey,** four sectors — automotives, chemicals, financial services, and life sciences — are expected to gain about **$1.3 trillion in value by 2035** due to quantum S&T.

- Among investments by countries, **China leads with $10 billion in 2022,** followed by the European Union and the U.S.
- India's contribution is currently **$730 million (Rs 6,100 crore).**

Applications:

- **Quantum Communication:**
  - Quantum key distribution (QKD) uses qubits for encryption keys, enhancing security compared to conventional digital communication.
  - QKD makes decryption difficult by encoding keys with qubits, which are sensitive to disruption or observation, preventing unauthorized access.
- **Quantum Simulation:**
  - Simulating quantum systems with another quantum system facilitates easier control and study, bypassing the need to learn quantum mechanics separately.
  - Quantum simulations aid in understanding protein folding, potentially leading to breakthroughs in diseases like Alzheimer's and Parkinson's.
  - Crucial for developing high-temperature superconductors by accurately modeling complex quantum interactions.
- **Quantum Computation:**
  - Quantum computers leverage qubits, which operate in superposition, enabling simultaneous operations and exponentially faster problem-solving than classical computers.
  - Superposition allows quantum computers to perform millions of operations concurrently, revolutionizing computational speed and efficiency.
- **Quantum Sensing and Metrology:**
  - Quantum sensing technology analyzes atomic-level changes in motion, electric, and magnetic fields, offering extremely precise measurements.
  - Applications span healthcare, medical research, environmental monitoring, defense, navigation, energy, and disaster early detection.
- **Quantum Materials:**
  - Quantum materials contribute to the development of solar cells, energy-efficient devices like batteries, and diagnostic tools in healthcare.
  - Fluorescent quantum dots enable multicolor bioimaging and precise labeling of cellular proteins, advancing biomedical research and diagnostics.

Challenges:

- **Complexity and Non-Intuitive Nature:** Quantum mechanics operates at the subatomic level and often defies classical intuition. Concepts such as superposition, entanglement, and wave-particle duality can be difficult to grasp and predict, leading to a steep learning curve for students and researchers.
- **Measurement and Observation:** The act of measurement in quantum mechanics can disturb the system being observed, leading to the collapse of its quantum state.
- **Quantum Decoherence:** Quantum systems are susceptible to decoherence, where interactions with the environment cause the loss of quantum coherence and the emergence of classical behavior.
  - Decoherence limits the scalability and stability of quantum technologies, such as quantum computers and quantum communication systems.
- **Quantum Computing Hardware Challenges:** Building practical quantum computers requires overcoming numerous technical hurdles, including noise, error rates, qubit connectivity, and maintaining quantum coherence for extended periods. Developing scalable quantum hardware remains a significant challenge for researchers and engineers.
- **Quantum Error Correction:** Quantum systems are inherently fragile and prone to errors due to environmental noise and imperfections in hardware.
  - Implementing robust error correction codes for quantum information processing is essential for achieving fault-tolerant quantum computation but remains a complex and ongoing research area.
- **Ethical and Societal Implications:** The capabilities unlocked by quantum technologies, such as quantum computing and quantum sensing, raise ethical and societal concerns. These include issues related to privacy, cybersecurity, intellectual property rights, and equitable access to quantum-enabled technologies.
- **Interdisciplinary Collaboration:** Quantum mechanics intersects with various disciplines, including physics, mathematics, computer science, materials science, and engineering. Effective collaboration and communication across these fields are essential for addressing interdisciplinary challenges and advancing quantum research and applications.

Steps Taken:

- **National Quantum Mission:** Approved in 2023 by the government, the National Quantum Mission aims to foster scientific and industrial research in Quantum Technology (QT) to propel India into a leading position in Quantum Technologies and Applications (QTA).
  - **Objectives:**
    - **Development of Quantum Computers:** Targeting the creation of quantum computers with 50-1000 qubits within 8 years, utilizing superconducting and photonic technology platforms.
    - **Secure Quantum Communications:** Establishing satellite-based quantum communications between ground stations over a 2000 km range within India. Developing secure long-distance quantum communications with other nations.
    - Creating inter-city quantum key distribution networks spanning a 2000 km range and multi-node Quantum networks.
  - **Focus:**
    - **Magnetometers and Atomic Clocks:** Emphasis on developing high-sensitivity magnetometers and atomic systems for precision timing, communications, and navigation.
    - **Quantum Materials:** Focus on designing and synthesizing quantum materials such as superconductors, topological materials, and novel semiconductor structures.
  - **Thematic Hubs (T-Hubs):** Establishment of T-Hubs in top academic and national institutes, specializing in quantum computing, quantum communication, quantum sensing and metrology, and quantum materials and devices.
- **QSimToolkit:** An indigenously developed toolkit, QSimToolkit facilitates learning and understanding of practical aspects of Quantum Computing for researchers and students. Provides a platform for acquiring skills in Quantum Code and designing real quantum hardware.

Way Ahead:

- **Investment in Research and Development:** Continued funding and support for quantum research are essential for advancing our understanding of quantum phenomena and developing practical applications.
  - Governments, academia, and industry should collaborate to accelerate progress in quantum science and technology.
- **Education and Workforce Development:** Investing in quantum education and training programs will help cultivate a skilled workforce capable of tackling the challenges and opportunities in quantum mechanics.
  - This includes promoting quantum education at all levels, from K-12 to graduate studies, and providing resources for professional development in quantum-related fields.
- **Interdisciplinary Collaboration:** Quantum mechanics intersects with various disciplines, including physics, computer science, engineering, and materials science.
  - Encouraging interdisciplinary collaboration and knowledge exchange will foster innovation and accelerate progress in quantum research and technology development.
- **Technology Development and Commercialization:** Translating fundamental discoveries in quantum mechanics into practical applications requires robust technology development and commercialization efforts using Public Private Partnership (PPP).

SHARE OF WOMEN IN UNINCORPORATED SECTOR ENTERPRISES

According to the recently released Annual Survey of Unincorporated Sector Enterprises (ASUSE)2022-23, the share of women owners and workers in unincorporated enterprises was relatively high in the southern States.

Key Highlights:

- **Overview:** Annual Survey of Unincorporated Sector 2022-23 categorizes workers into manufacturing, trade, and other services, excluding agriculture and public sector entities.
- **Data Analysis:** Proportion of female workers to total workers has marginally increased from 25.52% in ASUSE 2021-22 to 25.63% in ASUSE 2022-23.
  - About 54% of the proprietary establishments were observed to be headed by female proprietors in the Manufacturing sector
- **Regional Distribution:** Southern states and some eastern states have a higher proportion of women owners and workers in unincorporated enterprises.
  - Share of women is lower in western, northern, and central states.
  - Telangana leads with 41%, followed closely by other states exceeding 30% like West Bengal and Odisha.

Nature of Unincorporated Sector:

- **Diverse Job Types:** The unincorporated sector encompasses a wide range of jobs. These include roles that require minimal capital and skills, such as street vending, as well as those demanding significant investment and expertise, like tailoring and car repair.
- **Business Operations:** Businesses in this sector can be run by individuals or self-employed entrepreneurs. These entrepreneurs might involve unpaid family members or hire paid workers to assist in their operations.
- **Work Locations:** Entrepreneurs and workers in the unincorporated sector operate from various locations, including fixed premises, homes, small shops, and workshops.
- **Women's Contribution:** Women make up a significant portion of the workforce in this sector, contributing to a variety of industries and activities, highlighting their essential role in the unincorporated economy.

Challenges Faced by Women:

- **Unpaid family worker:** Women's share among unpaid family workers is significantly higher than in other job types across all states.
- **Income:** Women engage in diverse occupations, from agriculture and handicrafts to informal services.
  - Their income levels often remain low due to lack of skill development and bargaining power.
- **Gender Pay Gap:** Women earn less than men for similar work, perpetuating economic inequality.
- **Lack of Social Security:** Many women lack access to health insurance, pension schemes, and other safety nets.
- **Informal Nature of Work:** The unorganized sector lacks formal contracts, leaving women vulnerable to exploitation.

MAJOR INITIATIVES

- In order to enhance the employability of female workers, the Government is providing training to them through a network of **Women Industrial Training Institutes, National Vocational Training Institutes and Regional Vocational Training** Institutes.
- The Government has also introduced **Skill India Mission** to ensure economic independence of women through skill development and vocational training.
- The **National Skill Development Policy** focuses on inclusive skill development, with the objective of increased women participation for better economic productivity.
- **Pradhan Mantri Kaushal Vikas Kendras l**ay emphasis on creating additional infrastructure both for training and apprenticeship for women.
- There are schemes like **Pradhan Mantri Mudra Yojana** and **Stand Up India, Prime Minister's Employment Generation Programme (PMEGP)**, for helping the women to set up their own enterprise.

Way Forward:

- **Economic Justice and Inclusive Growth:** Recognize women's contributions in the unincorporated sector and promote policies that reduce economic disparities, ensuring fair opportunities and compensation for inclusive economic growth.
- **Addressing Workplace Inequities:** Implement equal pay, ensure safe working conditions, mandate paid maternity leave, and improve educational access to address gender inequities in the workplace.
- **Investment in Skill Development:** Invest in training programs, support women entrepreneurs, and expand access to technology, enabling women to secure better-paying jobs and leadership roles.
- **Recognition and Inclusion of Women's Contributions:** Integrate women's perspectives into policy-making, extend social security benefits, and promote cultural shifts that value women's work, fostering an equitable society.
- **Building a Prosperous and Equitable Society:** Addressing women's unique needs in the unincorporated sector contributes to broader economic development, social cohesion, and the creation of an equitable, prosperous society.

46TH SESSION OF THE WORLD HERITAGE COMMITTEE

The Prime Minister inaugurated the 46th Session of the World Heritage Committee at Bharat Mandapam in New Delhi.

About:

- **Election to World Heritage Committee:**
  - In 2021, India was elected to the 21-member World Heritage Committee (WHC) for a four-year term, lasting from 2021 to 2025.
  - This election highlights India's active role and influence in the preservation and recognition of world heritage sites.
- **Inscribed Properties:** India boasts 42 properties inscribed on the World Heritage List. These include:
  - **34 Cultural Sites**: These sites are recognized for their historical, architectural, and cultural significance.
  - **7 Natural Sites**: These sites are noted for their outstanding natural beauty and ecological importance.
  - **1 Mixed Heritage Site**: This site holds both cultural and natural significance.
- **Recent Inscriptions:** Over the past decade, India has successfully added 12 sites to the World Heritage List. Recent additions include:
  - **Santiniketan (West Bengal):** Known for its association with Nobel laureate Rabindranath Tagore.
  - **Sacred Ensembles of the Hoysalas (Karnataka):** Renowned for their exquisite temple architecture.
- **Tentative List:**
  - India has an additional 57 sites on the Tentative List for World Heritage.
  - These sites are under consideration for future inclusion in the World Heritage List, reflecting India's rich and diverse heritage.

World Heritage Committee:

- The Committee is responsible for the implementation of the World Heritage Convention, defines the use of the World Heritage Fund and allocates financial assistance upon requests from States Parties.
- It meets once a year, and consists of representatives from 21 of the States Parties to the Convention elected by their General Assembly.
- **Functions:** It has the **final say** on whether a property is inscribed on the World Heritage List.
  - It examines reports on the state of conservation of inscribed properties and asks States Parties to take action when properties are not being properly managed.
  - It also decides on the inscription or deletion of properties on the List of World Heritage in Danger.

World Heritage Convention:

- The World Heritage Convention, formally the **Convention Concerning the Protection of the World Cultural and Natural Heritage** came into force in **1972.**
- It created the **World Heritage Sites,** with the primary goals of **nature conservation and the preservation** and security of cultural properties.
- **Signatory countries** pledge to conserve their World Heritage sites, report regularly on the state of their conservation and if needed, to restore the sites.
- **Significance:** The convention **guides the work of the World Heritage Committee.** The convention defines which sites can be considered for inscription on the World Heritage List, sets out the duties of each country's governments to identify potential sites and to protect and preserve them.

UNESCO TAG FOR SAINT HILARION MONASTERY

- **Location:** Nestled amidst the coastal dunes in Nuseirat Municipality, Palestine.
- **Historical Significance:** Dates back to the 4th century, reflecting centuries of devotion and cultural exchange. Founded by Saint Hilarion, a visionary ascetic seeking solitude in the wilderness.
- **Evolution:** Initially served as a refuge for solitary hermits. Evolved into a vibrant coenobitic community, where monks lived together and shared their spiritual journeys.
- **UNESCO Status:** Inscribed on both the **World Heritage List** and the **List of World Heritage in Danger.** The dual recognition highlights its significant historical value and the urgent need for protection amidst ongoing conflict in Gaza.

Significance and Influence:

- **First Monastic Community:** Saint Hilarion Monastery holds the distinction of being the first monastic community in the Holy Land. Its establishment laid the groundwork for the spread of monastic practices throughout the region.
- **Strategic Location:** Positioned at the **crossroads of major trade and communication routes** between **Asia and Africa**, the monastery became a hub of **religious, cultural, and economic interchange** during the **Byzantine period.**

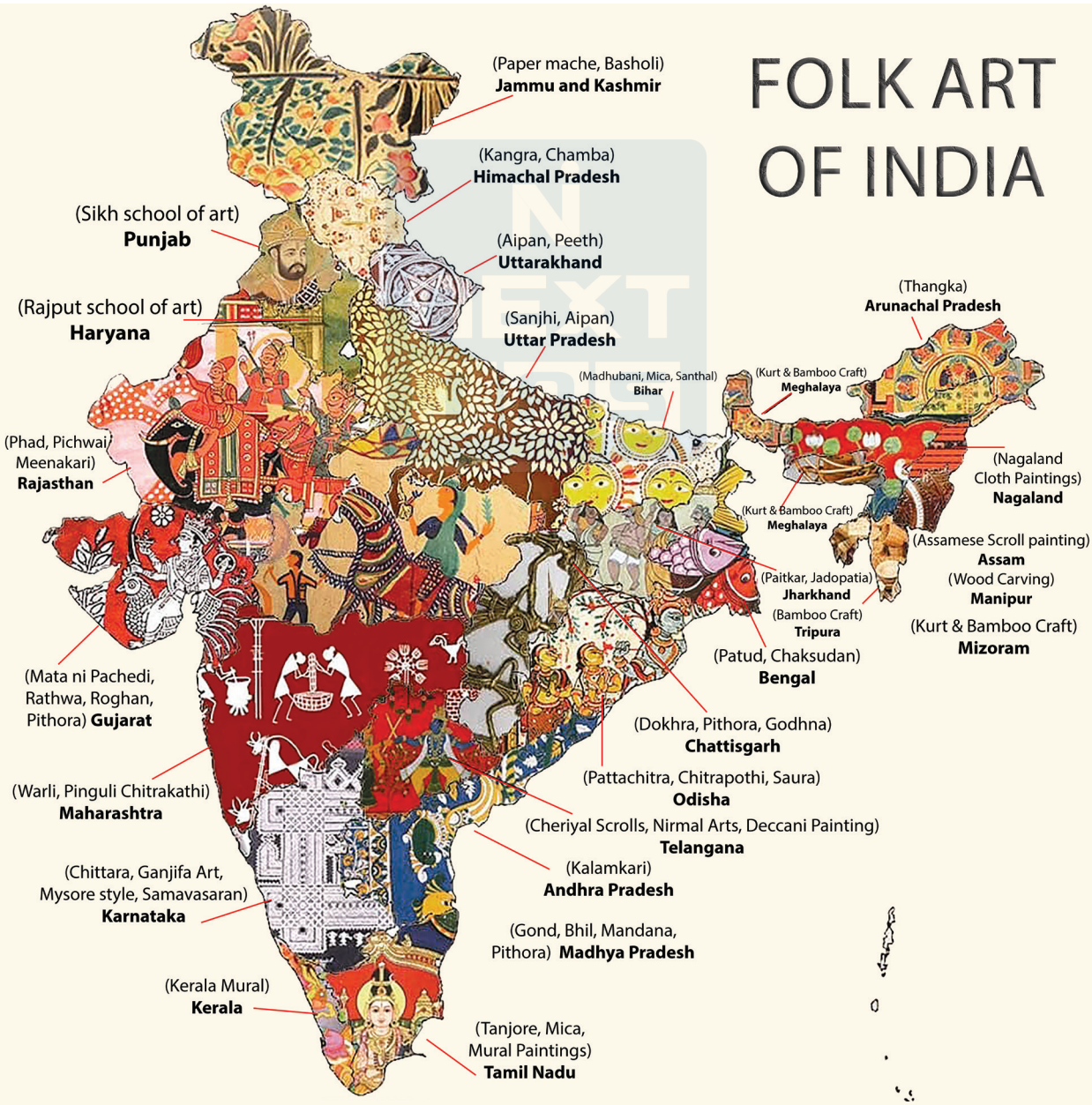
Heritage can be classified into different types:

- **Cultural Heritage:** This includes tangible heritage such as monuments, buildings, archaeological sites, artifacts, and artworks, as well as intangible heritage like traditions, rituals, languages, knowledge systems, and performing arts.

- **Natural Heritage:** Natural heritage comprises biodiversity, ecosystems, geological formations, and landscapes that are of outstanding universal value from a natural standpoint.
- **Mixed Heritage:** Some sites or properties may have both cultural and natural significance, making them mixed heritage sites.

Project PARI:

- The Ministry of Culture initiates Project PARI for the 46th World Heritage Committee Meeting.
- **Project PARI (Public Art of India)**, seeks to bring forth public art that draws inspiration from millennia of artistic heritage while incorporating modern themes and techniques.
- Artists from all over the country have come together to create the various **wall paintings, murals, sculptures and installations** being prepared under this project.
- The creative canvas inspired by the styles of;
  - **Phad paintings** (Rajasthan), **Thangka painting** (Sikkim/ Ladakh), **Gond art** (Madhya Pradesh), **Tanjore paintings** (Tamil Nadu).
  - **Kalamkari** (Andhra Pradesh), **Alpona art** (West Bengal), **Cheriyal painting** (Telangana), **Pichhwai Painting** (Rajasthan), **Lanjia Saura** (Odisha).
  - **Pattachitra** (West Bengal), **Bani Thani** Painting (Rajasthan), **Warli** (Maharashtra), **Pithora Art** (Gujarat), **Aipan** (Uttarakhand), **Kerala Murals** (Kerala), **Alpana art** (Tripura) and more.



1 POLITY & GOVERNANCE

EXPUNCTION POWERS IN PARLIAMENT

Recently, Leader of Opposition in Lok Sabha wrote to Lok Sabha Speaker regarding a portion of his speech expunged during Motion of Thanks on the President's address.

About:

- Expunction refers to the **removal or deletion** of specific words, phrases, or expressions from the official records of Parliamentary proceedings, as it plays a crucial role in **maintaining decorum** and ensuring that discussions remain respectful.
- The purpose of expunction is to eliminate content that is deemed **'defamatory, indecent, unparliamentary, or undignified'.**

Power to Order Expunction:

- The **Chairman of the Rajya Sabha** (Upper House **Rule 261**) and the **Speaker of the Lok Sabha** (Lower House **Rules 380 and 381)** have the authority to order the expunction of remarks.

How Does Expunction Work?

- Parliament maintains a verbatim record of everything spoken and transpiring during sessions.
- MPs enjoy certain privileges and freedom of speech under **Article 105** of the Constitution. However, these privileges are subject to other constitutional provisions and house rules.
- The **Presiding Officer (Chairman or Speaker)** can expunge words, phrases, or expressions that violate parliamentary etiquette.
- The **Lok Sabha Secretariat** maintains a comprehensive list of 'unparliamentary' words and expressions.

SAMPOORNATA ABHIYAN

Recently, NITI Aayog has launched the 'Sampoornata Abhiyan' with the aim of achieving saturation in key indicators across Aspirational Districts and Blocks.

About:

- It is a **three-month campaign**, running from July to September 2024, seeking to uplift the relatively backward and remote areas of the country.
- It focuses on **six critical Key Performance Indicators (KPIs)** in both Aspirational Districts and Aspirational Blocks.
- NITI Aayog collaborates with Central Ministries, State Governments, and Union Territories to ensure effective development. The focus lies on improved planning, capacity building, and sustainable service delivery.

Implementation Strategy:

To make this initiative successful, districts and blocks will need to:

- Develop a 3-month Action Plan to achieve saturation in the identified indicators.
- Regularly track progress on saturation.
- Conduct awareness and behaviour change campaigns.
- Undertake concurrent monitoring field visits.

KEY INDICATORS

Aspirational Blocks	Aspirational Districts
• Percentage of pregnant women registered for Antenatal Care (ANC) within the first trimester; • Percentage of persons screened for Diabetes and Hypertension; • Percentage of pregnant women receiving Supplementary Nutrition under the ICDS Programme regularly; • Percentage of Soil Health Cards generated; • Percentage of Self-Help Groups (SHGs) with a Revolving Fund; • Percentage of schools with functional electricity at the secondary level and providing textbooks promptly;	• Percentage of pregnant women registered for Antenatal Care (ANC) within the first trimester • Percentage of pregnant women taking Supplementary Nutrition under the ICDS Programme regularly • Percentage of children fully immunised (9-11 months) (BCG + DPT3 + OPV3 + Measles 1) • Number of Soil Health Cards distributed • Percentage of schools with functional electricity at the secondary level, and providing textbooks to children within 1 month of the start of the academic session.

NATIONAL SECURITY COUNCIL

The Union government has recently restructured the reporting relationships within the National Security Council Secretariat (NSCS). This is a significant development as the NSCS plays a crucial role in advising the government on matters of national security.

About:

- **Established:** 1998
- **Purpose:** The NSC is the apex body for considering political, economic, energy, and security issues of strategic concern. It formulates national security policies and advises the Prime Minister on their implementation.
- **Structure:** The NSC has a three-tiered structure:
  - **Strategic Policy Group:** This group is responsible for long-term strategic planning and policy formulation.
  - **National Security Advisory Board (NSAB):** The NSAB provides expert advice on national security matters.
  - **NSC Secretariat (NSCS):** The NSCS is responsible for coordinating the work of the NSC and its subsidiary bodies.
- **Leadership:** The National Security Advisor (NSA) presides over the NSC and is responsible for providing the Prime Minister with independent and objective assessments of national security threats and challenges.
- **Location:** The NSC operates within the executive office of the Prime Minister of India.
- **Agenda:** The NSC's agenda includes issues of external and internal security, military affairs, conventional and non-conventional defense, and other matters of strategic importance.

Significance of NSCS:

- **Strategic Policy Formulation:** The NSCS is instrumental in formulating and reviewing India's national security policies. It advises the Prime Minister and the National Security Council (NSC) on strategic issues, ensuring that policies align with national interests and respond to emerging security challenges.
- **Coordination of Security Agencies:** The NSCS facilitates coordination among various security and intelligence agencies, including the Ministry of Defence, Ministry of Home Affairs, and other relevant departments. This coordination helps streamline efforts and enhance the effectiveness of national security operations.
- **Crisis Management and Response:** The NSCS plays a critical role in crisis management and response. It is responsible for developing strategies to address security threats and emergencies, including terrorism, natural disasters, and other critical incidents, ensuring a prompt and coordinated response.
- **Intelligence Analysis and Integration:** The NSCS is involved in the analysis and integration of intelligence gathered from various sources. This comprehensive analysis helps in assessing potential threats and vulnerabilities, contributing to informed decision-making at the highest levels of government.
- **Policy Recommendations and Advisory:** The NSCS provides policy recommendations and advisory support to the government on security matters. It helps in evaluating the effectiveness of existing security measures and suggesting improvements or new strategies to address evolving security challenges.
- **Strategic Planning and Research:** The NSCS conducts research and strategic planning to anticipate future security challenges and opportunities. This proactive approach aids in preparing the country for potential threats and enhances long-term security planning.
- **Promoting National Security Culture:** The NSCS works to promote a culture of national security awareness and preparedness within government institutions and the public. This includes training programs, workshops, and information dissemination to ensure a well-informed and responsive security environment.

DEFAMATION CASE AGAINST WIKIPEDIA

News agency Asian News International (ANI) has filed a defamation suit against Wikipedia in Delhi High Court for allowing allegedly defamatory content on ANI's wiki page.

About:

- It is the act of communicating to a third party false statements about a person, place, or thing that results in damage to its reputation.
- It can be spoken (slander) or written (libel).
- **Article 19 of the Constitution** grants various freedoms to its citizens. However, Article 19(2) has imposed reasonable exemption to freedom of speech and expression granted under Article 19(1) (a). Contempt of court, **defamation** and incitement to an offence are some exceptions.
- In India, defamation can both be a **civil wrong and a criminal offence.**
- In civil law, defamation is punishable under the **Law of Torts** (area of the law that covers most civil suits) by imposing punishment in the form of damages to be awarded to the claimant. Under the Criminal law, Defamation is a **bailable, non-cognizable offence** and compoundable offence.

WEST BENGAL SUIT AGAINST CBI PROBES MAINTAINABLE

The Supreme Court upheld the maintainability of a suit filed by the State of West Bengal accusing the Union Government of constitutional overreach and violation of federalism by unilaterally employing the Central Bureau of Investigation (CBI) without the State's prior consent.

Background:

- In **2018** the West Bengal government withdrew its consent that allowed the CBI to conduct investigations of cases in the states.
- In its suit, the State contended that despite the revocation of its consent for the central agency under the **Delhi Special Police Establishment Act of 1946**, the CBI continued to register FIRs concerning offenses that took place within the State.
- The Centre said that a state government cannot claim a right to issue omnibus, sweeping, and overarching directions to withdraw consent for a CBI probe into any matter.
- It is to be noted that a suit is considered maintainable **if it meets specific legal requirements, such as proper jurisdiction and standing.**

CENTRAL BUREAU OF INVESTIGATION (CBI)

- CBI, functioning under the **Ministry of Personnel, Pension & Public Grievances,** Government of India, is the premier investigating police agency in India.
- **History:** The CBI came into being during World War II, when the colonial government felt the need to probe cases of corruption in the War and Supply Department. A law came in 1941. It became the DSPE Act in 1946.
  - It was established by a resolution of the **Ministry of Home Affairs,** Government of India, in **1963.**
  - **The Santhanam Committee** on Prevention of Corruption recommended the establishment of the CBI.
- **Functions:** CBI was established with a view to investigate serious crimes related to the defense of India, corruption in high places, serious fraud, cheating, and embezzlement and social crime, particularly hoarding, black marketing, and profiteering in essential commodities, having all-India and inter-state ramifications.
- **Jurisdiction:** CBI derives power to investigate from the **Delhi Special Police Establishment Act, 1946.**
  - **Section 2** of the Act vests DSPE with jurisdiction to investigate offenses in the Union Territories only.
  - The jurisdiction can be extended by the Central Government to other areas including Railway areas and States under **Section 5(1)** of the Act, provided the State Government accords consent under Section 6 of the Act.

Types of Consents:

- **There are two types of consent** for a probe by the CBI. These are: **general and specific.**
- **When a state gives a general consent** to the CBI for probing a case, the agency is not required to seek fresh permission every time it enters that state in connection with investigation or for every case.
- **Specific Consent:** When a general consent is withdrawn, CBI needs to seek case-wise consent for investigation from the concerned state government.

Way Ahead:

- The role, jurisdiction and legal powers of the CBI need to be clearly laid down. It will give it goal clarity, role clarity, autonomy in all spheres and an image makeover as an independent autonomous statutory body.
- **The Second Administrative Reforms Commission (2007)** also suggested that "a new law should be enacted to govern the working of the CBI".
- **The 19th and 24th reports of the parliamentary standing committees** (2007 and 2008) recommended that "the need of the hour is to strengthen the CBI in terms of legal mandate, infrastructure and resources".

ADMINISTRATIVE ROLE OF J&K L-G

Recently, the Union Ministry of Home Affairs (MHA) amended the Rules to widen the administrative role of Lieutenant Governor (L-G) of Jammu and Kashmir.

Key Changes:

- **Police and Public Order:** The L-G now has more say in matters related to police and public order, aiming to strengthen the L-G's role in maintaining law and order within the Union Territory.
  - Any proposal requiring prior concurrence of the Finance Department in these areas must be placed before the L-G first.
- **All India Service (AIS):** Transfers and postings of AIS officers now fall under the L-G's purview. This change grants the L-G greater authority in managing the bureaucracy.
- **Legal Appointments and Prosecution:** Proposals regarding the appointment of the **Advocate-General, Law Officers,** and decisions on prosecution sanctions or appeals will now be submitted to the L-G for approval.
  - The Department of Law, Justice, and Parliamentary Affairs will play a crucial role in this process.
- **Prisons and Forensic Science:** Matters connected with Prisons and the Directorate of Prosecution and Forensic Science Laboratory will also be submitted to the L-G.

Lieutenant Governor:

- A lieutenant governor serves as the **constitutional head** of five of India's eight union territories.
- The President of India appoints the lieutenant governor for a five-year term, and they serve at the President's pleasure.
- **Responsibilities:** The LG is the constitutional head of the UT, representing the President of India. Their role is largely ceremonial, similar to that of a Governor in a state.
  - The LG exercises **executive powers on the aid and advice of the Council of Ministers**, headed by the Chief Minister. However, they have discretionary powers in certain matters, such as law and order, land, and police, which can lead to conflicts with the elected government.

- The LG can summon, prorogue, and dissolve the Legislative Assembly. They can also reserve certain bills for the President's consideration.
- The LG is responsible for the **administration of the UT** and can appoint administrators for various departments.

CONSTITUTION ASSASSINATION DAY

The government has decided to observe the 25th of June every year as 'Samvidhaan Hatya Diwas'.

About:

- On 25 June in 1975, former Prime Minister Indira Gandhi imposed an Emergency in the country which lasted until March 21, 1977.
- There was large-scale suspension of fundamental rights for the citizenry, detention and arrest of Opposition leaders and critics, and press censorship.
  - The **38th Amendment Act of 1975** also made declaration of a national emergency immune to judicial review (this was later removed by the 44th Amendment Act of 1978).
- This day will commemorate the massive contributions of all those who endured the inhuman pains of the 1975 Emergency,

ADDITIONAL INFORMATION

- Under **Article 352 of the Constitution**, the President may, on the advice of the Cabinet headed by the Prime Minister, issue a proclamation of emergency if the security of India or any part of the country is threatened by "war or external aggression or armed rebellion".
- In 1975, instead of armed rebellion, the ground of "internal disturbance" was available to the government to proclaim an emergency. In its press note, the government said certain persons were inciting the police and armed forces to not discharge their duties.
- This was the only instance of proclamation of emergency due to **"internal disturbance"**. The two occasions in which an emergency was proclaimed earlier, on October 26, 1962, and December 3, 1971, were both on grounds of war.
- This ground of **"internal disturbance"** was removed by The Constitution (Forty-fourth Amendment) Act, 1978 by the Janata government that came to power after the Emergency.

MONEY BILL ROUTE FOR CONTENTIOUS AMENDMENTS

The Supreme Court of India agreed to list petitions challenging the Money Bill route taken by the Centre to pass contentious amendments in the Parliament.

Background:

- The Money Bill case was referred to the supreme court in **2019** in the case of **Roger Mathew vs. South Indian Bank Ltd.**
- The issue is whether such amendments could be passed as a Money Bill, circumventing the Rajya Sabha, in violation of **Article 110** of the Constitution.

Concerns:

- The case includes legal questions concerning amendments made from 2015 onwards in the **Prevention of Money Laundering Act (PMLA)** through Money Bills, giving the Enforcement Directorate blanket powers of arrest, raids, etc.
- The present case raises questions about the passage of the **Finance Act, 2017**, as a money bill. The act had altered the appointments to 19 key judicial tribunals, including the National Green Tribunal and Central Administrative Tribunal.
- In the **Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016,** the petitioners have argued that parts of the Act, passed through the two houses as a money bill, contained provisions unrelated to the subjects listed under **Article 110.**

Money Bill:

- **Article 110** of the Constitution deals with the definition of money bills.
- It states that **a bill is deemed to be a money bill if it contains 'only' provisions dealing** with all or any of the following matters:
  - The imposition, abolition, remission, alteration or regulation of any tax;
  - the regulation of the borrowing of money or the giving of any guarantee by the Government of India, or the amendment of the law with respect to any financial obligations undertaken or to be undertaken by the Government of India;
  - The custody of the **Consolidated Fund** or the **Contingency Fund of India,** the payment of moneys into or the withdrawal of moneys from any such Fund;
  - the appropriation of moneys out of the **Consolidated Fund of India**;
  - The declaring of any expenditure to be expenditure charged on the Consolidated Fund of India or the increasing of the amount of any such expenditure;
  - The receipt of money on account of the Consolidated Fund of India or the **public account of India** or the custody or issue of such money or the audit of the accounts of the Union or of a State; or
  - Any matter incidental to any of the matters specified above.

Passing of Money Bills:

- A Money Bill can be introduced only in the **Lok Sabha,** only by a minister, and only on the recommendation of the President.

- If any question arises whether a bill is a **Money bill** or not, the decision of the Speaker of Lok Sabha is final.
- After a Money bill is passed by the Lok Sabha, it is transmitted to the **Rajya Sabha.**
- **The Rajya Sabha has very restricted powers** w.r.t. Money Bills:
  - Rajya Sabha cannot reject or amend a Money bill.
  - Rajya Sabha can only make recommendations.
  - Rajya Sabha **must return the bill within 14 days**, with or without recommendations.
- **The Lok Sabha can either accept or reject** all or any of the recommendations of Rajya Sabha. If the Rajya Sabha does not return the bill within **14 days,** the bill is deemed to have been passed by both the Houses in the form originally passed by Lok Sabha.
- Once a Money Bill is passed by both the Houses, it is presented to the President. He/she may either give the assent or withhold assent, but **cannot return the bill for reconsideration** by the Houses of Parliament.

CENTRAL INFORMATION COMMISSION

The Supreme Court has said that the Central Information Commission has powers to constitute benches and frame regulations, for its effective functioning.

About:

- The Chief Information Commissioner's powers to frame regulations pertaining to the constitution of benches of the commission are upheld as such powers are within the ambit of **Section 12(4) of the RTI Act.**
- The Central Information Commission (CIC) is a **statutory body** in India, established under the provisions of the **Right to Information Act (2005).**
- The Central Information Commission consists of a **Chief Information Commissioner** and **not more than ten Information Commissioners.**
- The members are **appointed by the President** on the recommendation of a Committee consisting of:
  - The Prime Minister as the Chairperson,
  - The Leader of Opposition in the Lok Sabha, and
  - A Union Cabinet Minister nominated by the Prime Minister.
- **Term of office:** The Chief Information Commissioner, or Information Commissioners, as the case may be, shall hold office for a period of **three years** from the date on which he enters upon his office.

Powers and Functions:

- While inquiring, the Commission has the **powers of a civil court** in respect of the following matters:
  - Summoning and enforcing attendance of persons and compelling them to give oral or written evidence on oath and to produce documents or things;
  - Requiring the discovery and inspection of documents;
  - Receiving evidence on affidavit;
  - Requisitioning any public record from any court or office;
  - Issuing summons for examination of witnesses or documents; and
  - Any other matter which may be prescribed.
- During the inquiry of a complaint, the Commission may **examine any record which is under the control of the public authority** and no such record may be withheld from it on any grounds. The decisions of the Commission are **final and binding.**

PRADHAN MANTRI SCHOOLS FOR RISING INDIA (PM-SHRI) SCHEME

The Union government has stopped funds of Punjab, West Bengal, and Delhi under Samagra Shiksha Abhiyan (SSA), as the three states have refused participation in the PM-SHRI scheme.

PM SHRI Scheme:

- **Aim:** The scheme aims to **turn existing government schools into model schools.**
  - The scheme is for **existing elementary, secondary, and senior secondary schools** run by the central government and state and local governments around the country.
- **Funding:** It is a **Centrally sponsored scheme** with a total project cost of **27,360 crore** for the period of **five years** from **2022-23 to 2026-27** for transforming nearly **14,500 schools** across the country.
- It will showcase all components of the **National Education Policy 2020,** act as exemplary schools and also offer mentorship to other schools in their vicinity.
- A '**School Quality Assessment Framework'** is being developed to measure the progress and performance of these schools.

Key Features of PM SHRI Scheme:

- **Development of 'Green schools':** These will be equipped with solar panels, LED lights, nutrition gardens, and waste management, water conservation and harvesting systems.
- **Modern facilities:** Schools will include ICT (information and communication technologies) facilities, smart classrooms, library, digital library, science labs and vocational labs etc. Schools will also get science and math kits and annual school grants for libraries or sports.
- **Mother tongue and local languages** to be encouraged.

Samagra Siksha Abhiyan (SSA):

- It is an overarching scheme for the school education sector extending from **pre-school to class XII** and aims to ensure inclusive and equitable quality education at all levels of school education.

- The Scheme subsumes the three erstwhile Centrally Sponsored Schemes of **Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA)** and **Teacher Education (TE).**
- The scheme treats school education as a continuum and is in accordance with **Sustainable Development Goal for Education (SDG-4).**
- **The major objectives of the Scheme are:**
  - Support States and UTs in implementing the recommendations of the **National Education Policy 2020 (NEP 2020)**;
  - Support States in implementation of Right of Children to Free and Compulsory Education **(RTE) Act, 2009**;
  - Emphasis on **Foundational Literacy and Numeracy;**
  - Strengthening and up-gradation of State Councils for Educational Research and Training (SCERTs)/State Institutes of Education and District Institutes for Education and Training (DIET) as nodal agency for teacher training;
  - Promoting vocational education.
- Under the Scheme, **financial assistance is provided to all the States and UTs** for undertaking above activities including training for universalization and delivery of quality school education.

CENTRE RECONSTITUTES NITI AAYOG

The government has reconstituted the NITI (National Institution for Transforming India) Aayog, increasing the number of special invitees from five to 11.

About:

- Prime Minister Narendra Modi remains the **Chairperson** and economist Suman K Bery will **continue to be the Vice Chairperson** of NITI Aayog.
- While the top positions remain unchanged, several new ministers in the newly formed government have been appointed as either **ex-officio members or special invitees to the Aayog.**

NITI Aayog:

- The institution was formed in the year **2015** through a resolution of the Union cabinet.
  - The institution replaced the **planning commission** which was instituted in **1950.**
- **The Governing Council** comprises the Prime Minister; Chief Ministers of all the States and Union Territories with legislature; Lt Governors of other UTs; Ex-Officio Members; Vice Chairman, NITI Aayog; Full-Time Members, NITI Aayog; and Special Invitees.
- **Functions:** It is a **policy think tank** of the Indian government which provides inputs regarding the different programmes and policies of the government.
  - It gives **relevant advice** to the centre and state governments as well as to the Union territories.
  - It plays an important role in designing the strategies for the long term policies and programmes put forth by the government of India.

Significance:

- **Fostering Cooperative Federalism:** NITI Aayog encourages cooperation between the central and state governments by providing a platform for dialogue and collaboration. It facilitates discussions on policy issues and works to harmonize the interests of different levels of government, ensuring that both state and central priorities are addressed.
- **Facilitating Policy Coordination:** The Aayog acts as a bridge between the Union and state governments to align policies and implementation strategies. By coordinating policy initiatives and development programs, NITI Aayog helps to ensure that efforts are complementary and effectively address regional and national needs.
- **Promoting Best Practices:** NITI Aayog identifies and promotes best practices and successful models from various states, encouraging other states to adopt these practices. This approach fosters a spirit of healthy competition among states to improve governance and service delivery, enhancing overall development outcomes.
- **Encouraging Competitive Federalism:** The Aayog uses performance-based metrics and competitive frameworks, such as the Delta Ranking and the State Business Reform Action Plan, to evaluate state performance. This competitive approach incentivizes states to improve their governance and administrative capabilities to achieve better rankings and attract investments.
- **Supporting State-Specific Strategies:** NITI Aayog works with states to develop customized strategies for economic and social development based on local needs and potential. By tailoring policies to specific state contexts, the Aayog helps states leverage their unique strengths and address their specific challenges effectively.
- **Promoting Regional Integration:** The Aayog facilitates regional cooperation and integration by encouraging states to collaborate on common issues and regional development projects. This includes joint initiatives on infrastructure development, resource management, and cross-border trade, enhancing regional cohesion and development.
- **Engaging in Capacity Building:** NITI Aayog supports capacity building and skill development for state governments to improve their administrative and governance functions. Through training programs, workshops, and knowledge sharing, the Aayog helps enhance state capabilities to implement policies effectively and efficiently.

KEY INDICES LAUNCHED BY NITI AAYOG INCLUDE

- **School Education Quality Index**: Evaluates the performance and quality of school education across states and UTs.
- **State Health Index**: Assesses the performance of states and UTs in the health sector.
- **Composite Water Management Index**: Measures water management practices and performance in different states.
- **Sustainable Development Goals Index (SDG):** Tracks progress towards achieving the SDGs.
- **India Innovation Index**: Assesses innovation performance based on various parameters.
- **Export Competitiveness Index:** Evaluates the competitiveness of states in exports.

MUKHYAMANTRI YUVA KARYA PRASHIKSHAN YOJANA

The Maharashtra government will spend Rs 5,500 crore on the Mukhyamantri Yuva Karya Prashikshan Yojana internship scheme for unemployed youth.

About:

- This scheme was announced in Budget 2024-25 in Maharashtra and aims to **enhance the employability and skill set of the youth** and prepare them for a competitive job market.
- It includes a **six-month internship duration and a stipend structure** designed to support interns based on their educational qualifications. Interns will receive monthly stipends through Direct Benefit Transfer (DBT).

Key Features of the Scheme:

- For the 12th pass, a stipend of **₹6,000** is allotted, and for ITI/ Diploma - **₹8,000** and degree/post-graduation - **₹10,000** will be offered.
- Both government establishments and private sector industries are eligible to participate, provided they meet specific criteria including registration with **Employees Provident Fund (EPF), Employees' State Insurance Corporation (ESIC), GST, and Udyog Aadhar,** and have been operational for a minimum of **three years.**

Significance:

- By providing higher stipends for advanced qualifications, industries are incentivized to attract and retain skilled professionals, enhancing workforce quality and reducing skill gaps.
- The minimum operational duration of three years ensures that only established businesses with proven stability and experience can participate, supporting a reliable and experienced workforce.

PRESIDENT OF INDIA AND STATE BILLS

Recently, the President of India has declined to give her assent to the Punjab Universities Laws (Amendment) Bill, 2023 that aimed to replace the State Governor with the Chief Minister as the chancellor of state-run universities.

About:

- **A Bill** is a statute in draft and **cannot become law unless** it has received the approval of **both the Houses of Parliament** and the assent of the **President of India**.
- In order to become an Act, every Bill passed by the State Legislature must receive his assent or, having been **reserved by him for President's consideration**, receive the assent of the President.
- **The Constitution of India** makes the **Governor** a component part of the **State Legislature (Article 168).**
  - He cannot be a member of either House of that Legislature.
- If the **Governor or the President**, as the case may be, **withholds his assent**, the **Bill fails to become law or Act.**
- **State Bills reserved for President's consideration** under the Constitution, may be classified as follows:
  - Bills which must be reserved for President's consideration;
  - Bills which may be reserved for President's consideration and assent for specific purposes;
  - Bills which may not specifically fall under any of the above categories, yet may be reserved by the Governor for President's consideration under Article 200.

ARTICLE 200 OF INDIAN CONSTITUTION

- It provides that when a **Bill passed by the State Legislature**, is presented to the Governor, the Governor shall declare:
  - that he **assents** to the Bill; or
  - that he **withholds assent** therefrom; or
  - that he **reserves** the Bill for the President's consideration; or
  - The Governor may, as soon as possible, **return the Bill (other than a Money Bill)** with a message for reconsideration by the State Legislature.
    - But, if the Bill is again passed by the Legislature with or without amendment, the Governor shall not withhold assent therefrom **(First Proviso)**; or
  - If in the opinion of the Governor, the Bill, if it became law, would so **derogate from the powers of the High Court** as to endanger its constitutional position, he shall not assent to but **shall reserve it for the consideration of the President (Second Proviso).**
- If the Governor reserves a Bill for President's consideration, the enactment of the Bill then depends on the assent or refusal of assent by the President.

2 INTERNATIONAL RELATIONS

COLOMBO PROCESS

India chaired its first meeting as Chair of the Colombo Process at the Permanent Representative Level Meeting in Geneva.

About:

- **Regional Consultative Process**
  - **Membership:** Comprises 12 Member States from Asia, primarily countries of origin for migrant workers.
  - **Platform:** Facilitates consultations on the management of overseas employment and contractual labor.
- **Operational Framework:**
  - **Decision-Making:** Non-binding, with decisions made by consensus.
  - **Coordination:** Managed through Permanent Missions of Member States at the UN in Geneva.
- **India's Involvement:**
  - **Membership History:** India has been a member since the inception of the Colombo Process in 2003.
  - **Recent Development:** In May 2024, India assumed the chair of the Colombo Process for the first time.

India's Priorities for Colombo Process (2024-26):

- **Financial Sustainability:** Evaluate and enhance the financial sustainability of the Colombo Process.
- **Membership Expansion:** Consider including new member states and observers to expand the scope and impact of the Process.
- **Technical Collaborations:** Improve and reconfigure technical-level collaborations among member states.
- **Regional Review of GCM:** Conduct a regional review of the Global Compact for Safe, Orderly, and Regular Migration (GCM) to align with regional priorities.
- **Dialogue with ADD:** Foster dialogues with the Abu Dhabi Dialogue (ADD) and other relevant regional processes to enhance collaborative efforts.
- **Conclusion:** The Colombo Process plays a crucial role in shaping and managing labor migration policies in Asia, fostering regional cooperation, and addressing the challenges faced by migrant workers and their countries of origin.
  - Its ongoing evolution and adaptation to emerging issues will be essential for sustaining its effectiveness and relevance in the future.

CHINA'S AMBITIONS FOR PAN-ASIAN RAIL NETWORK

China is willing to work with Malaysia to study connecting the East Coast Rail Link with railway links in Laos and Thailand.

About:

- The East Coast Rail Link (ECRL) is a 665-km railway project in Malaysia and it will connect **Kota Bharu on the Kelantan river**, close to Malaysia's northeastern coast with **Port Klan**g on the strategically important Strait of Malacca on the country's west coast.
- It is seen as a major economic cooperation project between **China and Malaysia**.
  - It is part of **China's Belt and Road Initiative.**
- It will link cities and towns as well as upgrade public transportation along its rail network.
- It was started in 2017 but faced funding issues and political obstacles, delaying progress until a renegotiated deal in 2020.
  - It is now expected to be completed by 2027.

China's Ambitions for Pan-Asian Rail Network:

- China plans a **comprehensive rail network across** Southeast Asia, part of its broader **Belt and Road Initiative (BRI).**
  - Routes include western, central, and eastern lines linking China with Myanmar, Laos, Thailand, Vietnam, Cambodia, and Malaysia.
- The aim is to enhance regional connectivity , bolster economic ties although challenges such as varying rail **track widths and cost concerns persist.**
- **Status:** Only the Laos-China section is operational as of 2021, connecting Kunming with Laos.
  - Projects in Thailand face delays and scrutiny over costs and terms of Chinese involvement, despite efforts to accelerate progress.

Implications:

- **Regional Influence:**
  - **Economic and Cultural Ties:** China's investments enhance its direct influence in Southeast Asia through geographical proximity and established economic and cultural connections.
  - **Strategic Projects:** The Eastern Coastal Rail Link (ECRL) and other projects emphasize China's regional ambitions and its strategic interest in controlling key infrastructure.

- **Belt and Road Initiative (BRI):**
  - **Strategic Extension:** The BRI represents China's broader strategy to extend its influence globally through infrastructure investments in Asia, Africa, and beyond.
  - **Infrastructure Diplomacy:** These projects serve as a means for China to enhance its global standing and foster bilateral relationships.

Concerns:

- **Financial Sustainability:** There are concerns about the long-term financial sustainability of these projects, including the ability of participating countries to manage and repay associated debts.
- **Technological Compatibility:** Differences in rail track widths and technology standards among countries pose challenges for seamless connectivity and integration.
- **Geopolitical Tensions:** The expansion of China's rail network could exacerbate geopolitical tensions with other regional powers and impact regional dynamics.
- **Debt-Trap Diplomacy:** Several rail projects have been criticized as potential instruments of "debt-trap diplomacy," where China is accused of leveraging substantial debt burdens to gain political or economic leverage over developing nations.

How does it affect India's interest?

- **Strategic and Geopolitical Impact**
  - **China's Growing Influence:** The expansion of China's rail network through Southeast Asia could increase its strategic influence in the region. This expansion might affect India's strategic positioning, particularly if it enhances China's access to crucial maritime routes and land corridors.
  - **Geopolitical Rivalry:** Enhanced connectivity between China and Southeast Asian countries could shift regional power dynamics, impacting India's geopolitical strategy and security considerations, particularly in the context of India's own regional initiatives.
- **Trade and Economic Competition:**
  - **Economic Corridor:** The rail network could bolster trade and economic ties between China and Southeast Asian nations, potentially diverting trade routes and investments that could otherwise benefit India.
  - **Infrastructure Investment:** Increased Chinese investment in regional infrastructure might lead to competition for trade and investment opportunities in the Southeast Asian market.
  - **Economic Connectivity:** Improved regional connectivity could benefit Southeast Asia economically, but it might also challenge India's efforts to strengthen its own economic ties with these countries. This might necessitate strategic adjustments in India's trade and investment policies.
- **Infrastructure and Connectivity:**
  - **Counter-Initiatives:** India may need to develop or enhance its own infrastructure projects and connectivity initiatives, such as the India-Myanmar-Thailand Trilateral Highway or participation in regional economic partnerships, to maintain its competitive edge.
  - **Collaborative Opportunities:** India could explore collaborations with Southeast Asian countries and other regional partners to ensure that it remains a key player in regional infrastructure development and connectivity.
- **Diplomatic and Strategic Partnerships:**
  - **Regional Partnerships:** To counterbalance China's growing influence, India might strengthen its alliances with Southeast Asian countries and other global powers. This includes deepening its engagement with regional organizations like ASEAN and participating in multilateral forums.
  - **Strategic Dialogue:** India may increase diplomatic efforts and engage in strategic dialogues with countries involved in China's rail network to align interests and address potential concerns arising from China's infrastructure projects.
- **Security Concerns:** The development of strategic infrastructure by China in neighboring regions could have implications for India's security, especially if it involves sensitive areas close to India's borders.

Way Forward:

- **Leveraging Soft Power:**
  - **Cultural and Religious Diplomacy:** Utilize India's rich cultural heritage and religious influence to build global ties and enhance international presence. Promote cultural exchanges, academic collaborations, and engage with the Indian diaspora to strengthen relationships and attract support.
- **Balanced Engagement with China:**
  - **Diplomatic Relations:** Maintain a working relationship with China through dialogue while upholding firm stances on critical issues such as the Belt and Road Initiative (BRI) and border disputes. Effective communication and diplomatic engagement are essential to managing tensions.
- **Strengthening Multilateral and Bilateral Partnerships:**
  - **Quad Cooperation:** Continue to promote and deepen collaboration within the Quad (U.S., Japan, Australia, and India) to balance Chinese influence and address regional security challenges.
  - **Relations with Russia:** Enhance cooperation with Russia, particularly in Eurasia projects and defense, and implement the Act Far East policy to strengthen economic and strategic ties with Russia's Far East region.

INDIA-AUSTRIA: 75 YEARS OF DIPLOMATIC RELATIONS

Recently, the Prime Minister paid an official visit to Austria.

About:

- This was the Prime Minister's first visit to Austria and that of an **Indian Prime Minister after 41 years.**
- This year marks the **75th year of diplomatic relations** between the two countries.
- India and Austria have agreed to a future-oriented **"bilateral sustainable economic and technology partnership".**
- The Prime Minister's visit to Vienna, accompanying Foreign Minister and National Security Advisor, signals a r**obust intent to deepen and broaden bilateral ties.**

Overview of India-Austria Relations:

- **Historical Context:** Diplomatic relations between India and Austria were established in 1949.
  - In 1953, India supported Austria in its negotiations with the Soviet Union, contributing to Austria's independence in 1955.
  - The two countries celebrated 70 years of bilateral relations in 2019, with the 75th anniversary observed from November 2023 to November 2024.
- **High-Level Political Exchanges:**
  - Prime Minister Jawaharlal Nehru visited Austria in 1955, marking the first Prime Ministerial visit.
  - Prime Minister Indira Gandhi visited in 1971, with subsequent visits from Austrian Chancellor Bruno Kreisky (1980), Fred Sinowatz (1984), and several other leaders.
  - President K.R. Narayanan (1999), President Heinz Fischer (2005), and other high-ranking officials have visited both countries.
  - **Recent Engagements:**
    - Prime Minister Narendra Modi and Austrian Federal President Dr. Alexander Van der Bellen discussed COVID-19 responses and bilateral relations in May 2020.
    - A pull-aside meeting between Prime Minister Modi and Austrian Chancellor Alexander Schallenberg occurred at COP-26 in October 2021.
- **Parliamentary Exchanges:** Speaker of the Lok Sabha Om Birla led a delegation to Vienna in September 2021 for the Fifth World Conference of the Speakers of Parliament. An Austrian parliamentary delegation, led by President Wolfgang Sobotka, visited India in March 2022 to discuss regional and global issues.
- **Collaborative Areas:** Both countries have focused on expanding cooperation in areas like power, environment, health infrastructure, biotechnology, and transportation. They have also worked on enhancing people-to-people ties, cultural exchanges, and mutual recognition of vaccination certificates.
- **Economic Relations:** India is now considered one of Austria's most important trading partners outside the EU, with a trade volume of EUR 2.7 billion.
  - Austrian direct investment in India amounted to EUR 733 million at the end of 2023, while Indian investment in Austria recently reached EUR 1.6 billion.
  - The new EU Commission wants to negotiate a free trade agreement with India during this term.
  - Such an agreement would not only facilitate access to the EU common market but would also expand regulated labour migration to Austria.
- **Space Collaboration:**
  - Austria's first two satellites, TUGSAT-1/BRITE and UniBRITE, were launched on 25 February 2013 by India's PSLV-C20 from the Satish Dhawan Space Centre, Sriharikota.
  - The satellites were developed in collaboration with the Institute of Communication Networks and Satellite Communications (IKS) at the Technical University of Graz (TUG), the Institute for Astronomy of the University of Vienna, and the Space Flight Lab (SFL) at the University of Toronto Institute Of Aerospace Studies (UTIAS).
- **Cultural Relations:**
  - Indo-Austrian cultural relations date back to the 16th century, highlighted by Balthasar Springer's journey from Tyrol to India in 1505.
  - The Austrian tradition of Indology began between 1825-1920, with significant developments including the teaching of Sanskrit at Vienna University starting in 1845.

AUSTRIA

- Austria is a **largely mountainous landlocked country** of south-central Europe.
- Together with Switzerland, it forms what has been characterized as the **neutral core of Europe.**
- It is bordered to the north by the **Czech Republic,** to the northeast by **Slovakia,** to the east by **Hungary,** to the south by **Slovenia,** to the southwest by **Italy**, to the west by **Switzerland and Liechtenstein,** and to the northwest by **Germany.**

- A high point was reached in 1880 with the establishment of an independent chair for Indology. After a brief interruption from 1938-1955, the Chair evolved into the Institute for South Asian, Tibetan, and Buddhist Studies at the University of Vienna.
- **Indian community:** There are an estimated over 31,000 Indians (majority from Kerala and Punjab) living in Austria. The Indian diaspora mainly consists of professionals working primarily in the Health Care sector and in the multilateral UN bodies, businessmen and self-employed self-employed individuals.

Conclusion:

- Prime Minister Modi's visit to Austria offers a **significant opportunity to strengthen bilateral relations.** The **India-Middle East-Europe corridor** will open additional trade routes, including to Austria, thus **strengthening economic and trade ties.**
- These developments offer a **wide range of opportunities for cooperation** in the areas of technology, sustainable development and trade, from which both countries can benefit in the long term.

INDIA SEIZES PAK-BOUND CONSIGNMENT OF BANNED CHEMICALS

India has seized Pakistan-bound consignment, consisting of internationally banned chemicals used for tear gas and riot control agents, from China at a port in Tamil Nadu.

About:

- A Chinese firm had shipped a consignment of "**Ortho-Chloro Benzylidene Malononitrile"** to Pakistan.
- The chemical consignment was seized under the **provisions of the Customs Act, 1962,** and the **Weapons of Mass Destruction and Delivery Systems (Prohibition of Unlawful Activities) Act, 2005.**
- Ortho-Chloro Benzylidene Malononitrile (CS) is a listed substance under the **Wassenaar Arrangement.**
  - **India is a signatory to the Wassenaar Arrangement,** China and Pakistan are not.

Multilateral Export Control Regimes:

- **Wassenaar Arrangement:** Established in **1996**, this regime focuses on conventional weapons and dual-use goods and technologies (items with both civilian and military applications).
  - It establishes lists of items for which member countries are to apply export controls.
- **Nuclear Suppliers Group:** Formed in **1974,** this regime seeks to prevent nuclear proliferation by controlling the export of materials, equipment, and technology that can be used to manufacture nuclear weapons.
- **Australia Group:** It was established in **1985** prompted by Iraq's use of chemical weapons during the Iran-Iraq War (1980-1988).
  - Australia, concerned with Iraq's development of chemical weapons, recommended harmonization of international export controls on chemical weapons precursor chemicals.
- **Missile Technology Control Regime:** Founded in **1987**, this regime aims to limit the proliferation of missiles and unmanned aerial vehicles capable of delivering weapons of mass destruction. India joined the **MTCR in 2016.**

EUROPEAN COMMISSION

The Prime Minister of India congratulated Ursula von der Leyen on being re-elected as the President of the European Commission.

About:

- The European Commission **was established in 1958** as the **executive body** of the European Union.
- **Members:** A team or 'College' of Commissioners, 1 from each EU country.
- **Its main roles include:**
  - proposing new laws and policies
  - monitoring their implementation
  - managing the EU budget
- The Commission also ensures that EU policies and laws are correctly applied across Member States, negotiates international agreements on behalf of the EU, and allocates funding.

European Union (EU):

- The EU is a political and economic alliance of 27 countries.
- **Background:** The EU traces its roots to the European Coal and Steel Community, which was founded in **1950** and had just **six members: Belgium, France, Germany, Italy, Luxembourg, and the Netherlands.**
  - It became the **European Economic Community in 1957** under the Treaty of Rome and subsequently was renamed the European Community (EC).
  - **European Union (EU)**, Organization of European countries, formed in **1993** to oversee their economic and political integration.
  - It was created by the **Maastricht Treaty** and ratified by all members of the European Community (EC), out of which the EU developed.
- It promotes democratic values in its member nations and is one of the world's most powerful trade blocs.
- **Nineteen of the countries share the euro** as their official currency.

'CULTURAL PROPERTY AGREEMENT' BETWEEN INDIA AND USA

India and the United States of America signed the first ever 'Cultural Property Agreement' to prevent and curb the illicit trafficking of antiquities from India to the USA.

About:

- **Initiation and Formalization:** The CPA was initiated in 2022 and formalized through diplomatic notes and discussions, with key support from the NGO 'Antiquity Coalition.'
- **Alignment with UNESCO Convention:** The agreement aligns with the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export, and Transfer of Ownership of Cultural Property, to which both India and the USA are parties.
- **Scope of the Agreement:** The CPA restricts the importation into the United States of certain archaeological materials dating from 1.7 million years ago to 1770 CE. It also covers specific ethnological materials, including civic, religious, and royal architectural materials, religious and ceremonial items, and manuscripts from the 2nd century BCE to 1947 CE.
- **Return of Forfeited Objects:** Under the CPA, the USA commits to returning any objects listed in the Designate List that are forfeited, thereby aiding in the recovery of cultural property illegally exported from India.

Purpose and Need:

- **Protecting India's Cultural Heritage:** The CPA is essential for safeguarding India's rich cultural heritage and historical artifacts.
  - By preventing illegal trafficking, it ensures that cultural treasures are preserved for future generations and remain part of India's national heritage.
- **Combating Illicit Trafficking:** The CPA addresses the longstanding issue of illicit trafficking in cultural property, which has historically impacted numerous cultures and countries.
  - This agreement aims to disrupt illegal networks and prevent the smuggling of valuable antiquities.
- **Promoting Legal Trade and Ownership:** The agreement supports legal and ethical trade practices by setting clear guidelines for the import and export of cultural materials. It helps to ensure that cultural property is acquired and transferred through lawful means.
- **Enhancing International Cooperation:** By aligning with the 1970 UNESCO Convention, the CPA strengthens international collaboration in the fight against cultural property theft. It fosters cooperation between India and the USA, setting a precedent for similar agreements with other nations.
- **Restoring Returned Artifacts:** The agreement ensures that any forfeited objects listed in the Designate List will be returned to India, aiding in the recovery of stolen or illegally exported cultural items. This restitution is vital for restoring India's cultural assets.
- **Educational and Cultural Awareness:** The CPA raises awareness about the importance of protecting cultural property and educating the public on the value of preserving heritage. It promotes a broader understanding of cultural preservation issues.

ADDITIONAL INFORMATION

India has repatriated 358 antiquities since 1976, out of these 345 have been retrieved since 2014.

ASIAN DISASTER PREPAREDNESS CENTRE

Recently, In a significant development, India has taken over as the Chair of the Asian Disaster Preparedness Centre (ADPC) for the period 2024-25, marking India's commitment to disaster risk reduction and climate resilience in the Asia-Pacific region.

About:

- It is an **autonomous international organisation** dedicated to cooperation in **Disaster Risk Reduction (DRR)** and the enhancement of climate resilience across Asia and the Pacific.
- ADPC's founding members include India, Bangladesh, Cambodia, China, Nepal, Pakistan, the Philippines, Sri Lanka, and Thailand.
  - These countries collaborate to strengthen disaster preparedness, response, and recovery efforts across the region.
- ADPC's mission revolves around building robust systems, institutional mechanisms, and capacities to withstand various hazards—ranging from floods and landslides to earthquakes and cyclones.

Leadership Transition:

- As **China's tenure came to an end**, India stepped up to lead ADPC. It reflects India's proactive stance in disaster risk reduction.
- Notably, India championed the establishment of the **Coalition for Disaster Resilient Infrastructure (CDRI)**, emphasising the importance of resilient infrastructure in mitigating the impact of disasters.

14TH BRICS TRADE MINISTERS' MEETING

Recently, the Commerce Secretary of India has attended the 14th BRICS Trade Ministers' Meeting held under the BRICS Presidency of the Russian Federation.

Recent Trade Ministers' Meeting Focus Areas:

- Theme for this year's BRICS engagement titled as **'Strengthening Multilateralism for Just Global Development'.**
- **WTO Development Aspect:** The Commerce Secretary emphasised the need to strengthen the multilateral trading system with the World Trade Organization (WTO) at its core, including addressing long-pending issues related to development and special and differential treatment.
- **Global Value Chains (GVCs):** Effective functioning of joint value chains was discussed, recognizing their critical role in international trade.
- **MSMEs and Digitalisation:** Interaction among Micro, Small, and Medium Enterprises (MSMEs) was highlighted, along with India's success story in digitalization and e-commerce.
- **Special Economic Zones (SEZs):** Cooperation among SEZs was deemed relevant for fostering economic growth.

Suggestion by Commerce Secretary for Multilateral Reforms:

- **Permanent Solution to Public Stockholding:** Addressing Food Security Concerns
  - The need for a permanent solution to public stockholding is crucial for ensuring food security. This involves finding a balance between supporting domestic agricultural sectors and adhering to international trade rules. Addressing these concerns helps protect vulnerable populations and stabilize global food markets.
- **Two-Tier Dispute Settlement System:** Enhancing the Effectiveness of Dispute Resolution
  - Implementing a two-tier dispute settlement system aims to improve the effectiveness and efficiency of resolving trade disputes. This system could involve an initial arbitration phase followed by a higher appellate review, ensuring fair and timely resolution of conflicts while strengthening the credibility of the dispute resolution process.
- **WTO Reform:** Making the Organisation More Responsive to Emerging Economies
  - Reforming the World Trade Organization (WTO) is essential to make it more responsive to the needs of emerging economies. This includes updating rules, enhancing representation, and addressing the unique challenges faced by these economies to ensure equitable participation in global trade.
- **'30 for 30' Initiative:** Proposing Operational Improvements for the WTO
  - The '30 for 30' initiative proposes at least 30 operational improvements to the WTO by its 30th anniversary in 2025. This initiative aims to modernize and streamline WTO operations, making it more effective in managing global trade challenges and enhancing its role in promoting international economic cooperation.
- **Resilient Supply Chains:** Advocating Decentralization and Diversification
  - To enhance supply chain resilience, decentralization and diversification are advocated.
  - By spreading production and sourcing across different regions and suppliers, businesses can better withstand disruptions, reduce risks, and maintain stability in global supply chains.
- **Paperless Trade:** Emphasizing Digitalization of Trade Documents
  - The push for paperless trade highlights the need for digitalization of trade documents, such as the Bill of Lading. Embracing digital solutions can streamline trade processes, reduce administrative burdens, enhance efficiency, and facilitate smoother cross-border transactions.
- **Affordable Emerging Technologies:** Collaboration for Green Transition and Climate Resilience
  - Collaboration on affordable emerging technologies is crucial for supporting a green transition and enhancing climate resilience. This involves fostering innovation and sharing technology to address climate change challenges while promoting sustainable development.
- **Climate-Related Measures and MSMEs:** Addressing Trade Impacts and Multilateral Agreements
  - Concerns about climate-related unilateral measures impacting trade and micro, small, and medium enterprises (MSMEs) are significant. Such measures may conflict with Multilateral Environmental Agreements and the principle of Common But Differentiated Responsibilities (CBDR).
  - Addressing these conflicts ensures that climate policies are implemented fairly and support the role of MSMEs in global value chains.

Conclusion:

- The 14th BRICS Trade Ministers' Meeting provided a platform for dialogue on critical trade-related issues, emphasising cooperation, inclusiveness, and the pursuit of just global development.
- As we continue to navigate the complexities of international trade, BRICS remains committed to strengthening multilateralism and fostering equitable growth.

QUAD AND INDO-PACIFIC PARTNERSHIP FOR MARITIME DOMAIN AWARENESS (IPMDA)

Recently, the Foreign Ministers of the Quadrilateral Group (QUAD) have aimed to expand the Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA) into the Indian Ocean Region (IOR).

About:

- The IPMDA is a strategic initiative launched during the 2022 Tokyo Quad Leaders' Summit. It emerged from the Quad—a collaborative framework involving four democratic nations: Australia, India, Japan, and the United States.
- The initiative focuses on enhancing maritime security and awareness across the Indo-Pacific region. It emphasizes monitoring and understanding maritime activities in near-real-time.
- One key focus is on addressing 'dark shipping,' which involves vessels operating without proper identification or tracking systems.
- IPMDA aims to create a comprehensive maritime picture by integrating data from three critical regions: the Pacific Islands, Southeast Asia, and the Indian Ocean Rim (IOR).

Expanding Geographically:

- Initially, the IPMDA was centered around the Pacific Islands and Southeast Asia. Recent developments indicate an expansion into the Indian Ocean region.
- This expansion underscores the Quad nations' commitment to maintaining a free, open, and secure Indo-Pacific.
- The Indian Navy's Information Fusion Centre in Gurugram is expected to play a crucial role in extending the IPMDA's reach to the Indian Ocean Region.

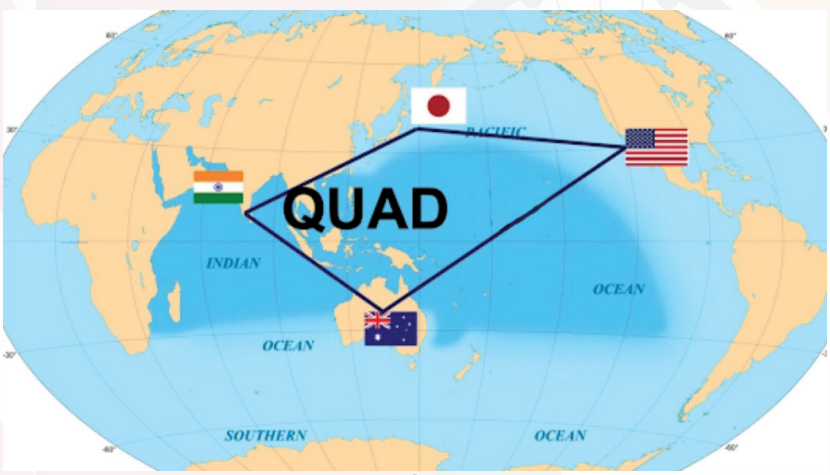
Quad's Broader Ambitions:

In addition to the IPMDA, the Quad Leaders have outlined several other critical areas of focus:

- **Infrastructure Development:** Enhancing infrastructure projects to support regional connectivity and economic growth.
- **Quad Infrastructure Fellowship:** Providing educational and professional opportunities in infrastructure development.
- **Quad Partnership for Cable Connectivity and Resilience:** Improving undersea cable infrastructure for secure and resilient communications.
- **Quad Investors Network (QUIN):** Promoting investment opportunities and economic partnerships.
- **Space, Health, and Emerging Technologies:** Collaborating on advancements in space exploration, health initiatives, and emerging technologies.

Significance of Maritime Domain Awareness:

- **Enhanced Security and Safety:** Maritime Domain Awareness (MDA) is crucial for ensuring the security and safety of maritime activities. It helps detect and respond to potential threats such as illegal fishing, piracy, and maritime terrorism.
- **Operational Efficiency:** By providing a comprehensive view of maritime activities, MDA improves the operational efficiency of naval and coast guard operations. It enables timely and informed decision-making, which is vital for effective maritime governance.
- **Protection of Maritime Resources:** MDA supports the protection of valuable maritime resources by monitoring activities such as illegal resource extraction and environmental violations. It helps in safeguarding biodiversity and maintaining sustainable practices.
- **Countering 'Dark Shipping':** Addressing 'dark shipping' vessels operating without proper identification helps prevent illicit activities and ensures that all maritime vessels are accounted for, reducing risks associated with unregulated shipping.
- **Regional Cooperation:** MDA fosters regional cooperation and collaboration among nations, as it requires sharing data and intelligence to build a comprehensive maritime picture. This cooperation enhances collective security and stability in the Indo-Pacific region.
- **Strategic Positioning:** Enhanced MDA contributes to strategic positioning by providing insights into maritime trends and patterns. It helps nations anticipate and prepare for potential security challenges, supporting a stable maritime environment.
- **Support for Economic Activities:** By ensuring safe and secure maritime routes, MDA supports global trade and economic activities. It enhances confidence among international shipping companies and investors, promoting economic growth and stability.



3 ECONOMY

DISTRICT MINERAL FOUNDATION

District Mineral Foundation Gallery Inaugurated At Shastri Bhawan In New Delhi.

About:

- District Mineral Foundations (DMFs) are non-profit trusts established by state governments in districts affected by mining activities.
- **Legal Basis:** Introduced in 2015 through an amendment to the Mines and Minerals (Development and Regulation) Act, 1957.
- **Objective:** To work for the interest and benefit of people and areas impacted by mining-related operations.
- **Funding:** DMFs are funded by a portion of the royalty paid by mining leaseholders, contributions from the state government's budget, and donations from private companies.
- **Implementation:** DMFs are governed by a Board of Trustees, which includes representatives from the state government, district administration, local communities, and experts.
- The Board formulates and approves projects under PMKKKY and other schemes.

FINANCIAL SERVICES INSTITUTION BUREAU

Recently, the Financial Services Institution Bureau (FSIB) has selected Challa Sreenivasulu Setty as the next chairman of State Bank of India (SBI).

About:

- **Role:** FSIB is an autonomous body of the Government of India responsible for recommending appointments, extensions, and terminations of members on the boards of specific institutions.
- **Establishment:** Formed to replace the Banks Board Bureau (BBB).
- **Primary Mandate:**
  - **Recommendations:** To recommend candidates for appointment as whole-time directors and non-executive chairpersons on the boards of financial services institutions.
  - **Advisory Role:** To provide advice on personnel management matters within these institutions.
- **Vision**
  - **Objective:** To identify and select suitable candidates for the boards of Public Sector Banks, Public Sector Financial Institutions, and Public Sector Insurance Companies.
  - **Corporate Governance:** To recommend measures for enhancing corporate governance in these institutions.
- **Mission:** To promote excellence in corporate governance within Public Sector Financial Institutions.

DO YOU KNOW?

- **Mission INDRADHANUSH** was launched in 2015 for the revamp of Public Sector Banks (PSBs), consisting of Appointments; ***Bank Board Bureau;*** Capitalization; De-stressing PSBs and Strengthening Risk Control measures and NPA Disclosures; Empowerment; Framework of Accountability; and Governance Reforms.
- **BBB**, as an autonomous body of the Government of India, was set up in 2016 by way of amendment to the **Nationalised Banks (Management and Miscellaneous Provisions) Scheme.**
- Earlier, the Delhi High Court ruled that the **BBB lacked competence** to select general managers and directors of state-run general insurers.

SMART CITIES MISSION EXTENDED TILL 2025

The Union government has extended the Smart Cities Mission (SCM) till March 31, 2025.

About:

- It is an initiative of the **Union Housing and Urban Affairs Ministry**, launched in **2015.** The Mission is operated as a **Centrally Sponsored Scheme.**
- **Objective:** To promote cities that provide core infrastructure, clean and sustainable environment and give a decent quality of life to their citizens through the application of 'smart solutions'.
- **100 cities** have been selected to be developed as Smart Cities through a two-stage competition for five years.
- The **six fundamental principles** on which the concept of Smart Cities is based are:

Key Features:

- **The SCM had two main aspects:** area-based development consisting of three components — redevelopment (city renewal), retrofitting (city improvement), and green field projects (city extension); and pan-city solutions based on ICT.

- These further comprised some **six categories** that would include **e-governance, waste management, water management, energy management, urban mobility, and skill development.**
- **Four pillars:** Social Infrastructure, Physical Infrastructure, Institutional Infrastructure, Economic Infrastructure.
- **Integrated Command and Control Centre:** These ICCCs are designed to enable authorities to monitor the status of various amenities in real time.
  - The ICCC acts as a smart city and acts as a "nerve center" for operations management.
- **Other steps** taken under the SCM for digital infrastructure are;
  - Adaptive Traffic Control System (ATCS), Red Light Violation Detection (RLVD), and Automatic Number Plate Recognition System (ANPR),
  - Digital assets for solid waste and waste-water management and water distribution management,
  - CCTV surveillance systems, smart education and smart health systems.

Status of the SCM:

- The **100 cities** have completed 7,188 projects (**90% of total projects**) as part of the mission.
- The mission has an allocated budget of **₹48,000 crore** for the 100 cities. As on date, **97%** of the allocated budget has been released.

Challenges:

- **Diversity in Urban India:** The selection of 100 cities on a competitive basis was flawed due to the diversity in existing urban realities.
  - The scheme was divorced from the ground realities of urban India — the urbanization here is dynamic and not static like the West.
- **Financial Constraints:** Keeping the funds and finances flowing in for the smart cities mission is a challenge. Most Urban Local Bodies are not even financially self-sustainable.
  - According to McKinsey, to make Indian cities liveable, a capital expenditure of $1.2 trillion is required by 2030. In this context, ₹ 1,67,875 crore is less than $20 billion in nine years.
- **Displacement:** Urban India, according to the World Bank has more than 49% of the population living in slums.
  - There was displacement of people living in poorer localities. Street vendors, for example, were displaced and urban commons were disrupted.
- **Infrastructure Development:** Many Indian cities lack basic infrastructure, such as efficient public transportation, waste management systems, and reliable water and electricity supply.
  - Implementing smart solutions requires significant upgrades to existing infrastructure.

Way Ahead:

- **Data protection:** A robust system is required to protect digital platforms from cyber attack and safeguarding sensitive public and private data adequately.
- **Pan city projects:** SCM should emphasize more on pan city projects to ensure comprehensive and holistic development.
- **Strengthening ULBs:** A plan should be made to strengthen ULBs' capabilities in small cities.
- **Public Private Partnerships:** The government should analyze the reasons behind low private investments and take remedial steps towards the same.
- **Completion of Projects:** The Committee recommended that the ministry's role should not be confined to transfer of share and asked them to remain watchful to ensure execution and completion of the projects by intervening to facilitate with inputs and expertise.
- **Data protection:** A robust system is required to protect digital platforms from cyber attack and safeguarding sensitive public and private data adequately.

INDIA'S LNG IMPORTS

India imported 2.60 million tonnes (mt) of LNG in June, the highest in the last 44 months.

About:

- As per data from the Central Electricity Authority (CEA), power generation from gas-based units in June 2024, was **4.60 billion units**, nearly **52 percent** higher than **3.03 billion units** in the corresponding month of last year.
- India's gas-based power generation capacity accounts for **5.6 percent** of the country's overall installed generation capacity.
- Natural gas is a fossil fuel composed almost **entirely of methane** although it does contain small amounts of other gasses like **ethane, propane, butane, and pentane.**
- The gas is reduced to a liquid state (liquefaction) through intense cooling to around **-161 degrees Celsius** (-259 Fahrenheit).
- This liquid gas is **600 times smaller than the original volume** and is half the weight of water.

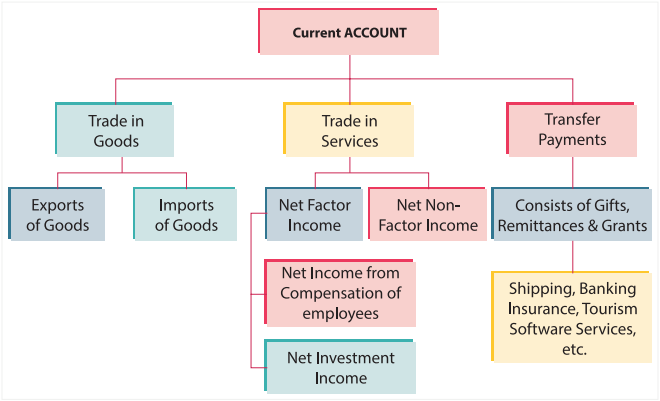
BALANCE OF PAYMENTS

India's current account registered a surplus during the fourth quarter (Jan-Mar) of the 2023-24 financial year. This was the first time in 11 quarters that India had witnessed a surplus.

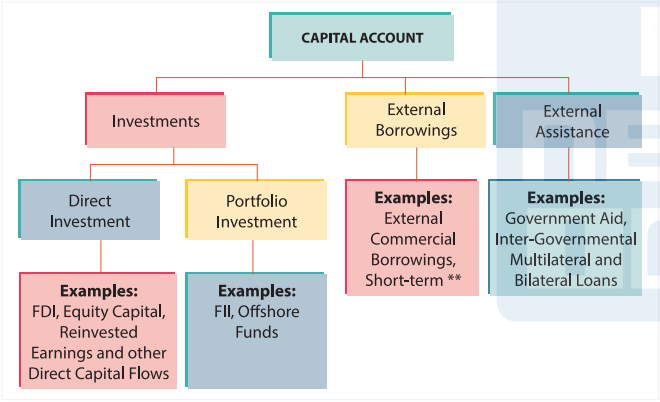
About:

- It records the transactions in goods, services and assets between residents of a country with the rest of the world for a specified time period typically a year.

- There are two main accounts in the BoP – the current account and the capital account.
  - The **current account** records exports and imports in goods and services and transfer payments.



  - The **capital account** records all international purchases and sales of assets such as money, stocks, bonds, etc. Components of Capital Account are



DO YOU KNOW?

- The words 'deficit' and 'surplus' do not always correlate to 'bad' and 'good' respectively. So, a current account deficit may not always be bad for an economy, nor is a current account surplus necessarily a good development.
- A current account deficit happens because a developing economy needs to import lots of capital goods (read machinery) to build up its capacity to produce more exports.
- A trade deficit also suggests that India's underlying economy has a strong demand impulse.
- **Current account and capital** account **will always move in the opposite direction**s; a deficit on current account will always meet with a matching surplus on capital account, and conversely a surplus on current account will match with a deficit on current account.
- And in the ultimate analysis, an economy's BOP will be in balance i.e., there will be no deficits and surpluses in aggregate BOP.

CROP INSURANCE COVERAGE UNDER PRADHAN MANTRI FASAL BIMA YOJANA

General insurance companies reduced their exposure to crop insurance under the Pradhan Mantri Fasal Bima Yojana (PMFBY) during FY24 despite the government's push to expand the insurance coverage in the farm sector.

About:

- Gross direct premium underwritten by insurers declined by 4.17 per cent to Rs 30,677 crore during the fiscal as against Rs 32,011 crore in the previous year even as farmers faced crop losses due to floods, unseasonal rains and heatwaves.
- Crop insurance premium underwritten had risen by 8.66 per cent to Rs 29,465 crore in the previous fiscal (FY23).
- The decline is mainly due to the 32 per cent fall in premium income underwritten by state-owned Agriculture Insurance Company (AIC) to Rs 9,890 crore during FY24 from Rs 14,619 crore a year ago,
  - Four government-controlled insurers — AIC, New India Assurance, Oriental Insurance and SBI General — reduced their exposure to crop insurance in FY24.

Pradhan Mantri Fasal Bima Yojana (PMFBY):

- It was launched in 2016, aims to provide a simple, affordable, and comprehensive crop insurance product to Indian farmers.
- **Covered Crops:** Food crops (Cereals, Millets and Pulses), Oilseeds, Annual Commercial / Annual Horticultural crops.

Key Features:

- **Coverage and Benefits:** It covers all non-preventable natural risks from pre-sowing to post-harvest, ensuring financial support in the event of crop failure due to natural calamities, pests, or disease
  - It also covers individual farms nationwide for localized disasters like hailstorms, landslides, floods, and wildfires, as well as post-harvest losses from cyclones, heavy rain, and hail.
- **Premium Rates:** The premium rates for PMFBY are significantly subsidized, making the insurance affordable for farmers. The premium rates are fixed at 2% of the sum insured for all Kharif crops and 1.5% for all Rabi crops. For commercial and horticultural crops, the premium is 5%.
- **Participation:** The scheme is voluntary for farmers, but states are encouraged to achieve maximum coverage. It is mandatory for loanee farmers (those who have taken agricultural loans) to enroll in PMFBY.
- **Sum Insured:** The scheme ensures that farmers receive adequate compensation based on the area sown, type of crop, and extent of damage suffered. There is no upper limit on government subsidy, ensuring maximum benefits for the farmers.

- **Technology Integration:** PMFBY leverages technology for quicker assessment and settlement of claims. The use of smartphones, remote sensing, and satellite imagery helps in accurate estimation of crop losses, ensuring transparency and efficiency.

Benefits:

- **Financial Security:** Farmers are assured of financial support in case of crop failure, reducing their vulnerability to economic distress.
- **Risk-taking:** Encouraging farmers to adopt innovative and modern agricultural practices
- **Inclusive Growth:** PMFBY promotes inclusive growth by covering small and marginal farmers who are often the most vulnerable to crop losses.
- **Ease of Access:** The simplified procedures and extensive use of technology make it easier for farmers to enroll and claim insurance.
- **Ensuring flow of credit to the agriculture sector;** which will contribute to food security, crop diversification and enhancing growth and competitiveness of the agriculture sector.

Way Forward:

- In a country where agriculture forms the backbone of the economy, safeguarding the interests of farmers becomes paramount.
- By offering a comprehensive and accessible insurance product, PMFBY empowers farmers, improves agricultural practices, and contributes to the overall growth and stability of the Indian agricultural sector.
- PMFBY represents a significant step towards ensuring the financial security of farmers across the nation.
- There is a need for greater coordination among stakeholders including insurance companies, banks, and state governments to ensure effective implementation of PMFBY.

PROJECT NEXUS

The Reserve Bank of India (RBI) has joined Project Nexus.

About:

- Project Nexus is conceptualised by the Innovation Hub of the **Bank for International Settlements (BIS).**
- It is the first BIS Innovation Hub project in the payments area to move towards live implementation.
- It seeks to enhance cross-border payments by connecting multiple domestic Instant Payment Systems (IPS) globally.
- BIS will facilitate central banks and IPS operators of **India, Malaysia, the Philippines, Singapore and Thailand** as they work towards live implementation in the next phase, with Bank of Indonesia as special observer.
- The platform is expected to go live by 2026.

BANK FOR INTERNATIONAL SETTLEMENTS (BIS)

Background and Establishment

- **Founded:** 1930
- **Ownership:** Owned by 60 central banks from around the world, representing countries that account for about 95% of global GDP.
- **Head Office:** Basel, Switzerland

Role and Mission:

- The Bank for International Settlements (BIS) is often referred to as the "central bank for central banks" due to its pivotal role in providing banking services to central banks and other international financial institutions, such as the European Central Bank and the Federal Reserve.
- **The BIS's mission encompasses three primary objectives:**
  - **Monetary and Financial Stability:** The BIS assists central banks in their efforts to maintain monetary and financial stability through various services and support mechanisms.
  - **International Cooperation:** It fosters international cooperation among central banks and financial regulators, serving as a forum for discussion, collaboration, and policy development.
  - **Banking Services:** The BIS acts as a bank for central banks, offering financial services that facilitate international financial operations and stability.

Basel Committee on Banking Supervision (BCBS):

- **Purpose:** The BCBS is responsible for developing global regulatory standards for banks, aimed at enhancing financial stability and risk management.
- **Basel Accords:** The committee is best known for the Basel Accords, a series of recommendations on banking regulations, including capital requirements and risk management standards, widely implemented by national governments to ensure the stability of the global financial system.

DIGITAL BHARAT NIDHI

The Department of Telecommunications (DoT) released draft rules to operationalise the Digital Bharat Nidhi (DBN), by the Union government to increase telecom connectivity in rural areas.

About:

- **Digital Bharat Nidhi** was established through the **Telecommunications Act, 2023.** It would replace the erstwhile Universal Service Obligation Fund (USOF).
  - **USOF** is a pool of funds generated by a 5 percent Universal Service Levy charged upon all the telecom fund operators on their **Adjusted Gross Revenue (AGR).**

- USOF was established in **2003,** and has been criticized for its **underutilization.**
- Between 2017 and 2022, the government had collected Rs 41,740 crore as part of contributions made by telcos towards the USOF, and only **72 percent** of it has been utilized.

- The money would be used to fund the **expansion of telecom networks in remote and rural areas,** where private companies resist offering their services.

PRIMARY AGRICULTURAL CREDIT SOCIETIES

The Union government will set up multi-purpose Primary Agricultural Credit Societies (PACs) in around two lakh gram panchayats of the country with no cooperative network within the next five years.

About:

- Cooperative societies is a **State Subject under Entry 32** of the State List of Seventh Schedule of the Constitution of India.
- While cooperative societies functioning within a single state are governed by the Cooperative Societies Act of their respective states, cooperative societies functioning in more than one state/UT are governed by the **Multi-State Cooperative Societies Act, 2002** under the purview of the Government of India (GoI).

Primary Agricultural Credit Societies (PACS):

- Primary Agricultural Credit Societies (PACS) are credit societies that are registered under the **Cooperative Societies Act of the State concerned.**
- They are **grassroots-level institutions** in villages with individual farmers, artisans, and other weaker sections as member shareholders.
- They form the **lowest tier of the federated short-term cooperative credit structure** with District Cooperative Banks (DCCBs) and/or State Cooperative Banks (StCBs) in their upper tiers.

Benefits of Primary Agricultural Credit Societies (PACS):

- **Credit Provision:** PACs provide easy access to credit for farmers and rural residents. This includes short-term, medium-term, and long-term loans for agricultural and related activities.
- **Financial Inclusion:** They promote financial inclusion by bringing banking services to remote rural areas, helping people who might not have access to traditional banking facilities.
- **Agricultural Support:** PACs provide support services like the supply of seeds, fertilizers, and pesticides at reasonable rates, helping farmers increase productivity.
- **Storage and Marketing:** They assist in the storage of agricultural produce and sometimes in marketing it, ensuring that farmers get fair prices for their products.
- **Training and Education:** PACs organize training programs and workshops to educate farmers on modern farming techniques, financial literacy, and sustainable agricultural practices.
- **Social and Economic Development:** By improving access to credit and financial services, PACs contribute to the overall social and economic development of rural communities, reducing poverty and improving living standards.
- **Employment Generation:** Through their various activities, PACs contribute to employment generation in rural areas, both directly and indirectly.

Challenges faced by PACS:

- **Limited Resources:** Many PACs suffer from a lack of adequate financial and human resources, which limits their ability to provide comprehensive services to their members.
- **Political Interference:** Political influence in the functioning of PACs can lead to favoritism, corruption, and misallocation of resources, undermining their purpose.
- **High Overdue Loans:** A significant issue is the high level of Non-Performing Assets (NPAs) due to overdue loans. Poor recovery mechanisms and lax lending practices contribute to this problem.
- **Limited Credit Products:** PACs offer a narrow range of credit products, which may not meet the diverse needs of the rural population.
- **Technological Backwardness:** Many PACs lag in adopting modern technology and digital banking solutions, which affects their efficiency and competitiveness.

FINANCIAL INCLUSION INDEX

The Financial inclusion index, capturing the extent of financial inclusion across the country, rose to 64.2 in March 2024, showing growth across all parameters.

About:

- In 2021, the **Reserve Bank of India (RBI)** launched a Financial Inclusion Index (FI-Index) to track the process of ensuring access to financial services, timely and adequate credit for vulnerable groups such as weaker sections and low-income groups at an affordable cost.
- The index incorporates the **details of banking, investment, insurance, postal, and pension sectors** in consultation with government and respective sector regulators.
- The FI-Index has been constructed **without any 'base year'.** The FI-Index is **published annually** in July.

Range and Parameters of FI-Index:

- The index captures information on various aspects of financial inclusion in a single value ranging between 0 and 100, where **0 represents complete financial exclusion** and **100 indicates full financial inclusion.**
- The FI-Index comprises three broad parameters, **access (35%), usage (45%), and quality (20%),** with each of these consisting of various dimensions, which are computed based on a number of indicators.

INTEGRATED OMBUDSMAN SCHEME

Recently, the Madras High Court upheld the Constitutional validity of the Reserve Bank of India - Integrated Ombudsman Scheme (RBI-IOS) 2021, and ruled that the advocates cannot represent complainants before the RBI Ombudsman.

About:

- It **brings together three previously separate ombudsman schemes** under a unified framework.
- By integrating these schemes, the **RBI aims** to simplify the process for consumers, enhance efficiency, and ensure consistent and fair resolution of complaints.
- It's a step toward strengthening consumer rights and holding financial entities accountable.

Three Schemes:

- **Banking Ombudsman Scheme (2006):** Focused on addressing complaints related to banking services.
- **Ombudsman Scheme for Non-Banking Financial Companies (NBFCs) (2018):** Geared toward resolving grievances related to NBFCs.
- **Ombudsman Scheme for Digital Transactions (2019):** Specifically designed for complaints arising from digital payment services.

Key Features:

- **One Nation, One Ombudsman:** The RBI has adopted this approach, making the ombudsman mechanism jurisdiction-neutral.
  - No longer do complainants need to figure out which specific scheme to approach—the integrated scheme covers all grounds.
- **Deficiency in Service:** The scheme defines "deficiency in service" as the basis for filing a complaint. It provides a clear list of exclusions, ensuring that complaints are not rejected arbitrarily.
- **Centralised Processing:** A Centralised Receipt and Processing Centre has been set up at RBI's Chandigarh office. It handles both physical and email complaints in any language.
- **Principal Nodal Officer:** The responsibility of representing the regulated entity and furnishing information lies with the Principal Nodal Officer (usually a General Manager in a Public Sector Bank or equivalent).
- **No Right to Appeal for Regulated Entities:** If an ombudsman issues an award against a regulated entity due to unsatisfactory or delayed information/documents, the entity cannot appeal.
- **Appellate Authority:** The Executive Director-in-charge of the Consumer Education and Protection Department at RBI serves as the Appellate Authority under the scheme.

FISHMIP PROJECT

Recently, the Food and Agriculture Organization of the United Nations (FAO) has predicted that exploitable fish biomass could decline by 30% or more by century-end if emissions remain high.

About:

- It was **officially launched in 2013**, provides knowledge to industry and governments to support effective planning for adaptive and resilient seafood sectors under climate change.
- **In 2024, FishMIP2.0** was established to increase the reliability of modelling projections and to answer a broader set of policy-related questions relevant to food security and marine resource management, with climate change remaining the overarching theme.
- It is armed with **state-of-the-art numerical models**, trying to unravel the mysteries of our oceans and their inhabitants.
  - It uses an ensemble modelling approach, combining results from multiple ecosystem models.
- **Global and Regional Projections**: FishMIP provides future projections of ocean biomass at both global and regional scales.
- **Climate Mitigation Matters:** The projections show that strong climate mitigation—essentially reducing greenhouse gas emissions—can significantly reduce losses in fish biomass.
- **High-Emissions Scenario:** Global warming could reach 3 – 4°C by the end of the century. Fish biomass faces steep declines—more than 10% in many regions. Some countries could see losses of 30 percent or more.
- **Low-Emissions Scenario:** Global warming stays within 1.5 – 2°C. Changes stabilise—some regions even see no decline or just a minor one.

MARGIN TRADING

The National Stock Exchange (NSE) removed 1,010 stocks from its list of eligible stocks for margin trading.

About:

- **Definition:** Margin trading involves using borrowed funds from a broker to purchase securities.
- **Goal:** The primary objective is to earn a profit from the price movement of the securities.
- **Leverage:** This strategy allows investors to leverage their investment capital, thereby increasing the potential for higher returns. By using borrowed funds, investors can buy more securities than they could with their own capital alone.
- **Amplified Losses:**
  - While margin trading can increase potential returns, it also magnifies losses if the market moves against the investor's position.
  - This is because the investor must repay the borrowed funds regardless of whether their investment is profitable.
- **Risk of Margin Call**: If the value of the securities falls below a certain level, the broker may issue a margin call, requiring the investor to deposit additional funds or sell some of the securities to cover the borrowed amount.
- **'Buy Now Pay Later' Process in Margin Trade Financing (MTF):**
  - **Process:** The 'Buy Now Pay Later' approach in margin trading allows investors to buy shares by paying only a fraction of the current price upfront.
  - **Broker's Role:** The broker covers the remaining amount, essentially providing a loan to the investor.
  - **Interest Payment:** In exchange for this loan, the investor pays interest to the broker, similar to the interest paid on a traditional loan.
- **Key Points to Consider:**
  - **Interest Costs**: The cost of borrowing funds in margin trading can add up, particularly if the securities are held for an extended period. Investors need to consider these costs when calculating potential profits.
  - **Market Volatility**: Market fluctuations can significantly impact margin positions. It's essential for investors to monitor their investments closely and be prepared for sudden market changes.
  - **Investment Strategy**: Margin trading requires a well-thought-out investment strategy and risk management plan. Investors should be aware of their risk tolerance and have a clear understanding of how margin trading works before engaging in it.

WORLD YOUTH SKILLS DAY 2024

The World Youth Skills Day is observed on July 15 annually.

About:

- The initiative was designated by the **United Nations General Assembly** in **November 2014,** emphasizes the significance of **equipping youth** with necessary skills **to tackle unemployment and underemployment.**
- This year's World Youth Skills Day theme, **"Youth Skills for Peace and Development,"** highlights the role of youth in peacebuilding and conflict resolution.
- The day also marks the **launch of Skill India Mission.**

Skill India Mission:

- It has been launched to **empower the youth of the country** with skill sets which make them more employable and more productive in their work environment.
- Skill India **offers courses across several sectors** which are aligned to the standards recognised by both, the industry and the government under the **National Skill Qualification Framework.**
- The courses help a person focus on **practical delivery of work and help him enhance his technical expertise** so that companies **don't have to invest into training him for his job profile.**

MAKHANA (FOX NUT)

The Bihar government has urged the Centre to declare the Minimum Support Price (MSP) for makhana.

About:

- Makhana (in Hindi) Fox nut & Gorgon Nut (in English) & Euryale ferox (Biological name), is a high in demand **aquatic crop,** belonging to the Family of **'Nymphaeaceae'.**
- This commonly known and widely-used crop is **unique, high on nutrition content, and a non-cereal food.**
- Although the crop is cultivated in **different parts of the world, India** is home to nearly **70-80%** of the global produce.
  - **Bihar** boasts of over **80% of the Makhana production of the country.**
  - Districts and cities including Darbhanga, Madhubani, Saharsa, Katihar, Purnea, Supaul, Kishanganj, Araria and Sitamari are major producers of Makhana.
- Countries including **Japan, Korea, China, Bangladesh and Russia** also grow Makhana in wild form.

BANCASSURANCE: BRIDGING THE GAP BETWEEN BANKING AND INSURANCE

Insurance Regulatory and Development Authority (IRDAI) is looking to perk up Bancassurance to meet its objective of 'Insurance for all' by 2047.

About:

- It is a **strategic partnership** between **banks and insurance companies**, in which insurers can offer their products directly to the bank's customers.
- It provides better **market access, and cost efficiency** directly to customers.

- But **Potential Mis-selling of insurance** may take place and IRDAI needs to examine aspects to ensure **consumer protection.**

Importance:

- **Widening the Safety Net:** According to a **National Insurance Academy report**, nearly 60 to 70% of Indians remain uninsured. Bancassurance steps in to bridge this gap by leveraging the existing customer base of banks.
- **Customised Solutions:** Banks can tailor insurance products to suit their customers' needs. For instance, many banks offer health insurance to their account holders.
- **Simpler Sales Process:** Since customers already have established relationships with their banks, the sales process becomes smoother.
  - **Underwriting and KYC** (Know Your Customer) procedures are streamlined, reducing costs and risks associated with distribution.
- **Holistic Approach:** Banks can integrate insurance solutions into customers' overall financial planning, that ensures better customer experiences and a more comprehensive understanding of their needs.

PINK BOLLWORM

Recently, the Central Institute for Cotton Research of ICAR chose farmers for its pilot project that utilises Artificial Intelligence for real-time pest monitoring for Pink Bollworm.

About: Pink Bollworm (Pectinophora Gossypiella)

- It is a worm that destroys parts of the developing cotton fruit, such as the **square (flower bud)** and the **boll (rounded sac of seeds with cotton fibres).** Adult worms are thin grey moths that lay eggs on buds, flowers, and bolls.
- It is **native to Asia a**nd now recorded in nearly all the cotton-growing countries of the world.
- Its **cryptic nature** means that damage becomes apparent only when the bolls open, which is often too late for effective intervention. It cuts through the lint and stains it in the process, resulting in a loss of quality.
- Its **infestations** can range from 30% to a whopping 90% of the cotton cropping area.

DO YOU KNOW?

- Cotton, often referred to as **'white gold'** holds immense economic importance worldwide. Farmers in India **cultivate all four cultivated species** of cotton and their **hybrids.**
- India introduced the **Genetically Modified** pest-resistant cotton variety **Bt Cotton (Bollgard II Seed)** to provide resistance **against the American, Pink, and Spotted Bollworms.**
  - However, the **Pink Bollworm** has developed **resistance to Bt Cotton** over time.

REPORT OF INDIA'S G20 TASK FORCE ON DIGITAL PUBLIC INFRASTRUCTURE

Recently, the final 'Report of India's G20 Task Force on Digital Public Infrastructure' was released highlighting that India should identify a body to promote Digital Public Infrastructure in the Global South.

G20's Recognition:

- Earlier, the Prime Minister of India announced a $25-million investment to develop DPI, emphasising its importance in inclusive growth.
- On the other hand, the **G20** established the **Digital Public Infrastructure Repository**, featuring over **50 DPIs from 16 countries**, aiming to facilitate knowledge sharing and adoption of DPIs globally, especially in the **Global South.**
- At the G20 Summit, India showcased its digital capabilities, including Aadhaar, UPI, DigiLocker, and other DPI-related initiatives.
- These systems empower citizens, enhance financial inclusion, and drive economic transformation.

The Digital Public Infrastructure (DPI):

- It refers to the **foundational digital systems** and services that enable seamless connectivity, data exchange, and digital transactions across various sectors.
- It encompasses both **hardware** (such as networks, servers, and devices) and **software** (such as platforms, protocols, and applications).
- It acts as the digital backbone that supports everything from online payments and identity verification to e-governance and healthcare services.

India's Role in DPI:

- India has emerged as a **leader in DPI**, thanks to initiatives like **Aadhaar** (the world's largest biometric identity system), **UPI** (Unified Payments Interface), and **DigiLocker** (a cloud-based document storage platform), etc.
- **Programmes** like the National Optical Fibre Network (NOFN), Digital India, National Broadband Mission, and National Data Centre Policy have laid the groundwork for a robust digital infrastructure.
- The **Jan Dhan-Aadhaar-Mobile (JAM) trinity** has resulted in millions of new bank accounts and streamlined direct benefit transfers, eliminating leakages and ensuring targeted delivery of welfare programmes.
- Initiatives like **Ayushman Bharat Mission** and **Unified Logistics Interface Platform** are transforming healthcare and logistics sectors respectively.
- Portals like the **National e-Governance Plan (NeGP)** offer a one-stop platform for everything from birth certificates to land records.

- It has streamlined processes, reduced bureaucracy, and enhanced transparency, and over 1.38 billion digital identities have been registered in India, demonstrating the scale and impact of these systems.
- However, the **challenges associated with DPI** are Lack of Access to Infrastructure, Digital Divide, Affordability, Language and Content Barriers, Physical and Cognitive Disabilities, Privacy and Security Concerns, and Geographical Disparities etc.

Recommendations from India's G20 Task Force:

- The **final report by India's G20 Task Force** on DPI highlights the need for India to take on added responsibility in promoting DPI globally.
- India should identify an existing body (preferably with global reach) to harness the DPI ecosystem. This body would work on **policy formulation, strategy implementation, and technical expertise.**
- **Integrating artificial intelligence (AI) with DPIs** can amplify their capabilities, but ethical use and data privacy must be maintained.

Conclusion:

- Digital Public Infrastructure isn't just about technology; it's about empowering people, improving governance, and fostering economic growth.
- As India continues to lead in this space, it's essential to collaborate globally and ensure that DPI benefits everyone, especially those in the Global South.

STATE OF INDIA'S INFORMAL ECONOMY

According to the data of Annual Survey of Unincorporated Enterprises (ASUSE), the informal sector of India is facing challenges as about 16.45 lakh jobs have been lost over the last seven years.

Difference Between Formal and Informal Sector:

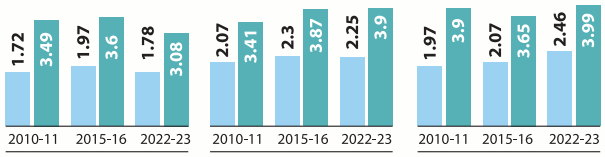
- The formal sector has a **written contract between the employer and the employee,** as well as **pre-defined labour conditions.**
  - This sector is made up of a well-organized group of people who operate in the same environment and are **legally and socially conscious of their rights.**
- **Informal Sector:** All **unincorporated private enterprises** owned by individuals or families involved in the sale and production of products and services on a proprietary or partnership basis are classified as informal.
  - These enterprises include Micro, Small and Medium Enterprises (MSMEs), household units including those with hired workers, and own-account enterprises.

Informal Sector of Indian Economy:

- India with **almost 85% informal labour is** generating more than half of the country's GDP.
- The informal sector plays a crucial role in generating jobs and absorbing especially semi-skilled and unskilled labor.

WHAT THE NUMBERS SHOW

INFORMAMAL SECTOR — Units (in crore) — Workers (in crore)



TYPES OF ENTERPRISES IN INFORMAL SECTOR *(in crore)*

	Hired Worker Enterprises	Own Account Enterprises	Total Number of Establishments
2010-11	0.89	4.88	5.77
2015-16	1	5.34	6.34
2021-22	0.84	5.13	5.97
2022-23	0.97	5.5	6.5

STATEWISE INFORMAL SECTOR ENTERPRISES

States	2015-16		2022-23	
	Establishments *(in lakhs)*	Workers *(in lakhs)*	Establishments *(in lakhs)*	Workers *(in lakhs)*
Uttar Pradesh	89.99 (14.2%)**	165.38	89.94 (13.83%)	157.46
West Bengal	88.68 (13.99%)	135.54	78.31 (12.04%)	105.42
Maharashtra	47.79 (7.54%)	91.23	60.97 (9.37%)	115.51
Tamil Nadu	49.48 (7.8%)	96.82	42.29 (6.5%)	84.58
Bihar	34.46 (5.44%)	53.07	37.01 (5.69%)	58.95
Gujarat	33.16 (5.23%)	61.18	34.94 (5.37%)	68.81
Karnataka	38.34 (6.05%)	71.45	34.74(5.34%)	58.33
Madhya Pradesh	26.74 (4.22%)	49.25	32.72 (5.03%)	55.59
Andhra Pradesh	33.87 (5.34%)	56.19	32.06 (4.93%)	49.41
Odisha	19.84 (3.13%)	33.26	29.49 (4.53%)	40.87
All-India*	633.91	1112.71	650.48	1096.26

**Indudes data for 34 states/UT's; **igures in parantheses are percentage of total number of establishments*

Challenges faced by Informal Sector in India:

- **The data of the National Sample Survey Office (NSSO)** reflect the impact of three major exogenous shocks suffered by the economy such as, **Demonetisation** (2016), the **rollout of GST (2017),** and the **Covid-19 pandemic (2020).**
- As the economy moved to **more capital-intensive manufacturing,** it **impacts the employment in labour-intensive manufacturing** in the unorganised sector.
- **Decrease in employment:** The informal sector registered a decrease in employment, though the number of enterprises increased over the years. This indicates a deterioration in the quality of employment as units shifted to self-owned units.
- **Impact on Women Labour Force Participation:** Women make up the majority of informal participants, yet they receive the fewest benefits and face lower salary, income volatility, and a lack of a strong social safety net.
  - According to the **Periodic Labour Force Survey statistics,** female labour force participation fell to 21.2% in March 2021, down from 21.9% the previous year.
- **Low Wages and Exploitation:** Informal employment, by definition, lacks a written contract, paid leave, and hence does not pay minimum wages or pay attention to working conditions.

- Working hours that exceed labour standards are widespread in India's unorganised sector.

- **Lack of Social Security:** Workers in the informal sector lack access to social security benefits such as healthcare, pensions, and unemployment insurance.
  - This leaves them vulnerable to economic shocks and health crises.
- **Tax Evasion:** Because the informal economy's firms are not directly regulated, they typically dodge one or more taxes by concealing revenue and expenses from the legal system.
  - This is a problem for the government because a large portion of the economy is not taxed.
- **Lack of formal Data for Policy Making:** There are no official statistics available that reflect the true state of the economy, making it difficult for the government to formulate policies affecting the informal sector in particular and the economy as a whole.

Way Forward:

- As part of the National Data System, **a comprehensive statistical base** on many elements of the informal economy is required to enable policymakers to make informed decisions.
- Grievances from informal employees should be **heard and resolved on a regular basis** through a **transparent and officially regulated procedure.**
- **Equal compensation for equal effort** is a **directive principle of state policy (Article 39(d)),** but women farm labourers typically earn less than their male colleagues.
  - Through appropriate legislative support, the government should enhance and enforce this DPSP.

Conclusion:

- The plight of **lower-income and semi-skilled workers** underscores the pressing need for concerted action. Income inequality and rising poverty levels serve as stark reminders of the challenges India is facing.
- With **85% of India's workforce** operating in the informal sector, it was **imperative to initiate a structural shift** towards formalisation to ensure equitable opportunities and sustainable livelihoods for all.

ELECTRONICS: POWERING INDIA'S PARTICIPATION IN GLOBAL VALUE CHAINS

Recently NITI Aayog launched the report titled "Electronics: Powering India's Participation in Global Value Chains".

Global Value Chains (GVCs) in Electronics Sector:

- **GVCs are international production sharing**, where the full range of activities i.e., design, production, marketing, distribution and support to the final consumer, etc. are divided among multiple firms and workers across geographic spaces, to bring a product from conception to end-use and beyond.
- The global electronics market is estimated at **US$ 4.3 trillion.**
- The electronics GVC is intricate, with a select group of nations like **China, Taiwan, the USA, South Korea, Vietnam, Japan, Mexico, and Malaysia. China** is the world's largest electronics producer, accounting for nearly **60%** of worldwide electronics production.

Potential of India's Electronics Sector:

- India's electronics sector reached **USD 155 billion in FY23.**
- The electronics production nearly doubled from **USD 48 billion in FY17** to **USD 101 billion in FY23,** driven primarily by mobile phones which constitute **43%** of total electronics production.
  - This comprises **USD 86 billion** in finished goods production and **USD 15 billion** in components manufacturing.
- The country's electronics export is expected to reach **$120 Bn by FY26.**
- During May 2024, electronic goods exports were recorded at **$2.97 Bn** as compared to **$2.41 Bn** during May 2023, registering a growth of **22.97%.**

Government Interventions:

- **Scheme for setting up of Semiconductor Fabs in India** provides fiscal support to eligible applicants for setting up of Semiconductor Fabs which is aimed at attracting large investments for setting up semiconductor wafer fabrication facilities in the country.
- **Initiatives like Make in India and Digital India,** improved infrastructure and ease of doing business, supported by various incentives, have stimulated domestic manufacturing and attracted foreign investments.
- **Design Linked Incentive (DLI) Scheme** offers financial incentives, design infrastructure support across various stages of development and deployment of semiconductor design for Integrated Circuits (ICs), Chipsets, Systems & IP Cores and semiconductor linked design.
- **In India 100% FDI** is allowed under the automatic route. In the case of defense electronics, FDI up to 49% is allowed through automatic route and beyond 49% requires government approval.

Challenges in Electronics Sector:

- **Market Competition:** The global electronics market is dominated by countries like **China, Taiwan, USA, South Korea, Vietnam** and **Malaysia.**
  - India currently exports approximately **USD 25 billion** annually, representing less than **1%** of the global share.
- **Technical Skills:** There is a lack of adequately trained technical personnel for advanced manufacturing processes.
- **Capital Intensive industry:** Electronic manufacturing is a complex and technology-intensive sector with huge capital

investments, high risk, long gestation and payback periods, requiring significant and sustained investments.
- **Import dependency:** Heavy reliance on imports for key components, especially semiconductors, makes the industry vulnerable to global supply chain disruptions.
- India's electronics industry is **focussed primarily on assembly**, with limited capabilities in design and component manufacturing.

ADB APPROVED LOAN TO FINANCE ROOFTOP SOLAR SYSTEMS IN INDIA

The Asian Development Bank (ADB) has approved a loan of USD 240.5 million to finance rooftop solar systems in India.

About:

- This financing will support **tranches 2 and 3 of the Multitranche Financing Facility (MFF) Solar Rooftop Investment Program,** initially approved by ADB in **2016.**
  - In 2023, the program was restructured to **focus specifically on deploying residential solar rooftop systems.**
- The approved financing will be allocated to the **State Bank of India (SBI)** and the **National Bank for Agriculture and Rural Development (NABARD).**
  - These institutions will **provide loans to developers and end-users** throughout India for the installation of rooftop solar systems.

Significance of Rooftop Solar Systems:

- It can **reduce the technical and operational burden** by generating electricity close to where it is consumed, thereby **decreasing the need for long-distance power supply** and the associated system losses.
  - This enhances the **efficiency of power distribution** and provides a degree of energy independence, minimizing power supply disruptions.
- **India's Aim:** India aims to achieve about 50 percent of cumulative electric power installed capacity from non-fossil fuel energy sources by 2030 in line with its global commitments to reduce carbon emissions.
  - ADB's financing supports these goals and will contribute to the Prime Minister's Surya Ghar program, which encourages people to install rooftop solar systems across the country.

Solar Energy:

- Solar energy is the **most abundant & cleanest energy** resource on earth.
- **Solar energy can be used mainly in three ways** one is direct conversion of sunlight into electricity through PV cells, the two others being Concentrating Solar Power (CSP) and solar thermal collectors for heating and cooling (SHC).
- **Indian Scenario:** India is endowed with abundant solar energy, which is capable of producing 5,000 trillion kilowatts of clean energy.
  - India gets around **300 sunny days in a yea**r and solar insolation of 4-7kWh per Sq. m per day.
  - If this energy is harnessed efficiently, it can easily **reduce the energy deficit scenario and that too with no carbon emission.**
  - In near future Solar energy will have a **huge role to play in meeting India's energy demand.**

India's Solar Energy:

- **Capacity: India's installed solar power capacity** is about 81 GW (1 GW is 1,000 megawatt), or roughly **17% of the total installed electricity.**
  - India's largest solar parks are located in the north-west, particularly **Gujarat and Rajasthan.**
  - India currently stands 4th globally in solar power capacity.
- **India has set following resolute targets to usher in a renewable revolution:**
  - 500 GW of renewable energy capacity by 2030;
  - Meeting 50% of its energy requirement from renewable sources by 2030;
  - Reducing the total projected carbon emissions by 1 Bn Tonnes by 2030;
  - Reducing the carbon intensity of its economy by under 45%;
  - Becoming a net zero carbon country by 2070.

Government Initiatives:

- **Solar Park Scheme,** designed to establish 50 Solar Parks of 500 MW and above with a cumulative capacity of ~38 GW by 2025-26.
- **PM-KUSUM** — aimed to achieve solar power capacity addition of 30.8 GW by 2026 — are transforming India's agricultural sector by setting up decentralised solar power plants, replacing agriculture diesel pumps with solar agriculture water pumps and solarising existing grid-connected agriculture pumps.
- **Rooftop Solar Programme** for the residential sector and the Off-grid Solar PV Applications Programme for rural areas are also making solar energy accessible by providing subsidies.
- **The International Solar Alliance (ISA),** launched in **2015** by the Prime Minister of India and the President of France.
  - It is a member-centric, collaborative platform focused on action aimed at creating 450 GW of renewable energy by 2030.
- **The Rooftop Solar Yojana, or the PM Surya Ghar Muft Bijli Yojana,** aims to provide 300 units of free electricity every month to light up one crore households.
  - The objective of this scheme is to reduce the electricity costs of the house by installing rooftop solar panels and using solar energy.

Conclusion:

- Solar energy has been recognized as an **alternative to conventional energy resources.**
- Amongst all the clean technologies, solar energy serves as an effective renewable energy resource to mitigate greenhouse gas emissions and reduce global warming.
- Solar energy is one of the resources capable of **self-reliant energy generation,** reducing foreign energy dependence.
- This necessitates the **wide use of solar panels** with better efficiency to meet the energy requirements from solar resources.

TEHRI PUMPED STORAGE PLANT (PSP)

The Union Minister for Power and Housing and Urban Affairs reviewed the progress at the 2400 MW Tehri Power Complex in Tehri Garhwal.

About:

- The Tehri Pumped Storage Plant (PSP) is a **hydroelectric power plant** located in Uttarakhand, India.
- It is one of the largest pumped storage power plants in the country, with an installed capacity of 1,000 MW. The plant is situated on the **Bhagirathi River (tributary of river Ganges)** and is capable of storing 5.7 TWh of electricity.
- The PSP is a vital component of the national grid, providing **supplementary power to the country during peak hours.**
- It is designed for **storing surplus water of river Bhagirathi during monsoon** and releasing the stored water to fulfil the irrigation and drinking water needs of the population in the **Gangetic plains of Uttarakhand and Uttar Pradesh** during non-monsoon period while **generating 2400 MW of peaking power.**

ELEVATING ELECTRONICS MANUFACTURING IN INDIA

Recently, the NITI Aayog, in a report, recommended specific policy measures like tariff rationalisation and skilling for electronics manufacturing in India.

Current Landscape:

- India's electronics industry has been on a remarkable trajectory, fueled by technological advancements, rising consumer demand, and strategic policy initiatives.
- India's electronics production has achieved an impressive milestone, reaching **approximately $115 billion in FY24**—a growth of **nearly four times over the past decade.**
  - It has been fueled by various **sub-sectors**, including mobile phones, telecom, auto electronics, and industrial electronics.
- Notably, India has significantly reduced its reliance on smartphone imports, with 99% of mobile phones now being manufactured domestically.
- However, despite these strides, **India's share in the global electronics market** remains modest, accounting for only 4%.

Employment and Exports:

- Achieving the $500 billion goal would create employment opportunities for approximately 6 million people.
- In a business-as-usual scenario, electronics manufacturing is projected to grow to $278 billion by 2029-30, including $253 billion from finished goods and $25 billion from components manufacturing.
- Employment generation is expected to reach around 3.4 million, with exports reaching $111 billion.

Electronics as Capital Goods:

- Capital goods like machinery, tools, and equipment that drive production are essential for modern manufacturing.
  - For electronic manufacturing, capital goods are precision machines, cutting-edge robotics, and automated assembly lines.
- They empower us to produce high-quality electronics efficiently and at scale.

Importance of Global Value Chains (GVCs):

- GVCs play a crucial role in modern manufacturing. They involve international collaboration across design, production, marketing, and distribution.
- It accounts for **70% of international trade.** India urgently needs to enhance its participation in these chains, especially in areas like semiconductors, automobiles, chemicals, and pharmaceuticals.
- Globally, the electronics market, **currently valued at $4.5 trillion**, is anticipated to **soar to $6.1 trillion by 2030.**

Government Initiatives and Support:

- **National Policy on Electronics (NPE) 2019:** It aims to position India as a global hub for **Electronics System Design and Manufacturing (ESDM)**. It encourages capabilities in core components, including chipsets. To achieve this vision, three key schemes were notified:
  - **Production Linked Incentive (PLI) Scheme:** Offers incentives for large-scale electronics manufacturing, including mobile phones and specified components.
  - **Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS):** Focused on strengthening the component ecosystem.
  - **Modified Electronics Manufacturing Clusters Scheme (EMC 2.0):** Aims to foster electronics manufacturing clusters across the country.

- **Foreign Direct Investment (FDI):** India allows 100% FDI under the automatic route for electronics manufacturing. In defence electronics, FDI up to 49% is allowed automatically, and beyond 49% requires government approval.

Policy Interventions:

- **NITI Aayog**—the central government's think tank—has set an ambitious target of $500 billion in domestic electronics manufacturing by 2030. To achieve this, specific policy measures are essential:
- **Promoting Components and Capital Goods Manufacturing:** Strengthening the ecosystem for producing components and capital goods is critical.
- **Incentivising Research:** Encouraging R&D in electronics will drive innovation and competitiveness.
- **Tariff Rationalisation:** Streamlining tariffs can boost local manufacturing.
- **Skilling Initiatives:** Developing a skilled workforce is vital for sustained growth.
- **Facilitating Technology Transfers:** Collaborations with global players can accelerate knowledge transfer.
- **Infrastructure Development:** Robust infrastructure supports efficient manufacturing.

Challenges and the Road Ahead:

- **Localization and Domestic Value Addition:** India must reduce dependency on imports and enhance domestic manufacturing capabilities. Localising high-tech components is crucial.
  - Strengthening design capabilities through research and development (R&D) investments is essential.
- **Skilling and Talent Development:** India's young and skilled workforce provides a competitive edge. Fostering skill development ensures efficient and cost-effective manufacturing operations.
- **Global Competitiveness:** Strategic partnerships with global technology leaders and innovation-driven policies are vital.
  - By 2030, India should aspire to achieve $500 billion in electronics manufacturing, creating 6 million jobs.

Bridging the Gap:

- **Domestic Demand:** There's an urgent need to **close the gap between the demand and supply of capital goods** within our own borders. By bolstering manufacturing infrastructure, there is a need to reduce dependency on imports and ensure a steady supply of high-quality equipment for domestic consumption.
- **Export Competitiveness:** Beyond meeting domestic needs, India can and should become a global powerhouse in the capital goods sector, particularly in electronics manufacturing.
  - To achieve this, it must focus on **innovation, research, and development.** Policies that encourage creativity and protect intellectual property rights are crucial.

FUTURES AND OPTIONS

Securities and Exchange Board of India (SEBI) and the Reserve Bank of India (RBI) have raised concern about the surging volumes in futures and options trade.

About:

- Futures and Options are derivative contracts whose value is based on their underlying assets.
- **Futures** are agreements to buy or sell at a predetermined price and date, while options grant the right but not the obligation to buy or sell within a specified timeframe.
- **Types** of futures include commodity, currency, interest rate, and stock futures.
  - Calls and puts are the two types of options.
- **Importance :**F&O trading aids in risk management and facilitates leveraged trading for potential higher returns. Moreover, F&O markets are pretty transparent and liquid.
- **Concerns:** F&O trading may lead to losses due to changes in market conditions. Leverage can also increase the potential losses. In addition, there is counterparty risk, where parties fail to fulfil the contract.

KEY HIGHLIGHTS: ECONOMIC SURVEY 2024

The Finance minister tabled the Economy survey in the Parliament, a day ahead of the Budget presentation.

About:

- It is prepared by the **Economic Division of the Department of Economic Affairs in the Ministry of Finance.** It is formulated under the **supervision of the chief economic adviser.**
- The Economic Survey was first introduced in **1950-51** as part of the Budget documents.
  - It was separated in the **1960s** and is now presented a day before the Union Budget.
- The Economic Survey **comprises two parts.**
  - The document's first part includes the **country's economic developments and challenges.**
  - It also offers an overall review on the economy. The second part is focused **on the past financial year.**

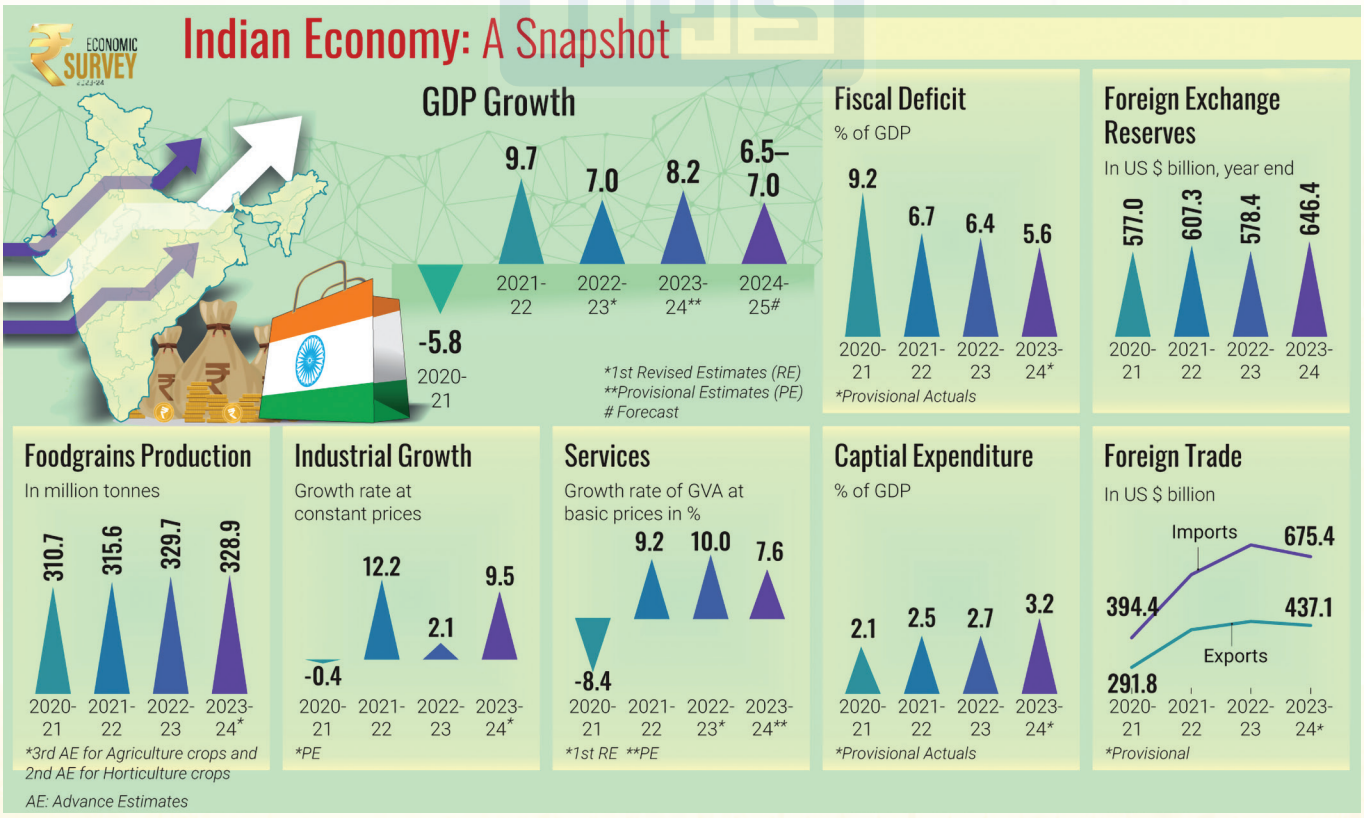
Key Highlights of the Economic Survey 2024:

- **Resilient Indian Economy:** The economy grew **over 7 percent** for a third consecutive year.
  - **Gross value added (GVA)** at 2011-12 prices grew by **7.2 percent** in FY24.
  - **India's real GDP in FY24** was 20 percent higher than in FY20, a notable achievement among major economies, and suggested strong potential for continued robust growth in FY 2024-25 and beyond.

- India's **CAD (current account deficit)** for the last financial year stood at **0.7 percent of the GDP** during FY24, an improvement from the deficit of 2.0 percent of GDP in FY23.
- **India's external debt** has been sustainable over the years, with the **external debt-to-GDP ratio standing at 18.7 percent** at the end of March 2024.

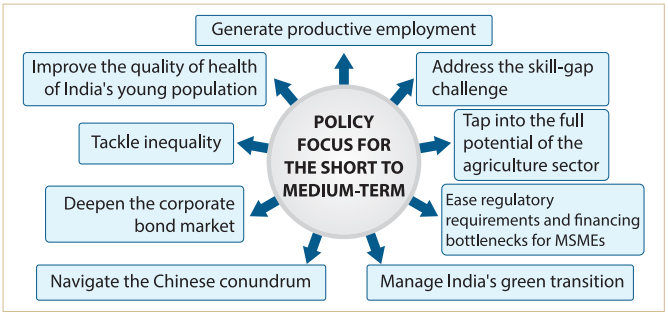
- **Stable banking sector:** Bank credit growth was broad-based and double-digit.
  - Gross and net non-performing assets (NPAs) reached multi-year lows.
- **Core inflation falls significantly:** Inflation at **5.4 percent** - the lowest level since the pandemic, driven by a fall in core inflation - both goods and services.
  - Core services inflation eased to a nine-year low in FY24; at the same time, core goods inflation also declined to a four-year low.
- **Food inflation a concern:** It stood at **6.6 percent in FY23** and increased to **7.5 percent in FY24.**
  - Due to extreme weather events, depleted reservoirs, and crop damage, India's agriculture sector faced challenges, giving rise to food inflation.
- **FDI inflows slow:** Net FDI inflows to India **declined from $42 billion during FY23 to $26.5 billion in FY24.**
  - However, gross FDI inflows moderated only by 0.6 per cent from $71.4 billion in FY23 to just under $71 billion in FY24.
- **External Sector:** India's external sector remained strong despite geopolitical headwinds and persistent inflation.
- **Logistics Performance Index:** India improved its rank from 44th in 2018 to 38th in 2023 out of 139 countries.
- **Export Diversification:** India is adding more export destinations, indicating regional diversification.
- **Services Exports:** Grew by 4.9% to USD 341.1 billion in FY24. Growth driven by IT/software services and 'other' business services.
- **Remittances:** India is the top remittance recipient globally, reaching USD 120 billion in 2023.
- **Foreign Portfolio Investment:** Positive net inflows in FY24 supported by strong economic growth, stable business environment, and increased investor confidence.

- **India's energy needs to grow 2 times by 2047:** India's energy needs are expected to grow **2 to 2.5 times by 2047** to meet a growing economy's developmental priorities and aspirations.
  - As of May 2024, the share of non-fossil sources in the installed electricity generation capacity has reached **45.4 percent.**
  - The country has reduced the emission intensity of its GDP from 2005 levels **by 33 percent in 2019.**
- **Formal Employment Growth:** Net payroll additions under EPFO have more than doubled over the past five years, indicating robust growth in formal employment.
- **Sectoral Performance:** The agriculture and food management sector has registered an average annual growth rate of 4.18 per cent at constant prices over the last five years



- The **services sector** continues to significantly contribute to India's growth, accounting for about **55 percent** of the total size of the economy in FY24.

- **Emerging Job Demands:** Greater and more focused skills needed in areas like: Blockchain, Artificial Intelligence (AI), Machine Learning, Internet of Things (IoT), Cybersecurity, Cloud Computing, Big Data Analytics, Augmented Reality, Virtual Reality, 3D Printing, Web and Mobile Development.
- **Employment scenario:** It estimates India's workforce at nearly 565 million, with over **45 percent engaged in agriculture, 11.4 percent in manufacturing, 28.9 percent in services, and 13.0 percent in construction.**
  - The services sector remains a major job creator, while the construction sector's importance has increased due to government infrastructure initiatives.
  - The Survey emphasizes that the Indian economy needs to create 7.85 million non-farm jobs annually until 2030.
- **Socio-economic repercussions of mental health issues:** It extensively covers the socio-economic repercussions of mental health issues **for the first time.**
  - As per the National Mental Health Survey (NMHS) 2015-16, **10.6 percent** of adults in India suffer from mental disorders, with treatment gaps ranging from 70 percent to 92 percent for different conditions.
  - It advocates for a comprehensive, community-based approach to address this problem.
- **Growth strategy for new India:** The **job and skill creation** should be among the key focus areas in the short to medium term.
  - Other priorities include tapping the full potential of the agriculture sector, addressing MSME bottlenecks, managing India's green transition, deftly dealing with the Chinese conundrum, deepening the corporate bond market, tackling inequality, and improving the quality of health of our young population.



INDIA'S TEXTILE SECTOR

According to a report by the Global Trade Research Initiative India's garment exports in 2023-24 stood at $14.5 billion, compared with $15 billion in 2013-14.

About:

- The report has raised concerns about a **steady rise in India's garments and textiles imports** in recent years, which had grown to almost **$9.2 billion** in 2023.
- Complex procedures, import restrictions and domestic vested interests are holding up Indian garment export growth.
- **Share in Domestic Trade:** The domestic apparel & textile industry in India contributes approx. **2.3 % to the country's GDP, 13%** to industrial production and **12%** to exports.
- **Share in Global Trade:** India has a **4%** share of the global trade in textiles and apparel.
- **Export:** India is the world's 3rd largest exporter of Textiles and Apparel.
- **Production of Raw Material:** India is one of the largest producers of cotton and jute in the world. India is also the 2nd largest producer of silk in the world and 95% of the world's hand-woven fabric comes from India.
- **Employment Generation:** The industry is the 2nd largest employer in the country providing direct employment to 45 million people and 100 million people in the allied sector.
- **Regions:** Andhra Pradesh, Telangana, Haryana, Jharkhand, and Gujarat are the top textile and clothing manufacturing states in India.

Challenges Faced by the Textile Industry:

- **Expensive Raw Material:** Recent **Quality Control Orders** issued for fabric imports have complicated the process of bringing in essential raw material.
  - This scenario forces exporters to use expensive domestic supplies, making Indian garments overpriced and unappealing to global buyers who prefer specific fabric sources.
- **Cotton Price Fluctuations:** India is a major producer and consumer of cotton. Fluctuations in cotton prices impact the cost of production for textile manufacturers.
- **Imports from Bangladesh:** With Bangladesh having **duty-free access** to the Indian market, those garments are available at **15-20% less cost in India.**
  - When fabric is imported, jobs are lost in cotton, spinning, knitting, compacting, and processing segments in India.
- **Competition in the International Market:** The overall cost difference between Indian and Bangladesh garments should be about 2-3%, but the labour costs are lesser in Bangladesh by almost 30%.
  - Between 2013 and 2023, garment exports from **Vietnam have grown nearly 82%** to hit $33.4 billion while that of **Bangladesh has grown nearly 70%** to hit $43.8 billion.
- **Infrastructure Constraints**: Infrastructure challenges, including inadequate transportation systems, power shortages, and outdated technology, hinder the efficiency of the textile manufacturing process.
- **Technology Upgradation:** Many textile units in India still use outdated machinery and technology.

Initiatives taken by the Government:

- **Amended Technology Upgradation Fund Scheme (ATUFS):** To achieve the vision of generating employment and promoting exports through "Make in India'' with "Zero effect and Zero defect" in manufacturing, ATUFS was launched in **2016** to provide credit linked Capital Investment Subsidy (CIS).
- **Scheme for Capacity Building in Textile Sector (SAMARTH):** To address the skilled manpower requirement across the textile sector, the scheme was formulated, under the broad policy guidelines of **"Skill India"** initiative.
- **National Technical Textile Mission:** The Mission for a period of **4 years** (2020-21 to 2023-24) was approved for developing usage of technical textiles in various flagship missions, programmes of the country including strategic sectors.
- **Production Linked Incentive (PLI) Scheme** - The PLI Scheme for Textiles to promote production of Manmade Fibre (MMF) apparel, MMF Fabrics and Products of Technical Textiles in the country.
- **PM-MITRA:** To boost employment generation through setting up of 7 PM **Mega Integrated Textile Region and Apparel (PM MITRA)** Parks in Greenfield /Brownfield sites with world class infrastructure.
- **Scheme for Integrated Textile Parks (SITP):** SITP is designed to promote textile industry clusters by providing infrastructure support, including common facilities, utilities, and services.
  - The goal is to encourage a more organized and efficient approach to textile manufacturing.
- **Integrated Skill Development Scheme (ISDS):** ISDS focuses on skill development in the textile sector to address the industry's labor challenges.
  - It aims to provide training to workers and enhance their employability, contributing to the overall growth of the sector.

Way Ahead:

- The industry continues to hope for a revival in demand but, what the industry needs urgently is policy intervention at the Centre and State-levels and holistic measures to improve competitiveness.
- So, on the lines of the 'Make in India' campaign, the government should encourage purchase of Indian garments.
- While the current volume of imports are not much compared with the overall size of the domestic market, diversion of these orders to local manufacturers will bolster production.

END OF INDEXATION BENEFIT ON PROPERTY SALE

The Finance Minister in Budget 2024 announced the removal of indexation on property sales.

About:

- The long-term capital gains (LTCG) tax **on property and gold was reduced** from **20 percent to 12.5 percent.**
- However the properties purchased before **April 1, 2001**, would continue to **enjoy indexation.**

What is Indexation?

- Inflation erodes the purchasing power of money over time. **Adjusting the purchase price for inflation reduces the taxable capital gain**, which results in lower tax payments.
- Without the indexation benefit, taxes are calculated based on the original purchase price without adjusting for inflation.
- This could lead to a **higher taxable capital gain** despite the lower LTCG rate.
- Essentially, while the tax rate is reduced, the taxable amount might be higher due to the absence of inflation adjustment, potentially resulting in increased taxes.

INDIA'S ILLEGAL COAL MINING PROBLEM

Recently three workers died of asphyxiation inside an illegal coal mine in Gujarat's Surendranagar district.

About:

- **Coal is the most abundant fossil fuel** in India, accounting for **55%** of the country's energy needs.
- **According to the Ministry of Coal,** illegal mining in India is mostly carried out in abandoned mines or shallow coal seams in remote or isolated places.
- Illegal mining is often carried out using **rudimentary techniques like surface mining** and **rat-hole mining,** rather than the scientific methods required for legal operations on a larger scale.

Nationalization of Coal Mines:

- **Coal in India was nationalized in two phases:** first with the coking coal (used for the production of coke in the steel industry) in **1971-72**; and then with the non-coking coal mines in **1973.**
- **The Coal Mines (Nationalization) Act, 1973** is the central legislation that determines eligibility for coal mining in India.
- **Illegal mining constitutes a law and order problem**, which is a **State list subject.** Hence, the onus of dealing with it falls on State governments rather than the Union government.

Issues faced by Workers in Illegal Coal Mining:

- **The lack of safety equipment and protocols** is the primary reason for deaths during illegal coal mining. Miners face increased respiratory risks due to inhaling coal dust, and the lack of safety equipment significantly increases this risk.
- **Illegal mines lack proper structural support** to carry out the extraction of coal, making working conditions hazardous and vulnerable to cave-ins, landslides, and explosions.

- Workers are **exposed to high levels of toxic substances** like lead and mercury, which can cause acute poisoning or long-term chronic medical conditions.
- Several people working in illegal coal mines are untrained for the job and for the risks it poses. There is a **lack of proper training, quick response facilities, and knowledge** in case of emergencies.

Challenges to Cut down Illegal Coal Mining:

- **Economic Dependence:** Many local economies rely heavily on coal mining. When official mining operations cease, illegal mining often becomes a primary source of income for local communities.
- **Poverty and Unemployment:** In regions where there are limited employment opportunities, illegal mining provides a means of livelihood for many people, making it difficult to eradicate without addressing underlying economic issues.
- **High Demand for Coal:** Coal is a major source of energy in India, which drives the demand and makes illegal mining lucrative.
- **Weak Law Enforcement:** Limited resources and capacity of law enforcement agencies can result in ineffective policing of illegal mining activities.
- **Technological Challenges**: Monitoring and detecting illegal mining activities, especially in remote areas, are technologically challenging.
- **Support from political leaders:** It is alleged that illegal rat-hole coal mining has continued in Assam, as well as in Meghalaya and other north-eastern States, with the patronage of political leaders and in collusion with officials.

Steps taken by Government to Curb Illegal Coal Mining:

- The Government of India has launched one mobile app namely **"Khanan Prahari"** and one web app **Coal Mine Surveillance and Management System (CMSMS)** for **reporting unauthorized coal mining activities** so that monitoring and taking suitable action on it can be done by concerned Law & Order enforcing authority.
- **The National Green Tribunal (NGT)** banned the practice of rat-hole coal mining in **2014** as it causes environmental degradation and is a threat to the life of miners.
- **Committee/task force has been constituted** at different levels (block level, sub-divisional level, district level, state level) in some subsidiaries of **Coal India Limited** to monitor different aspects of illegal mining.

Way Ahead:

- **Economic Development**: Providing alternative livelihood opportunities and economic development initiatives in mining-dependent regions to reduce reliance on illegal mining.
- **Improved Monitoring**: Utilize advanced technologies for monitoring mining activities and ensuring compliance with regulations.
- **Community Engagement:** Engage with local communities to raise awareness about the risks and consequences of illegal mining and to gain their support in combating it.

WHITE CATEGORY SECTORS

The industries categorized under the 'white category' by the Central Pollution Control Board will not require prior permission of the state pollution control boards to establish and operate under the Air Act, 1981 and Water Act, 1974.

About:

- In 2016, the **Central Pollution Control Board** reclassified industries based on their pollution potential.
- This involved assessing pollution index scores based on emissions, effluent discharge, hazardous waste generation, and natural resource consumption.
- The **"white category"** was introduced during this reclassification, alongside updated scores for the previously existing categories — **red, orange, and green.**
  - The PI of any industrial sector is a number from **0-100.**
  - Industrial sectors with a **Pollution Index (PI)** score **including and up to 20** come under the category.
- **Wind and solar power projects, assembly of air coolers, bicycle assembly** are some of the projects and activities that come under the white category.

INDIA'S STEEL PRODUCTION TO SURPASS 300 MILLION TONNES BY 2030

Steel production in India, driven by robust demand for government infrastructure projects, is projected to surpass 300 million tonnes (MT) by 2030.

Current Status:

- India currently ranks as the World's 2nd Largest Producer of Crude Steel, surpassing Japan in 2018
  - Current steel demand remains strong with an infrastructure push from the government and expects a growth of about 10 percent.
- The steel industry stands as one of the most significant pillars of India's economic and industrial framework.

Importance:

- **Growth:** The steel industry contributes significantly to the country's GDP and serves as a major source of employment.
  - Directly employing millions and supporting many more indirectly, it provides jobs across a range of skills, from high-tech engineering roles to manual labour.

- **Infrastructure Development:** The construction of bridges, highways, railways, and buildings relies heavily on steel due to its strength, durability, and versatility.
- **Industrial Expansion and Technological Advancements:** India's steel industry is characterized by its continuous efforts to enhance production efficiency, reduce costs, and develop high-quality steel products.
  - The industry also supports the growth of other high-tech sectors, including automotive, aerospace, and defense.
- **Collaboration with international partners :** India's steel industry has a significant presence in global trade, contributing to the country's export revenue.
  - By participating in international markets, India enhances its economic influence and establishes itself as a key player in global steel production.
- **Strategic Importance:** Steel is essential for the production of defense equipment, infrastructure critical to national security, and emergency response capabilities.

Challenges:

- **Raw material availability:** There is volatility in the supply and pricing of raw materials, particularly iron ore and coal.
- **The inefficiencies in logistics increase** operational costs and impact the competitiveness of Indian steel producers in the global market.
- **Competition:** India remained a net importer of steel during the first, second and third quarters of FY24 because of price differentials between international and domestic prices of finished steel.
- **Environmental concerns:** Steel production is energy-intensive and generates substantial greenhouse gas emissions
  - India's steel sector accounts for **12% of India's greenhouse gas emissions** with an emission intensity of 2.5 tonnes of CO2 per tonne of crude steel compared to the global average of 1.9 tonnes of CO2 per tonne of crude steel.

Initiatives:

- The Union Minister of Steel and Heavy Industries launched **SIMS 2.0 portal,** the upgraded Steel Import Monitoring System, to provide actionable intelligence to stakeholders for effective decision-making and strategic planning.
- **National Steel Policy 2017 (NSP 2017):** India aims to achieve a crude steel capacity of 300 MTPA and a crude steel demand/ production of 255 MTPA by 2030-31.
- **Productivity Linked Incentive (PLI) Scheme:** 57 MoUs with 27 companies have been signed under the PLI Scheme.
- **'Brand India' Labeling:** The Ministry of Steel is promoting a "Made in India" brand for domestic steel.
- **PM Gati Shakti National Master Plan:** The Ministry of Steel has identified 22 critical infrastructure gaps and is coordinating with other ministries (Road Transport and Highways, Railways, Ports, Shipping, and Waterways) to address them.
- **The Union Budget for 2024-25** gives India's steel industry several reasons to cheer, including import duty cuts on several raw materials and indirect benefits from increased spending on infrastructure and affordable housing.

ECONOMIC CASE FOR INVESTMENT IN THE WELL-BEING OF ADOLESCENTS IN INDIA REPORT

The Government has launched the "Economic Case for Investment in the Well-being of Adolescents in India" report.

Major Highlights of the Report:

- The report builds on the **global findings** presented in **"Adolescents in a Changing World – The Case for Urgent Investment,"** commissioned by the **Partnership for Maternal, Newborn & Child Health (PMNCH)** released at the **77th World Health Assembly** in Geneva.
- It highlights **significant improvements in adolescent well-being** in India over recent decades, showcasing the Government's extensive policies and programmes aimed at promoting the health and well-being of adolescents.
- It highlights **seven key programmes** in areas such as adolescent health, education, child marriage prevention, and road safety, which are expected to yield impressive returns on investment.
  - For **every dollar invested,** returns are estimated to range from **USD 4.6 to USD 71.4.**
- **Future investments**, some of which align with existing national programmes, have the potential to significantly **boost the Indian economy.**
  - An investment of USD 33 billion per annum across various sectors by the government, private sector, civil society, communities, and families is projected to yield returns of USD 476 billion per annum, enhancing the **GDP by an average of approximately 10.1%.**

Adolescents and Need for their Well Being:

- Today's adolescents (defined here as persons **aged 10–19 years**) face serious challenges in a rapidly shifting world.
  - These range from the effect of population changes and age distribution, the impact of climate change on mental health and well-being, the learning crisis and the persistent inequality, violence and neglect of human rights experienced, especially by women.
- The world urgently needs a **new investment programme** to improve the well-being of adolescents.

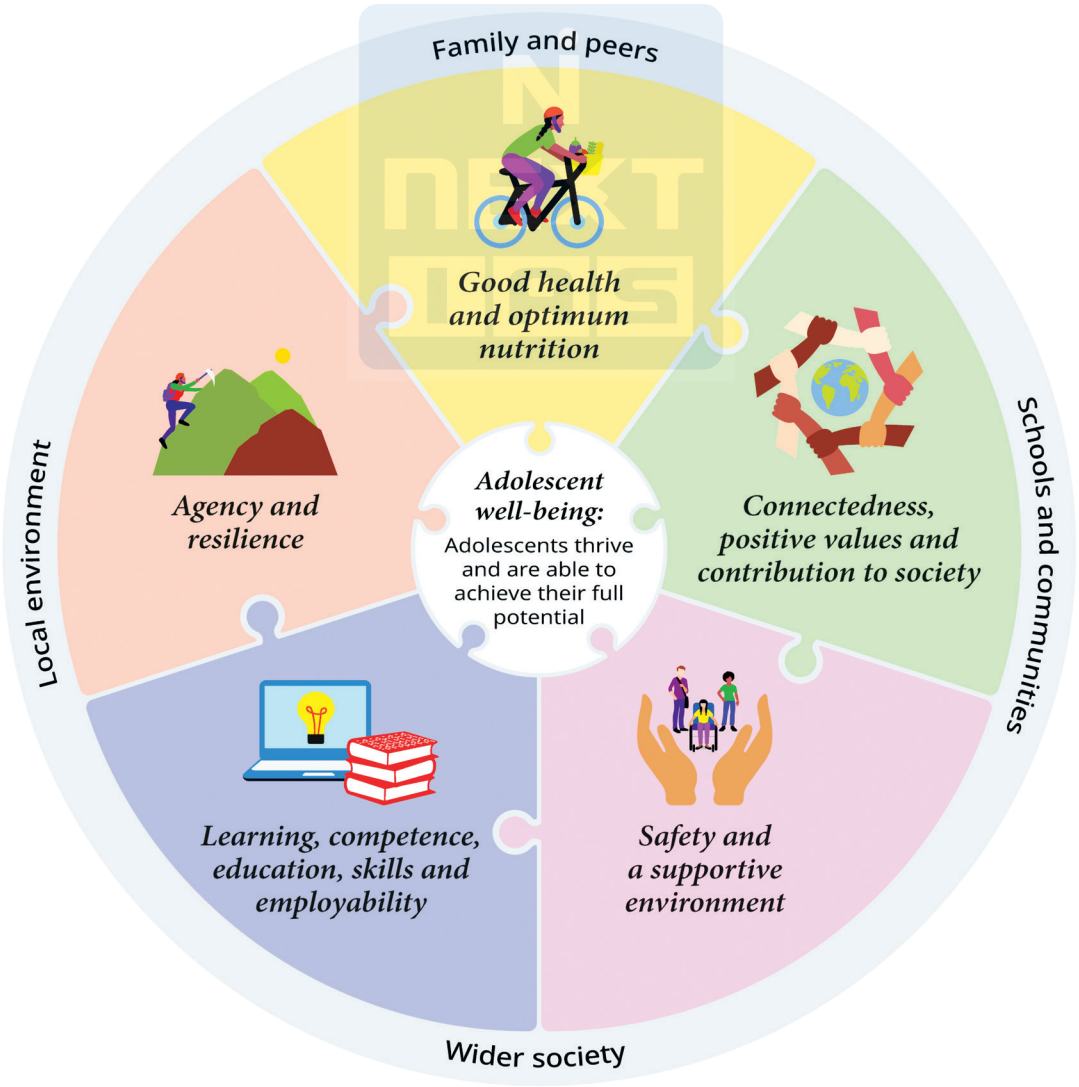
Government Initiatives for Adolescents:

- India has the **largest population of adolescents** in the world, 253 million strong, and growing.

- **Rashtriya Kishor Swasthya Karyakram (RKSK):** It is a dedicated program to reach out to 253 million adolescents – male and female, rural and urban, married and unmarried, in and out-of-school adolescents with special focus on marginalized and under-served groups.
- **The School Health and Wellness Programme** under Ayushman Bharat aims to strengthen health promotion and disease prevention interventions for school children using trained teachers.
- **The Scheme for Promotion of Menstrual Hygiene** is focused on adolescent girls to increase awareness and promote menstrual hygiene practices.
- The government is making special efforts towards children with **special needs, girl education and mid-day meals for school children.**
- **The newly released Union Budget for 2024-25** includes a comprehensive Rs 2 lakh crore package aimed at **education, job creation, skill development, and employment-linked incentives,** benefiting 4.1 crore (41 million) youth across the nation.
  - This budgetary allocation further reinforces the Government's commitment to investing in the future of India's adolescents and youth, creating the enabling environment and providing them with the necessary resources and opportunities to thrive.

Conclusion:

- **Large-scale and immediate investment** to increase the capabilities and well-being of adolescents is now of critical importance. This investment will empower young people to meet these challenges before them and to thrive during adolescence and in the decades ahead.
- **The cost of inaction** will be very high but the returns to these investments are also high, both in terms of Benefit Cost Ratio and in terms of fulfilling human rights and reducing inequalities around the world.



4 ENVIRONMENT

INDIA'S GREEN ENERGY TRANSITION

The World Bank has approved a second round of 1.5 billion dollars in financing to help India accelerate the development of low-carbon energy.

Background:

- In June 2023, the World Bank approved the 1.5 billion dollars for the First Low-Carbon Energy Programmatic Development Policy Operation.
  - The fresh funding is expected to help India expand its green hydrogen production and boost the mobilisation of finance for low-carbon investments.

India's Green Energy Transition:

- India, as one of the world's fastest-growing economies, faces a critical challenge in balancing economic growth with environmental sustainability.
  - Central to this challenge is the transition from conventional fossil fuels to cleaner, renewable energy sources.
  - This shift is not merely a trend but a necessity driven by global environmental concerns, energy security, and economic imperatives.
- India is pursuing energy transition in various sectors including electricity, industry, transport, agriculture, cooking, etc.

Present Status:

- India stands **4th globally in Renewable Energy** Installed Capacity **(including Large Hydro), 4th in Wind Power capacity** & **5th in Solar Power capacity** (as per REN21 Renewables 2024 Global Status Report).
- India saw the highest year-on-year growth in **renewable energy additions of 9.83% in 2022.**
- The installed **solar energy capacity** has increased by **30 times** in the last 9 years and stands at 84.27 GW as of May 2024.
- India has been ranked 63rd on a global Energy Transition Index released June 2024 by the World Economic Forum.

Advantages:

- **Environmental**: With cities grappling with severe air pollution and concerns over climate change growing, reducing dependency on coal and fossil fuels is crucial to improving air quality and mitigating global warming.
- **Energy Security:** Diversifying energy sources enhances India's energy security by reducing reliance on imported fossil fuels, thus stabilising energy prices and mitigating geopolitical risks.
- **Economic Opportunities:** The renewable energy sector offers significant economic opportunities, including job creation, technological innovation, and attracting investments.
  - India has become a global hub for solar energy manufacturing, driving down costs and increasing accessibility.
- **Inspiration for World:** India can serve as an example for the world by fostering what is potentially the largest green workforce in the world and building a domestic supply of critical battery materials via recycling, contributing significantly to the fight against climate change on both national and international scales.

Challenges:

- **Financial Viability and Cost Competitiveness:** The costs of renewable energy technologies, particularly solar and wind, have decreased significantly over the years, achieving cost competitiveness with conventional sources remains a challenge.
  - Factors such as initial capital costs, land acquisition, and financing barriers can make renewable projects financially challenging, especially for smaller developers and in rural areas.
- **Infrastructure Development:** Building the necessary infrastructure to support renewable energy deployment, such as transmission lines, substations, and energy storage facilities, is essential but often faces logistical and bureaucratic hurdles.
  - Delays in infrastructure development can hinder the timely commissioning of renewable projects and affect grid connectivity.
- **Policy and Regulatory Framework:** Inconsistencies in policies across different states, regulatory delays in project approvals, and evolving regulatory frameworks pose challenges for investors and developers.
- **Lack trained manpower:** There is a shortage of trained professionals and technicians with specialized skills in renewable energy technologies.

Initiatives:

- India has taken bold action to develop a domestic market for green hydrogen, underpinned by rapidly expanding renewable energy capacity.
  - The first tenders under the **National Green Hydrogen Mission's** incentive scheme have demonstrated significant private sector interest.

- **Permitting Foreign Direct Investment (FDI)** up to 100 percent under the automatic route for renewable energy projects.
- **Launch of Schemes** such as Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), Solar Rooftop etc.

- **Panchamrit:** The country has set an enhanced target at the COP26 of 500 GW of non-fossil fuel-based energy by 2030. This has been a key pledge under the Panchamrit.
- India has implemented various measures, including the waiver of transmission system charges for inter-state solar and wind power sales, establishing renewable power purchase obligations, and creating Ultra Mega Renewable Energy Parks.
- In October 2018, Prime Minister Narendra Modi proposed the idea of **One Sun, One World, One Grid (OSOWOG)** for the first time at the **First Assembly of the International Solar Alliance (ISA).**

Way Forward:

- India's resources, including its long coastline, abundant sunshine, and various vacant lands, can facilitate renewable power generation via hydro, solar, and wind.
- The nation thus has the potential to rank among the top global producers of both wind and solar energy.
- Continued commitment to renewable energy targets, supportive policies, technological advancements, and international collaborations will be key to accelerating India's green energy transition.
- By addressing existing challenges effectively, India can not only meet its energy needs sustainably but also emerge as a global leader in renewable energy innovation and implementation.

AIR POLLUTION SPIKES MAY RAISE DEATH RATES IN CITIES: STUDY

A first-of-its kind multi-city analysis in India that studied the health effects of short-term exposure to air pollution published in the peer-reviewed Lancet Planet Health.

Overview of Study:

- It was conducted across 10 Indian cities, analyzing short-term exposure to PM2.5 and its impact on mortality rates.
  - The scientists analysed pollution and death registry data from Ahmedabad, Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, Mumbai, Pune, Shimla, and Varanasi.
- It used weather-related parameters as instrumental variables to accurately attribute mortality effects to locally generated air pollution.

AIR POLLUTION

- It is contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere.
- Household combustion devices, motor vehicles, industrial facilities and forest fires are common sources of air pollution.
- Pollutants of major public health concern include particulate matter, carbon monoxide, ozone, nitrogen dioxide and sulphur dioxide.
- WHO data show that almost all of the global population (99%) breathe air that exceeds WHO guideline limits and contains high levels of pollutants, with low- and middle-income countries suffering from the highest exposures.

Key Highlights:

- **Mortality:** Delhi had the highest annual deaths attributable to air pollution (11.5% of total deaths), despite already high pollution levels.
  - Bengaluru had 4.8% of its annual deaths attributable to air pollution, with lower exposure levels compared to Delhi.
- **Short-Term PM2.5 Exposure:** Short-term exposure to PM2.5 was linked to increased daily deaths across all cities.
  - A 1.42% rise in daily deaths was observed for every 10 µg/m3 increase in PM2.5 over a two-day period.
- **Risk and Pollution Levels:** Mortality risk increased more sharply at lower PM2.5 levels and plateaued as levels increased.
  - Even PM2.5 levels below the Indian national air quality standard of 60 µg/m3 posed significant mortality risks (2.65%).
- **Comparison with International Studies:** Similar studies in other countries (China, Greece, Japan, Spain) showed varying mortality impacts per 10 µg/m3 increase in PM2.5, reflecting different baseline pollution levels.
- **Epidemiological Insights:** They Identified a 'harvesting effect' where cities with lower pollution levels experienced a sharper spike in mortality rates due to air pollution compared to highly polluted cities.
  - Emphasised that vulnerable individuals may succumb to air pollution even at lower exposure levels.

Suggestions:

- The air pollution levels in India are among the highest in the world, posing a heavy threat to the country's health and economy.
- Air quality management is an ongoing process. It needs to be integrated into the capabilities of the government, as well as incorporated into the behavior of businesses and individuals.
  - This requires sufficient funding and a sustained focus on building capacity.
- There is a need for robust air pollution action plans at local and regional levels to address both fixed and mobile sources of pollution.

- There is also the urgency to address dispersed sources of air pollution alongside traditional sources.
- There is a need for continuous improvement in air quality standards and pollution control measures to mitigate health risks.

STRATEGIES TO CONTROL THE RISING POLLUTION IN THE COUNTRY

- The **National Clean Air Programme (NCAP**) has been launched by the Ministry of Environment, Forest and Climate Change (MoEFCC) in January 2019 with an aim to improve air quality in 131 cities (non-attainment cities and Million Plus Cities) in 24 States by engaging all stakeholders.
- **Leapfrogging from BS-IV to BS-VI fuel standards** from 1st April, 2018 in NCT of Delhi and from 1st April, 2020 for the rest of the country.
- **Sustainable Alternative Towards Affordable Transportation (SATAT**) has been launched as an initiative to set up Compressed Biogas (CBG) production plants and make CBG available in the market for use in automotive fuels.
- **Notification regarding SO2 and NOx emissio**n standards have been issued for Thermal Power Plants.
- **Measures for control of emissions from Stubble Burning:** Government in 2018 launched a scheme for providing subsidy for purchase of crop residue management machinery and establishment of custom hiring centres (CHCs) in NCT of Delhi and the States of Punjab, Haryana and Uttar Pradesh.
- **National Air Quality Index (AQI)** was launched in 2015. Information is being disseminated to the public through daily air quality bulletins.
- Government notifies industry **specific discharge standards** under Schedule-I: 'Standards for Emission or Discharge of Environmental Pollutants from various Industries' of Environment Protection Act, 1986.
- **The Central Pollution Control Board** has been continuously deploying dedicated CPCB's teams on the field during the winter season from 2017 onwards to check on-ground scenarios of air pollution related activities and refer these to implementing agencies for necessary action.
- **Graded Response Action Plan (GRAP)** was prepared for implementation under different Air Quality Index (AQI) categories in pursuant to the Hon'ble Supreme Court's Order dated December 02, 2016.

INDIA'S E-VEHICLE (EV) POLICY

The government plans to expand its Electric Vehicles (EVs) policy to include retrospective benefits for prior investors. Previously, incentives were available only for new local facilities established within three years of approval.

About:

- Electric Vehicles (EVs) have gained significant traction in recent years as a cleaner and more efficient alternative to traditional gasoline-powered cars.
- With advancements in battery technology, a growing network of charging infrastructure, and increasing consumer demand, EVs have become a viable option for many drivers around the world.
- Significant investor support is essential to tap into the $100 billion-plus EV opportunity in India.
- India, being the third-largest automotive market in the world, could potentially "lead the global transition" from Internal Combustion Engine (ICE) to decarbonised electric counterparts.

E-Vehicle Policy:

- The government in March 2024 approved the **E-Vehicle policy** to promote India as a manufacturing destination for EVs and attract investment from reputed global EV manufacturers.
- **Focus:** Enhance access to latest technology, strengthen the EV ecosystem, and promote competition among players.
  - Aim to lower production costs and improve EV economics for Indian consumers.
  - Mandated 50% value addition in manufacturing to occur domestically within five years.
  - Reduced import duty on completely built units (CBUs) with a cost, insurance, and freight (CIF) value of $35,000 from 70%-100% to 15%.

Challenges and Issues:

- India faces structural cost disadvantages in certain components.
- After-sales service is a major concern for EV customers, impacting the scalability of business models.
- Foreign investments may not always deliver desired outcomes.

Comparison at Global:

- India's EV policy aligns with incentives provided in the U.S., China, and Europe for EV manufacturing.
  - Electric cars in Europe and the U.S. remain 10%-50% more expensive than combustion engine vehicles.
  - Both regions import 20%-30% of their EV battery demands, highlighting the need for integrated production.

Other Related Steps:

- The Indian government has set a target to achieve **30 percent electrification of the country's vehicle fleet by 2030,** and has introduced several incentives and policies to support the growth of the EV industry.
- The industry was given a major boost in the FY24 Union Budget for the production of electric vehicles, adoption of hydrogen fuel, and embracing changing technologies.

- **In the 2023-24 Union Budget**, Finance Minister Nirmala Sitharaman announced a budget allocation of INR 35,000 crore for crucial capital investments aimed at achieving energy transition and **net-zero targets by 2070.**
- The government has already launched initiatives such as the **Faster Adoption of Manufacturing of Electric Vehicles Scheme – II (FAME – II) and the Production Linked Incentive Scheme (PLI).**

Way Forward:

- India's electric vehicle market is poised for significant growth in the coming years.
- With supportive government policies, increasing consumer awareness, and advancements in technology, the country is well positioned to transition towards a more sustainable and eco-friendly mode of transportation.
- As the demand for EVs increases, it presents a tremendous opportunity for both local and international companies to invest in and contribute to the growth of India's EV ecosystem.
- Investors should evaluate potential assets based on competitive advantages, market capabilities, customer feedback, talent, and supply chain strategies.

INDIA TO SIGN BIODIVERSITY BEYOND NATIONAL JURISDICTION AGREEMENT

The Union Cabinet has approved India to sign the Biodiversity Beyond National Jurisdiction (BBNJ) Agreement.

About:

- **The Ministry of Earth Sciences** will spearhead the country's implementation of the BBNJ Agreement.
- The Agreement allows India to enhance its strategic presence in areas beyond the **EEZ (Exclusive Economic Zone).**
- It would also contribute to achieving several SDGs, particularly **SDG14 (Life Below Water).**

BBNJ Agreement:

- The BBNJ Agreement, or the '**High Seas Treaty',** is an international treaty under the **United Nations Convention on the Law of the Sea (UNCLOS).**
- It sets precise mechanisms for the **sustainable use of marine biological diversity** through international cooperation and coordination.
- Parties cannot claim or exercise sovereign rights over marine resources derived from the high seas and ensure **fair and equitable sharing of benefits.**
  - **High Seas** (areas beyond national jurisdiction) are the global common oceans open to all for internationally lawful purposes such as navigation, overflight, laying submarine cables and pipelines, etc.

Implementation of BBNJ Agreement:

- The BBNJ Agreement will be the **third implementation agreement** under **UNCLOS** if and when it enters into force, alongside its sister implementation agreements:
  - **The 1994 Part XI Implementation Agreement** (which addresses the exploration and extraction of mineral resources in the international seabed area) and
  - **The 1995 UN Fish Stocks Agreement** (which addresses the conservation and management of straddling and highly migratory fish stocks).
- The Agreement was agreed upon in March 2023 and is open for signature for two years starting September 2023.
- It will be an **international legally binding treaty** after it enters force 120 days after the 60th ratification, acceptance, approval or accession. As of June 2024, **91 countries have signed the BBNJ Agreement,** and **eight Parties** have ratified it.

United Nations Convention on the Law of the Sea (UNCLOS):

- **UNCLOS** was adopted in **1982,** and came into force in **1994.**
- It lays down a **comprehensive regime of law and order in the world's oceans** and seas establishing rules governing all uses of the oceans and their resources.
- It establishes the **International Seabed Authority** to regulate mining and related activities on the ocean floor beyond national jurisdiction.
- As of today, more than **160 countries** have ratified UNCLOS.

INJECTION BOREWELLS

Recently, people adopted the injection borewells to meet growing water needs of Visakhapatnam in Andhra Pradesh.

About:

- These are a smart solution to combat water scarcity and recharge groundwater. These borewells utilise rainwater by channelling it into deep layers of the earth.
- **Rainwater Capture:** Injection borewells capture rainwater from large open spaces, terraces, and other surfaces.
- **Unique Technology:** They employ a unique technology that filters and recharges pure rainwater.
- **Deep Recharge:** The water is pumped into underground layers, replenishing the aquifers.

Significance:

- **Rising Water Demand:** As cities expand and populations grow, the demand for water increases.
  - **Visakhapatnam** and Hyderabad's IT Corridor are using this technique to meet their water demand.
- **Groundwater Depletion:** Traditional borewells struggle to keep up with this demand, leading to declining groundwater levels.

- **Year-Round Recharge:** Unlike surface water sources that depend on seasonal rains, injection borewells can recharge groundwater even after the rainy season.
- **Cost-Effective:** Groundwater recharge through injection borewells is less expensive than relying solely on surface water.
- **Soil Erosion Reduction:** By directing rainwater underground, these borewells also help prevent soil erosion.

VULTURE CONSERVATION & CITES SEFINES GUIDELINES ON ROSEWOOD SPECIES

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has issued guidelines for its members involved in the sustainable harvest and trade of rosewood specimens.

About:

- The CITES emphasized the need to strengthen connections with the Module on **Non-Detriment Findings (NDF)** for tree species under the CITES-NDF Guidance.
- NDFs are crucial for ensuring sustainable global trade in **CITES-listed species**, supporting livelihoods in their countries of origin and industries in production and destination countries.

Rosewood Species

- **Origin:** Belong to the genus Dalbergia, which encompasses various species found in tropical regions worldwide.
- **Famous Varieties:**
  - **Brazilian Rosewood (Dalbergia nigra):** Revered for its strong, sweet scent and deep reddish-brown color.
  - **Indian Rosewood (Dalbergia latifolia):** Native to India and valued for its durability and straight grain.

Dalbergia sissoo (Shisham or North Indian Rosewood):

- Species such as **Dalbergia latifolia (Malabar rosewood)** and **Dalbergia sissoo (Shisham)** are renowned for their use in high-quality furniture and musical instruments.
- Malabar rosewood is classified as Vulnerable, Shisham is categorized as Least Concern, and African rosewood is listed as Endangered on the IUCN Red List.

About CITES

- **Adopted in 1973** and entered into force in 1975, CITES provides a framework for countries to regulate and monitor the trade of endangered species through a system of permits and certificates.
- The convention categorizes species into **three appendices**
  - **Appendix I:** Includes species that are most endangered and are threatened with extinction.
  - **Appendix II:** Includes species that are not necessarily threatened with extinction but may become so unless trade is closely controlled.
  - **Appendix III:** Contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade.
- Although CITES is **legally binding on the Parties** – in other words they have to implement the Convention – it does not take the place of national laws.
- India became the **25th party** — a state that voluntarily agrees to be bound by the **Convention — in 1976.**

URANIUM CONTAMINATION

A new study by scientists from the Bhabha Atomic Research Centre (BARC) has concluded that concentration of uranium, a radioactive substance, up to 60 micrograms per litre in drinking water was entirely safe.

About:

- Uranium (U) is a radioactive chemical element of the actinide series of the periodic table, atomic number 92.
- Uranium is a dense, hard metallic element that is silvery white in colour. It is ductile, malleable, and capable of taking a high polish.
- India produces about **2 percent of the world's uranium**. India has no significant reserves of Uranium. All needs are met through imports**. India imports thousands of tonnes of uranium from Russia, Kazakhstan, France.**
- **Punjab is the worst-affected state** in terms of the percentage of wells found to have uranium concentration of more than 30 ppb.
- Haryana is the second state in terms of uranium prevalence in groundwater.
- Uranium contaminates water due to geogenic processes, overexploitation of groundwater and its decline, nitrate pollution etc.
- Uranium creates a lot of adverse impacts on health like cancer, Nephritis etc.

TAXONOMY FOR CLIMATE FINANCE

The 2024 Union Budget, presented by the Finance Minister, includes developing a taxonomy for climate finance to enhance the availability of capital for climate adaptation and mitigation.

About:

- Climate finance taxonomy refers to a **set of standardised regulations** and **guidelines** to inform companies and investors on making impactful investments towards environmental conservation and combating the climate crisis.

- It is a system that classifies **which parts of the economy may be marketed as sustainable investments.**
- It helps **guide investors and banks** in directing trillions toward impactful investments to tackle climate change.

- Taxonomies for sustainable climate financing, in general, include a **detailed list of economic sectors and activities** and corresponding criteria that determine if it **aligns with larger climate goals.**
- **Countries Having the System:** South Africa, Colombia, South Korea, Thailand, Singapore, Canada, and Mexico are some of the countries which have developed taxonomies. The European Union has done this as well.

CONCERNS OVER CARBON BORDER ADJUSTMENT MECHANISM (CBAM)

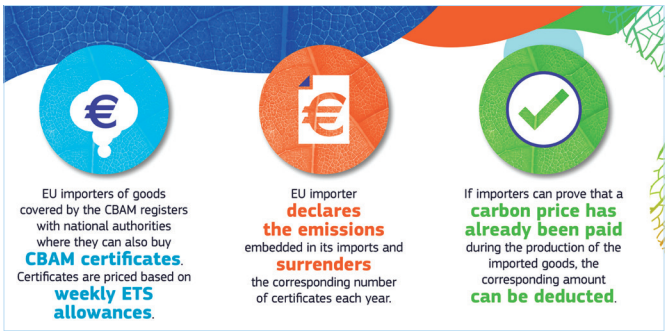
The Economic Survey has raised concerns over the forthcoming Carbon Border Adjustment Tax (CBAT) by the European Union.

About:

- CBAM is the European Union's tool to put a fair price on the carbon emitted during the production of carbon intensive goods that are entering the EU, and to encourage cleaner industrial production in non-EU countries.
- CBAM is one of the elements of the **EU Green Deal,** the goal of which is to reduce **GHG emissions by 55% by 2030.**
- CBAM is aimed at **equalizing the price of carbon paid for EU** products operating under the EU Emissions Trading System (ETS) and imported goods.
  - It refers to a phenomenon where a **EU manufacturer moves carbon-intensive production to countries outside the region with less stringent climate policies.** Its primary objective is to avert **'carbon leakage'.**

Implementation of CBAM:

- The CBAM system is expected to come into force on **January 1, 2026.**
- The CBAM will initially apply to imports of **Cement, Iron and steel, Aluminium, and Electricity,** as these sectors have a high risk of carbon leakage and high carbon emissions.
- EU importers will have to **buy carbon certificates corresponding to the carbon price** that would have been paid in the EU, if the goods had been produced locally.
- The price of the certificates would be calculated according to the **auction prices in the EU carbon credit market.**
- Once a non-EU producer can show that they have already paid a price for the carbon used in the production of the imported goods in a third country, the **corresponding cost can be fully deducted for the EU importer.**
- **CBAM will apply on:** In principle, imports of goods from **all non-EU countries** will be covered by the CBAM. Certain third countries who participate in the ETS or have an emission trading system linked to the Union's will be excluded from the mechanism. This is the case for members of the **European Economic Area and Switzerland.**



Impact on India:

- As per the **Global Trade Research Initiative report** India is among the **top eight countries** that will be adversely affected by CBAM.
- In 2022, **27% of India's exports of iron, steel and aluminum products worth $8.2 billion went to the EU.** It is estimated that a few of its core sectors, such as steel, will be "greatly affected" by CBAM.
- Raising financial resources for climate change adaptation is an **"unprecedented challenge"** as India's climate action has been largely financed through domestic resources and the flow of international finance has been very limited.

CHEETAH CONSERVATION BREEDING CENTRE IN GUJARAT

The Central Zoo Authority (CZA) has given its final approval for a cheetah conservation breeding centre in Gujarat's Banni grasslands.

About:

- **Banni** was selected from among ten potential sites identified in 2009 for cheetah reintroduction in India.
- Its **savannah-like habitat,** similar to East African landscapes, and the presence of Pilu trees (Salvadora persica) for perching make it an ideal location.
- Historically, cheetahs were found in this region, with records of cheetah hunting in **Saurashtra and Dahod** until **1921**, and references to their presence **in Gujarat until the early 1940s.**
- The project aims primarily at **developing and breeding the animals**, rather than tourism.
- To support the cheetahs, the forest department has improved about 14,000 hectares of grasslands at Banni and introduced a chinkara breeding program to bolster the prey base.

NOTIFIED DISASTER

The Union government said that there is no plan to classify the heatwaves as a notified disaster.

About:

- Once classified as a notified disaster, it will be eligible for financial assistance under the **Disaster Management Act, 2005.**
- Currently, **there are 12 categories of disasters** which are notified under this Act.
  - These are cyclones, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloudburst, pest attack, and frost and cold waves.

Heat Waves:

- The basic criteria for IMD to declare a heatwave are when a place's temperature exceeds **40 degrees Celsius (°C)** in the plains, **37°C** in coastal areas, and **30°C** in the hills.
- Due to increased economic activity, there is a far larger number of people who have to remain outdoors for their livelihoods or other reasons, exposing them to the risk of a heat-stroke.

SOUTH AFRICA'S CLIMATE CHANGE BILL

Recently, the Climate Change Bill was approved by South Africa's National Assembly.

About:

- The bill will impose **mandatory curbs on the emissions** from large, fossil-fuel heavy industries and require climate-adaptation plans from towns and villages.
- This would enable South Africa to meet its emissions reduction commitments under the Paris agreement.

Need for the New Law:

- **South Africa relies on coal** as its primary fuel source for electricity generation and is one of the **world's top 15 greenhouse gas (GHG) emitters.**
  - The energy sector represents roughly **80% of gross emissions,** with energy industries (~60%) and transport (~12%).
- Being an economy which is dependent on agriculture and tourism, South Africa has faced increasing **Western pressure to accelerate its transition away from fossil fuel.**

Scenario in India:

- **Lack of Comprehensive Legislation:**
  - India currently does not have a comprehensive national law dedicated solely to addressing climate change.
  - In 2022, a Private Member's Bill called the Council on Climate Change Bill was introduced, but it has not seen significant progress.
- **Existing Legislative Framework**: Despite the absence of a specific climate change law, climate change considerations are embedded within various existing environmental laws and regulations, including:
  - **Environmental Protection Act**: Provides the framework for environmental regulation and protection.
  - **Forest Conservation Act**: Aims to conserve forests and regulate deforestation.
  - **Energy Conservation Act**: Promotes energy efficiency and conservation.
  - **Water (Prevention and Control of Pollution) Act**: Regulates and controls water pollution.
- **Supreme Court Verdict:**
  - The Supreme Court of India has recognized that citizens have a "right against the adverse effects of climate change."
  - The Court emphasized that constitutional guarantees, such as the right to equality before the law and the right to life and personal liberty, necessitate explicit recognition of the impact of climate change as a threat to these fundamental rights.
- **Emission Reduction Achievements:**
  - **Energy Emission Intensity**: India has reported a reduction in the intensity of its energy emissions by 33% from 2005 to 2019, achieving this milestone 11 years ahead of the targeted timeline.
  - **Future Commitments**: India has committed to further reducing its emissions intensity by 45% by 2030 as part of its updated Nationally Determined Contributions (NDCs).
- **Definition and Importance of Emission Intensity:** Emission intensity refers to the total amount of greenhouse gases (GHGs) emitted per unit of GDP, distinguishing it from absolute emissions which measure total emissions.
- **Renewable Energy Goals:** India has pledged to source 50% of its electricity from non-fossil fuel sources by 2030.

COAL GASIFICATION

Recently, India has set a target to gasify 100 million tonnes of coal by 2030.

About:

- It is a **thermo-chemical process** that converts coal primarily into carbon **monoxide and hydrogen**.
- Coal is **partially oxidised** by air, oxygen, steam, or carbon dioxide under **controlled conditions** to produce a **liquid fuel, known as syngas or synthesis gas, dimethyl ether, ammonium nitrate and methanol**, among others.
- Synthetic natural gas can be used as a **substitute for LPG and for electricity generation,** while **dimethyl ether is an alternative to be used in diesel engines**. Ammonium Nitrate can be used for **explosives**.

- Coal gasification offers an opportunity to reduce reliance on imports and conserve foreign exchange, especially in the oil, gas, fertiliser, and petrochemical sectors **in India**, as it is importing approximately **83% of its oil, over 90% of its methanol, and 13-15% of its ammonia.**

DO YOU KNOW?

- India's vast coal reserves, estimated at 378 billion tonnes with about 199 billion tonnes classified as 'proven', present significant opportunities for energy production.
- Currently, around 80% of India's coal is utilised in thermal power plants.

National Coal Gasification Mission:

- It is an initiative by the **Union Ministry of Coal**, under the Atmanirbhar Bharat Abhiyaan.
- The mission aims to utilise coal through coal gasification, with the goal of achieving **100 MT coal gasification by 2030**, with investments worth over Rs 4 trillion.
- It is expected to **reduce imports by 2030.**
- It envisions the adoption of indigenous technologies for the production of chemical products and their derivatives.
- It is expected to reduce the country's reliance on imports of natural gas, methanol, ammonia, and other essential products.

Incentive Schemes:

- The Union Cabinet has approved a ₹8,500 crore incentive scheme for coal gasification projects.
- It encourages both public and private sectors to invest in this transformative technology.

PROJECT TIGER WILL DISPLACE 5.5 LAKH TRIBALS: REPORT

Project Tiger is expected to displace at least 550,000 Scheduled Tribes and other forest dwellers.

About:

- **Significant Progress in Bengal Tiger Protection:** India has made remarkable strides in protecting its national animal, the Bengal tiger.
- **Project Tiger Initiative:**
  - Launched in 1973 as a Centrally Sponsored Scheme.
  - Initially targeted nine reserves across various states: Assam, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh, and West Bengal.
- **Focus Areas:**
  - Selection and preservation of areas specifically managed for tiger conservation.
  - Ensuring the preservation of associated ecosystems to support the tiger population.
- **Successful Implementation:**
  - Project Tiger has been instrumental in putting India's endangered wild tigers on a path to recovery.
  - The initiative has completed 50 years of successful implementation, showcasing tremendous progress in tiger conservation over the past five decades.

Impact on Tribes:

- **Displacement**: The establishment of tiger reserves often leads to the displacement of local communities.
  - Since 2021, displacement has significantly increased, with an average of 48,333 people displaced from each reserve, a 967% rise compared to pre-2021 figures.
- **Loss of Livelihood:** When tribal communities are uprooted from their ancestral lands, they lose their livelihoods.
  - Traditional practices like hunting, fishing, and gathering food become impossible.
  - Victims face severe human rights abuses including extra-judicial killings, enforced disappearances, torture, and other forms of violence.
- **Cultural Disruption**: Displacement disrupts cultural practices, access to sacred sites, and burial grounds. Indigenous knowledge about forests and wildlife is also lost.
- **Lack of Consent:** the lack of free, prior, and informed consent from affected communities before designating areas as tiger reserves.
  - Consent is only sought after displacement, not before.

Recent Recommendations:

- **Policies should prioritize coexistence** rather than displacement. Involving local communities in conservation efforts can lead to better outcomes.
- **Seek consent** from affected communities before designating an area as a tiger reserve.
- **Provide alternative livelihood** options to displaced families.
- Striking a **balance between tiger protection** and **human** well-being is crucial.

Way Forward:

- India's tiger conservation policy must evolve to protect both tigers and the people who share their habitat.
- By addressing displacement, respecting indigenous rights, and fostering community participation, we can achieve a harmonious coexistence between humans and wildlife.
  - For example ,In Biligiri Rangaswamy Temple Tiger Reserve (Karnataka),The Soliga tribal people successfully coexist with tigers, with the tiger population increasing significantly from 35 to 68 between 2010 and 2014.

STURGEON

The WWF report documented 395 cases of illegal sturgeon fishing and trade affecting 1,031 sturgeon individuals from 2016 to 2023.

About:

- Sturgeons are the most endangered species group on earth.
- These gentle giants have been around since the age of the dinosaurs.
- They usually live in freshwater, coastal waters and inner seas throughout Azerbaijan, Bulgaria, China, Iran, Kazakhstan, Romania, Russia, Turkmenistan, Turkey, Ukraine, other European countries and North America.
- **Importance:** They award a cultural, economic and natural value to many rivers of the Northern hemisphere and have become symbols for healthy and free flowing river systems.
- **Global Exploitation:** They are heavily exploited for caviar and meat, leading to global population declines.
- **Status:** Stellate sturgeon, Russian sturgeon, and beluga sturgeon are Critically Endangered.
  - Sterlet sturgeon is listed as Endangered.

PEARL SPOT

Kerala University of Fisheries and Ocean Studies (Kufos) preparing to launch a genome editing mission to boost Pearl Spot production.

About:

- It is commonly known as "Karimeen" in Kerala and is an indigenous fish extensively found along the east and south-west coasts of Peninsular India.
- It is a euryhaline species that inhabits mainly brackish water and river mouths.
- It is distributed in the coastal regions of peninsular India and Sri Lanka.
- In India, the wild populations have been recorded from the states of Kerala and Tamil Nadu.
  - There are also populations in Goa, Andhra Pradesh, Orissa and West Bengal.
- **Use and Trade:** It is a popular food fish. It is known locally as Karimeen and is considered a delicacy.
- **Threats:** Wild populations are subject to various pressures brought on by people, such as habitat deterioration due to disposal of solid and liquid wastes, the discharge of human fecal matter and an increasing number of tourism resorts.
- **IUCN Red List Status:** Least Concern.

WATER HYACINTH

District Panchayat of Kottayam (Kerala) have constituted the technical committee to address the menace of water hyacinth.

About:

- **Scientific name:** Eichhornia crassipes
- It is a fast-growing **aquatic plant** that grows from seed and through vegetative reproduction.
- It is **native to Brazil**, and has spread to other parts of the world including India.

Concerns:

- Water hyacinth can form dense mats that spread out across water surfaces eventually **choking the entire water body.**
- It cuts off sunlight as well as reduces oxygen level in the water, making it unfit for commercial use.
- It is also known as the **"terror of Bengal"** due to its **invasive growth tendencies**.
- It makes the water bodies unsuitable for commercial fishery, transportation and recreation.

SYNTRICHIA CANINERVIS

Scientists have identified a species of desert moss called 'Syntrichia caninervis' capable of surviving Mars-like conditions.

About:

- It is a globally distributed moss species that thrive in severe desert environments like Tibet, Antarctica and circumpolar regions, forming part of the resilient biological soil crust.
- The researchers conducted rigorous tests in controlled laboratory settings to assess the moss' tolerance to extreme cold, gamma radiation and simulated Martian conditions.
- **Research Findings:** The moss demonstrated resilience against extreme conditions such as drought, high radiation levels, and very cold temperatures similar to those on Mars.
  - The moss can recover from dehydration, extreme cold (down to -196°C), and exposure to gamma rays.
  - It surpasses even highly stress-tolerant microorganisms and tardigrades in its environmental resilience.
- **Importance:** It is a promising candidate for pioneering plant colonisation beyond Earth, potentially paving the way for sustainable human habitats in extraterrestrial environments.
- This resilient moss is raising hopes for its potential use in establishing sustainable habitats beyond Earth.

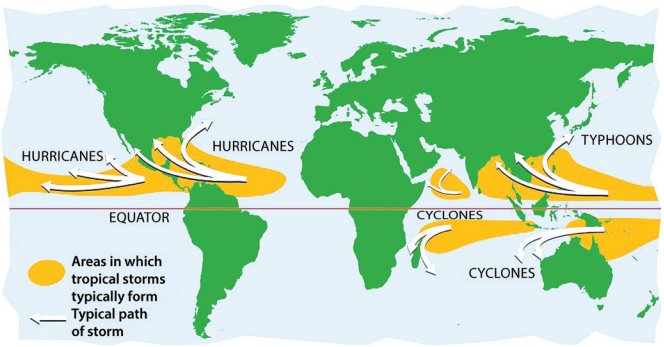
5 GEOGRAPHY

HURRICANE BERYL

Hurricane Beryl has made landfall with floods in Barbados, St Vincent and the Grenadines and Grenada.

About:

- **Formation and Energy Source:**
  - Hurricanes are immensely powerful weather phenomena that draw their energy from the warm waters of the tropics.
  - These intense storms typically originate over the ocean, often beginning as a tropical wave, which is a low-pressure area that moves through the moisture-rich tropical regions, potentially increasing shower and thunderstorm activity.
- **Development Process:**
  - As the tropical wave moves westward across the tropics, warm ocean air rises into the developing storm, creating an area of low pressure beneath it.
  - This results in more air rushing in, which then rises, cools, and forms clouds and thunderstorms.
  - As water vapor in the clouds condenses into droplets, it releases additional heat, further fueling the storm's power.
- **Classification:**
  - When the wind speeds within the storm reach **74 miles per hour,** it is officially classified as a **hurricane.**
  - The terms "hurricane" and "tropical cyclone" describe the same type of storm, characterized by a rotating, organized system of clouds and thunderstorms originating over tropical or subtropical waters, featuring closed, low-level circulation.
- **Energy Output:**
  - A single hurricane can generate winds powerful enough to produce about half the energy output of the entire world's electrical generating capacity.
  - Additionally, the formation of clouds and rain within the storm can release an astonishing 400 times that amount of energy.



Difference between Cyclone, Typhoon, and Hurricane:

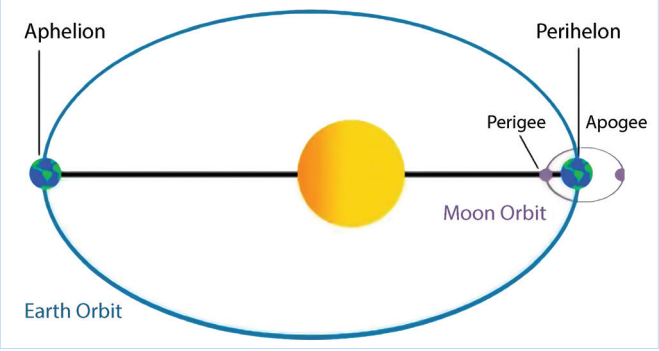
- These large storms have **varied names based on where and how they formed,** although theoretically being the same phenomenon.
- **Hurricane:** When storms that develop over the Atlantic Ocean or the central and eastern North Pacific, attain wind speeds of at least 74 miles per hour, they are referred to as “hurricanes” (119 kilometers per hour).
- **Typhoons in East Asia** are the name given to ferocious, spinning storms that develop over the Northwest Pacific.
- **Cyclones:** It develops across the Indian Ocean and South Pacific.

APHELION

Recently, on 5th July 2024, Earth reached the farthest point in its orbit around the sun.

About:

- It is the point in the Earth's orbit when it is farthest from the sun (152.5 million km).
- Earth reaches its aphelion during summer in the Northern Hemisphere
  - On 3rd January, the earth is the nearest to the sun (147 million km).
  - This position is called **perihelion**



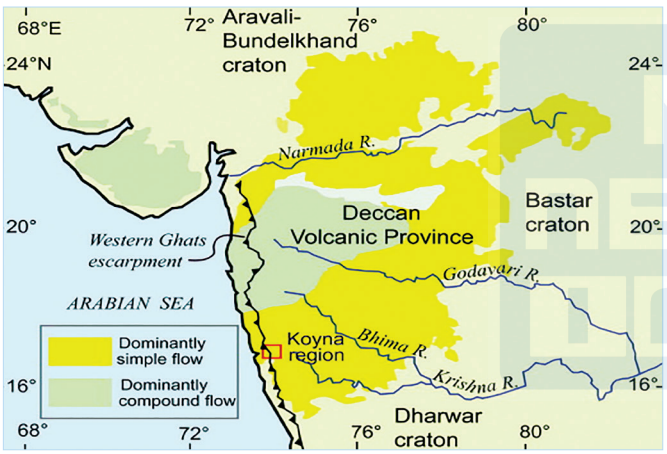
- Earth has an **aphelion** as a result of its orbit being **elliptical**, rather than circular.
- The Earth is most distant from the Sun indicates that the tilt of the Earth's axis plays a larger part in determining the four seasons than does distance from the Sun.
  - In the southern hemisphere, the tilt of the axis and the distance from the Sun work together to create seasons.

INDIA'S MISSION TO DRILL A 6-KM DEEP HOLE IN KOYNA, MAHARASHTRA

Recently, the Union Ministry of Earth Science decided scientific deep drilling in the Koyna region of Maharashtra, aiming for an indispensable progress in the earth sciences.

The Koyna-Warna Region: A Seismic Hotspot

- It is a region nestled in the Western Ghats of Maharashtra, and has been prone to earthquakes.
- Since the impoundment of the **Shivaji Sagar Lake (better known as the Koyna Dam)** in 1962, this area has experienced **recurrent seismic activity.**
- These earthquakes are particularly intriguing because they occur within the **interior of tectonic plates,** away from the well-known plate boundaries.
  - **Earthquakes** are the sudden, powerful shifts in our planet's crust—remain enigmatic phenomena.



Role of Scientific Deep-Drilling:

- It involves strategically boring boreholes into the Earth's crust to observe and analyze its deeper layers.
- It provides unique insights into various aspects of our planet, including earthquakes. **Countries** like the **United States, Russia, and Germany** have previously undertaken such projects, and now India joins their ranks.

India's Borehole Geophysics Research Laboratory:

- It was established by the **Union Ministry of Earth Sciences** in **Karad, Maharashtra.**
- It aims to **execute India's sole scientific deep-drilling program,** currently working on their ambitious goal, i.e. drill down to a depth of 6 kilometers (that's roughly 3.7 miles) in the **Koyna-Warna region.**

Drilling Techniques used at the Koyna Pilot Borehole:

- The Koyna borehole employs a **Hybrid Approach**, combining two well-established drilling techniques: **Rotary Mud Drilling** and **Percussion Drilling** Techniques (also known as **Air Hammering**).
  - The Koyna borehole rig is versatile, capable of both mud rotary and air hammering techniques.
- The choice of technique depends on site-specific factors, such as rock type, fractures, and the need for core samples.
- **Core Samples:** Collecting core samples from geological fault zones is crucial for earthquake studies.

Unraveling Earthquake Mysteries:

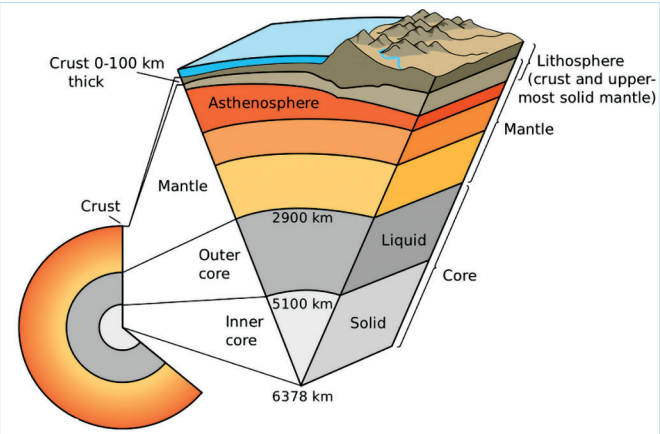
- **Reservoir-Triggered Earthquakes:** The Koyna Dam's impoundment significantly altered the stress distribution in the Earth's crust.
  - As water fills the reservoir during monsoons and releases afterward, it affects the underlying rocks.
  - This dynamic loading and unloading provide a unique opportunity to study reservoir-triggered earthquakes.
- **Understanding Earthquake Mechanisms**: By reaching depths of 6 kilometers, scientists hope to directly observe the active fault zone responsible for seismic activity.
  - It can help us better understand the mechanisms behind earthquakes and potentially improve prediction models.
- **Expanding Our Geological Knowledge:** Beyond earthquakes, deep-drilling allows us to explore rock types, energy resources, climate change patterns, and even the evolution of life.

EARTH'S CORE IS ROTATING IN REVERSE DIRECTION

A research by scientists has revealed that the rotation speed of Earth's core is slowing down and has even reversed, a phenomenon called 'backtracking'.

About:

- The inner part of the planet can be divided into three different layers: **crust, mantle, and core.**
- **Earth's core** is the hottest part of the planet, equivalent to that of the Sun's surface.



- It is around **5,180 kilometers** deep inside the Earth and consists mainly of **iron and nickel.**
- The inner core is surrounded by a **liquid metal outer core,** which acts as a barrier with the rest of the Earth.
- This barrier allows Earth's core, like a hot solid ball of metal, to spin independently and not necessarily align with the rest of the planet.

Rotation of Inner Core:

- Earth's magnetic field pulls on the solid ball of hot metal, causing it to spin.
- Also the gravity and flow of the fluid outer core and mantle exert a drag on the core.
- The push and pull of these forces have resulted in variations in the core's rotational speed.

Impact:

- When the core spins more slowly, the mantle speeds up. This shift makes **Earth rotate faster,** and the **length of a day shortens.**
- But such rotational shifts translate to mere thousandths of a second in day length.

MASHKO PIRO

Indigenous rights NGO Survival International has released rare pictures of the Mashco Piro tribespeople, one of the world's 100-odd uncontacted tribes.

About:

- They are **Nomadic hunter-gatherers** who inhabit the remote regions of the **Amazon rainforest.**
  - They live in **Manú National Park** in the Madre de Dios Region in Peru.
- The Mashco-Piro tribe speaks a dialect of the **Piro language.**

Amazon Rain Forests:

- **Location:** The region belongs to **nine nations** of the **South American** continent.
  - It is bounded by the **Guiana Highlands** to the north, the **Andes Mountains** to the west, the **Brazilian central plateau** to the south, and the **Atlantic Ocean** to the east.
- **Area Covered:** The majority of the forest, 60%, is in **Brazil,** followed by **Peru** with 13%, **Colombia** with 10%, and with minor amounts in **Bolivia, Ecuador, French Guiana, Guyana, Suriname and Venezuela.**

IVORY COAST JOINED THE UNITED NATIONS WATER CONVENTION

Ivory Coast joined the United Nations Water Convention, becoming the 10th African nation to do so.

About:

- **Ivory Coast shares eight transboundary river basins** (Black Volta, Bia, Tanoe, Comoe, Niger, Sassandra, Cavally et Nuon) with six of its neighbours, which include **Ghana, Burkina Faso, Mali, Guinea, Liberia, and Sierra Leone.**
- Among these, the **Niger basin,** which is the **continent's third-longest river** and **traverses nine countries** (Benin, Burkina Faso, Cameroon, Chad, Ivory Coast, Guinea, Mali, Niger, and Nigeria), is **one of Africa's most vulnerable regions to climate change.**

United Nations Water Convention:

- It is a **1992 Convention** on the **Protection and Use of Transboundary Watercourses and International Lakes,** known as the 1992 UN Water Convention.
- It has **53 member countries.**
- The Convention obliges Riparian Parties to prevent, control and reduce transboundary impact, use transboundary waters in a reasonable and equitable way and ensure their sustainable management.

LIBERIA MIGHT RELOCATE ITS CAPITAL CITY MONROVIA

Severe flooding in Liberia has led a group of senators to propose relocating the capital city away from Monrovia.

DO YOU KNOW?

- Global warming is driving sea level rise . As temperatures across the world continue to soar, more and more glaciers and ice sheets are melting and adding water to the ocean.
- Global warming is also making the ocean warmer, which is leading to something called thermal expansion — when water becomes warmer, it expands in volume. This is contributing to sea level rise as well.

About:

- Liberia is situated on the west coast of Africa north of the equator, with Guinea on the north, Sierra Leone on the west, Côte d'Ivoire on the east and the Atlantic Ocean on the south.

- **Main resources:** Iron ore, timber, diamonds and gold
- **Geographical Features:**
  - Highest point Mount Wuteve
  - **Rivers:** The Mano the Cavalla ,the Lofa, St. Paul, St. John and Cestos River.

SHYOK RIVER

Recently, Five soldiers killed after T-72 tank swept away in Shyok river in eastern Ladakh.

About:

- **Origin and Course:**
  - The Shyok River begins at the Rimo Glacier, which is one of the extensions of the Siachen Glacier.
  - From there, it flows alongside the Karakoram Range, a major mountain range in Asia.
- **Confluence and Expansion:**
  - The river expands at the point where it meets the Nubra River, its primary right-bank tributary, near Diskit village.
  - This confluence is a notable geographical feature of the region.
- **Narrow Canyon Passage:**
  - Near the area of Yagulung, the Shyok River narrows into a canyon.
  - It then continues its journey, passing through the villages of Bogdang, Turtuk, and Tyakshi before making its way into Baltistan.
- **Confluence with the Indus:** The river ultimately merges with the Indus River at Keris, which is located to the east of the town of Skardu.
- **Geological Significance:**
  - The Shyok River plays a crucial role in the deposition of Quaternary sediments, which are of great interest to researchers specializing in Quaternary geology.
  - These deposits provide valuable insights into the Earth's recent geological past.
- **Historical and Military Importance:** The area around the river's origin is renowned for being the site of the highest battlefield in the world, adding a unique historical and military significance to the region.

DO YOU KNOW?

- Shyok is a small village located on the banks of the Shyok River in Nubra Valley, Ladakh, India.
- It is situated at an elevation of 3,700 meters (12,100 feet) and is the last village on the Indian side of the road to Daulat Beg Oldie (DBO), a military base near the India-China border.

PANGONG LAKE

In the satellite images, it is found that China's People's Liberation Army (PLA) has constructed underground bunkers in the area around Pangong Lake in eastern Ladakh.

About:

- Pangong Tso is a **high-altitude, endorheic (landlocked)** lake located in the Himalayas, spanning the disputed India-China border.
- Situated at 4,225 meters, and **predominantly saline.**
- The **lake's water changes colors,** appearing blue, green, or even red at different times, depending on sunlight and other factors.
- Pangong Tso is an essential **breeding ground for a wide variety of birds,** including several migratory species.
- **Home to nomadic tribes,** Pangong Tso also holds cultural significance, featuring in local folklore.

KENYA

Kenya's recent downgrade by a leading global credit rating agency is likely to impact the East African nation's ability to secure favourable climate finance.

About:

- It is named after Mount Kenya and located in Eastern Africa.
- **Bordering countries:** It shares common borders with five countries namely: Tanzania in the South, Uganda in the West, South Sudan in the North West, Ethiopia in the North and Somalia in the East.
- The Indian Ocean coastline which forms the Eastern border stretches some 480 kilometers from the Somali border to the Tanzania border.
- It is bisected lengthwise by the Great Rift Valley that runs from Jordan in the North to Mozambique in the South.
- **Capital:** Nairobi
- It is strategically located and a gateway to East and Central Africa with great regional and international connectivity.

- **Geographical features:**
  - **Major Rivers:** Tana and Athi
  - Lake Victoria is shared by Kenya, Uganda and Tanzania.
  - **Lake Turkana is the largest permanent** desert lake in the world and it is the largest alkaline lake in the world
- Kenya was admitted to **United Nations membership on 16 December 1963.** The highest point is on Mt. Kenya.

AUSTRIA

Prime Minister Shri. Narendra Modi paid an official visit to Austria

About

- Austria is situated in Central Europe.
- **Capital:** Vienna
- **Border Areas:** Austria borders eight countries: Germany, the Czech Republic, Slovakia, Hungary, Slovenia, Italy, Switzerland and Lichtenstein.
- **Geographical Features:** Austria's geographical position has long made it a crossroads for trade routes between the major European economic and cultural areas.
  - **Highest mountain:** Grossglockner
  - **Biggest lake:** Lake Constance
  - **Longest river:** Danube (2,848 km, 350 km of which are in Austria).
- **India and Austria:** They have enjoyed traditionally close and very friendly relations since 1949 and celebrate 70 years of bilateral relationships in 2019.

SUTLEJ RIVER

Justice Sanjay Karol of the Supreme Court of India has expressed concern about the deteriorating condition of the Sutlej river.

About:

- **Source:**
  - The Sutlej River originates near Lake Rakshastal, which is supplied by Lake Mansarovar on the Tibetan Plateau.
  - This starting point is at an elevation of approximately 4,572 meters above sea level.
- **Historical and Geographical Significance:**
  - The Sutlej River is an antecedent river, meaning it existed before the Himalayas were formed.
  - It is the easternmost tributary of the Indus River, playing a crucial role in the hydrology of the region.
  - In Tibet, the Sutlej River is known as Langqen Zagbo. It travels roughly 322 kilometers within the Tibetan Province before crossing into India near Shipkila.
  - After entering India, the Sutlej River flows for about 300 kilometers until it reaches the Bhakra Dam, a significant landmark on its course.
- **Major Tributaries:** Within India, the Sutlej River is joined by its main tributaries, the Ravi and the Beas, which contribute to its flow and the overall river system.

CHAGOS ISLANDS

Recently, India's External Affairs Minister reaffirmed its support to Mauritius on the issue of the Chagos Islands in the Indian Ocean against the United Kingdom.

About:

- These consist of more than 60 islands and atolls, and are situated approximately 500 kilometres **south of the Maldives.**
- **Portuguese** navigators stumbled upon the Chagos Islands in the 16th century. They mapped the islands and bestowed names that endure to this day.
- The **Dutch** also had a brief presence but eventually moved on.
- **France and Mauritius** later took possession of the islands. The French named additional islands and established coconut plantations, relying on enslaved workers from **Madagascar, Mozambique, and southern India.**

British Acquisition:

- After the defeat of Napoleon, Great Britain gained control over both Chagos and Mauritius.
- Since 1971, only **Diego Garcia** has been inhabited. It serves as a crucial **military base for the United States**, with around 2,500 American military personnel stationed there.

Sovereignty Dispute:

- Mauritius, which gained independence from the UK in 1968, claims sovereignty over the Chagos Islands.
  - However, the UK retained control, citing the need to accommodate the US military's use of Diego Garcia for defence purposes.
- This dispute has persisted for over 50 years, with Mauritius seeking the return of the islands.

UK's Role and Diego Garcia:

- **Diego Garcia, the largest island in the Chagos Archipelago,** is pivotal. It hosts a major US military base **leased from Britain in 1966.**
- The base plays a strategic role in global security and defence.
  - However, it remains a **point of contention between the UK, Mauritius,** and the international community.

6 INTERNAL SECURITY

CHIEF OF THE ARMY STAFF (COAS)

General Upendra Dwivedi took over as the 30th Chief of the Army Staff (COAS) from General Manoj Pande who superannuated after more than four decades of service.

About:

- The Chief of the Army Staff (COAS) in India holds a pivotal role in overseeing the Indian Army.
- COAS is appointed by the the **Appointments Committee of the Cabinet (ACC).**
- The COAS is typically a **four-star general** and is appointed from among the senior-most officers in the Army.
- The appointment is based on seniority, experience, and suitability for the role.
- The COAS retires after three years of appointment or at the age of 62, whichever is earlier.
- **Functions:** The COAS exercises command and control over the entire Indian Army. This involves strategizing and planning military operations, ensuring preparedness for any contingencies, and maintaining operational readiness.
  - The COAS represents the Indian Army in various national and international forums. They engage in diplomacy with military counterparts from other nations, fostering bilateral and multilateral military cooperation and partnerships.

EQUIVALENT SERVICES RANKS OF INDIAN ARMED FORCES

Indian Army	Indian Navy	Indian Air Force	Stars
Field Marshal	Admiral of the Fleet	Marshal of the Air Force	5
General	Admiral	Air Chief Marshal	4
Lieutenant General	Vice Admiral	Air Marshal	3
Major General	Rear Admiral	Air Vice Marshal	2
Brigadier	Commodore	Air Commodore	1
Colonel	Captain	Group Captain	
Lieutenant Colonel	Commander	Wing Commander	
Major	Lieutenant Commander	Squadron Leader	
Captain	Lieutenant	Flight Lieutenant	
Lieutenant	Sub-Lieutenant	Flying Officer	

GALLANTRY AWARDS

President Droupadi Murmu on Friday (5th July 2024) conferred 36 Gallantry Awards to the personnel of the Armed Forces, Central Armed Police Forces, and State and Union Territory Police.

About:

- Gallantry Awards are prestigious honors bestowed upon individuals who display exceptional courage, valor, and devotion to duty.
- These gallantry awards are announced twice in a year - first on the occasion of the Republic Day and then on the occasion of the Independence Day.

Wartime Gallantry Awards:

- **Param Vir Chakra (PVC):** It is the highest military decoration for valor in India.
  - It is awarded for acts of conspicuous bravery in the presence of the enemy.
  - It is a posthumous award in most cases and is symbolized by a bronze circular medal with a purple ribbon.
- **Maha Vir Chakra (MVC):** It is the second-highest military award for gallantry.
  - It recognizes acts of exceptional courage and valor during combat.
- **Vir Chakra (VrC):** The Vir Chakra is awarded for acts of bravery in the face of the enemy.
  - It is a gallantry award for both officers and other ranks.

Peacetime Gallantry Awards:

- **Ashoka Chakra:** The Ashoka Chakra is the highest peacetime gallantry award. It is given for acts of valor, self-sacrifice, and exceptional courage outside the battlefield.
- **Shaurya Chakra:** It is awarded for acts of bravery not in direct combat.
  - It recognizes exceptional courage and selflessness.
- **Kirti Chakra:** It is a peacetime gallantry award.
  - It is given for acts of bravery and courage in non-combat situations.

ADDITIONAL INFORMATION

Order of precedence of these awards is the Param Vir Chakra, the Ashoka Chakra, the Mahavir Chakra, the Kirti Chakra, the Vir Chakra and the Shaurya Chakra.

PROJECT ZORAWAR

The Indian Army plans to acquire a fleet of lightweight tanks, under 'Project Zorawar', aimed at deploying them in high-altitude regions of eastern Ladakh by 2027.

About:

- Zorawar is a lightweight tank jointly developed by the DRDO and Larsen and Toubro.
- It is named after the 19th century Dogra General Zorawar Singh, who led military expeditions to Ladakh and Western Tibet.
- The tank will be able to navigate steep mountains and cross water bodies like rivers far more easily than its forerunners such as the heavy-weight T-72 and T-90 tanks.
- This will allow it to be deployed in areas like eastern Ladakh's Pangong Tso Lake.

EXERCISE PITCH BLACK

An Indian Air Force (IAF) contingent reached the Royal Australian Air Force (RAAF) Base Darwin, Australia for participating in Exercise Pitch Black 2024.

Exercise 'Pitch Black':

- It is a biennial, multi- national exercise hosted by the RAAF.
- The name 'Pitch Black' was derived from the emphasis on night time flying over large un-populated areas.
- The 2024 edition is slated to be the largest in the 43 year long history of Ex Pitch Black, which includes participation by 20 countries, with over 140 aircraft and 4400 military personnel of various air forces.
- The exercise would provide IAF with an opportunity towards force integration with participating nations and mutual exchange of best practices.
- The IAF has previously participated in the 2018 and 2022 editions of this exercise.

NANHE FARISHTE

Railway Protection Force have rescued over 84,119 children under the operation named 'Nanhe Farishte'. 'Nanhe Farishte' is a mission dedicated to rescuing children in need of care and protection across various Indian Railway Zones.

Railway Protection Force (RPF):

- It was constituted as a federal Force in the year **1957,** RPF is responsible for the **security of railway property, and passenger and passenger zones.**
- **RPF motto: "Yasho Labhasva"– "Attain Glory".**
- It has been implementing innovative solutions suited to the typical needs at the **ground-zero level.**
- RPF has the distinction of being the federal force of India with the largest share of women in its ranks.

Other Operations conducted by RPF:

- **Human Trafficking & Operation AAHT:** In order to counter Human traffickers, **Anti Human Trafficking Units** of RPF are operational at the Post level (Thana level) over the Indian Railways.
- **Operation "Jeevan Raksha":** Due to alertness and swift action by RPF, the lives of various passengers were saved, who had come close to getting run over by trains, at platforms and railway tracks.
- **Women Security (Meri Saheli Initiative):** It has been launched to provide security to lady passengers in long-distance trains, particularly those traveling alone or those who are vulnerable to crime.
- **Action against touts & Operation "Uplabdh":** In this, various touts were arrested and legal action was taken against them as per law.
- **Operation "NARCOS":** Many accused have been arrested along with the seizure of **Narcotic Drugs and Psychotropic Substances (NDPS)** and the arrested criminals were handed over to empowered agencies for further legal action.
- **Emergency Response & Operation 'Yatri Suraksha':** In order to redress security-related complaints of passengers in distress and for immediate assistance, passengers can make complaints on the Rail Madad Portal or through helpline No. 139.
- **Curbing Illegal Goods Transport (Operation Satark):** Under "Operation Satark," the Railway Protection Force (RPF) seized illegal tobacco products and illegal liquor.

EXERCISE KHAAN QUEST 2024

Indian Army contingent departed for the Multinational Military Exercise 'Khaan Quest' at Ulaanbaatar, Mongolia.

About:

- The exercise first started as a bilateral event between **USA and Mongolian** Armed Forces in the year **2003**.
- Subsequently, from the year **2006** onwards the exercise graduated to a **Multinational Peacekeeping Exercise** with the current year being the **21st iteration**.
- Exercise KHAAN QUEST will enable the participating countries to share their best practices in Tactics, Techniques and Procedures for conduct of joint operations.
- The exercise will also facilitate developing interoperability, bonhomie and camaraderie between soldiers of the participating countries.

7 SCIENCE & TECHNOLOGY

SPACE JUNK

Space junk, or space debris, is a growing problem that poses a global threat to space exploration and human safety.

About:

- Space debris are defined as all **non-functional, man-made objects**, including fragments and elements thereof, in Earth orbit or re-entering into Earth's atmosphere.
- **Kessler Syndrome:** It is a theoretical scenario in which a cascade of collisions between artificial objects in low Earth orbit leads to a rapidly increasing amount of space debris, making the use of near-Earth space impossible for an extended period of time.

Dangers of Space Junk:

- According to NASA, debris can travel at speeds of up to **18,000 mph,** which is 10 times faster than the speed of a bullet, so even a tiny chip can **rupture a spacesuit or damage delicate solar arrays** and electronics on a satellite.
- **The International Space Station has experienced damage** from a two-inch piece of space junk striking one of its components in **2021,** and astronauts have had to evacuate to a space capsule due to the threat of incoming debris.

International Agreements on Space Debris:

- **The Space Liability Convention of 1972:** It defines responsibility in case a space object causes harm.
  - The treaty says that "a launching State shall be absolutely liable to pay compensation for damage caused by its space objects on the surface of the earth or to aircraft, and liable for damage due to its faults in space.
- **Zero Debris Charter:** Twelve nations and the European Space Agency (ESA) have signed the **Zero Debris Charter** at the ESA/EU Space Council. It aims to become **debris neutral in space by 2030.**

Missions on Removing Space Debris:

- **RemoveDebris mission:** It is the European Space Agency's debris removal demonstration mission in the low Earth orbit (LEO) that aims to test and validate multiple active debris removal technologies.
- **Space Debris Removal System (SDRS):** It is a proposed mission by the Russian Space Agency (Roscosmos) to demonstrate the feasibility of removing space debris from low Earth orbit.
- **Cleanup Mission:** It is China National Space Administration's (CNSA) to demonstrate the feasibility of cleaning up space debris using a combination of active and passive methods.

Steps taken by India:

- **Project NETRA (Network for space object Tracking and Analysis),** an early warning system, was initiated by ISRO to help detect space hazards to Indian satellites.
  - The project is expected to give India its own capability in **space situational awareness (SSA)**, something that other space powers already have.
  - The SSA is used to predict threats from debris to Indian satellites.
- **The ISRO System for Safe and Sustainable Operations Management (IS4OM)** was established in 2022 to continually monitor objects posing collision threats and to mitigate the risk posed by space debris.

ARTIFICIAL INTELLIGENCE (AI) WASHING

A new and growing concern is whether companies are overstating their use of AI. This issue, known as 'AI washing,' occurs when tech companies and startups market themselves as using AI while their actual implementation of the technology is minimal or non-existent.

About:

- AI washing is a **term derived from greenwashing,** where companies exaggerate their environmental friendliness to appeal to customers.
- Similarly, businesses that claim to have integrated AI into their products, when they're **actually using less sophisticated technology,** can be accused of AI washing.

Concerns:

- **Misleading Consumers**: Companies that falsely claim to use advanced AI can mislead consumers about the capabilities and benefits of their products or services, resulting in disappointment and potential financial loss for users who expect more sophisticated technology.
- **Undermining Trust**: When businesses overstate their AI capabilities, it can erode trust in genuine AI applications and innovations. This skepticism can make it harder for legitimate AI advancements to gain acceptance and support.
- **Regulatory Challenges**: AI washing can complicate regulatory efforts to ensure transparency and ethical use of AI. It becomes difficult for regulators to establish clear guidelines and enforce standards when companies misrepresent their AI involvement.

- **Wasted Investment**: Investors may be misled by companies claiming to leverage cutting-edge AI, leading to misguided investments. This can divert funding away from startups and initiatives that are genuinely advancing the field of AI.
- **Hindrance to Progress**: By creating a false impression of AI capabilities, AI washing can shift focus away from real, meaningful research and development. This distraction can slow down progress in advancing AI technology and its beneficial applications.

Way Forward:

- **Implement Clear Standards**: Establish and enforce clear standards and definitions for what constitutes genuine AI usage. Regulatory bodies and industry groups should develop guidelines to differentiate between actual AI applications and mere marketing claims.
- **Promote Transparency**: Encourage companies to be transparent about their AI capabilities and methodologies. This can include disclosing the types of AI technologies used, their level of integration, and the specific functionalities they support.
- **Educate Stakeholders**: Provide education and training for consumers, investors, and industry professionals on what constitutes real AI versus superficial claims. Increased awareness can help stakeholders make more informed decisions and recognize genuine AI advancements.
- **Support Verification and Certification**: Develop independent verification and certification processes for AI technologies. Third-party assessments can help validate the authenticity of AI claims and ensure that companies are accurately representing their technology.
- **Encourage Ethical Marketing**: Promote ethical marketing practices within the tech industry. Companies should be incentivized to market their AI solutions honestly and focus on the actual benefits and limitations of their technologies, rather than exaggerating capabilities.

NOVA EXPLOSION OF T CORONAE BOREALIS

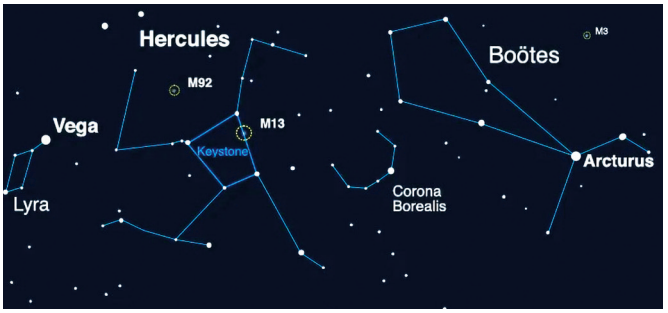
The star T Coronae Borealis is predicted to undergo a nova explosion in September 2024.

NOVA EXPLOSION

- It is the dramatic instance of a star exploding as it interacts with another, nearby star. It's a one of many, repeated moments during the long, slow, death of two neighboring stars in the same system.
- A supernova is the final explosion that utterly destroys stars. However, In a nova event, the dwarf star remains intact, which is why nova events typically repeat themselves.

About:

- T Coronae Borealis, dubbed as the "Blaze Star" and known to astronomers simply as "T CrB.
- It is a binary system nestled in the Northern Crown some 3,000 light-years from Earth.



- The system consists of a **white dwarf** – an Earth-sized remnant of a dead star with a mass comparable to that of the Sun – and an **ancient red giant slowly** being stripped of hydrogen by the relentless gravitational pull of its hungry neighbour.
- The **first recorded sighting** of the T CrB nova was more than 800 years ago.
- The **T CrB nova** was last seen from Earth in 1946.

ADDITIONAL INFORMATION

- The Northern Crown is a horseshoe-shaped curve of stars west of the Hercules constellation, ideally spotted on clear nights.
- It can be identified by locating the two brightest stars in the Northern Hemisphere – Arcturus and Vega – and tracking a straight line from one to the other, which will lead skywatchers to Hercules and the Corona Borealis.

SPIRAL GALAXIES

A team has found evidence of spiral galaxies only half a billion years after the Big Bang. The new observation shows the number of spiral galaxies is high as well as that they increased in number as the universe evolved.

About:

- The universe is about **13.8 billion years old** and is home to different kinds of galaxies, from spiral to elliptical and those with or without bulges.
- Astronomers previously **believed spiral galaxies formed about 6 billion years ago**, but a new study has called this belief into question.
- **Formation of Spiral galaxies:** As the universe cooled down from a dense plasma state, it contained more and more hot gas.
  - They formed clumps of matter that eventually gravitated to become galaxies. These early galaxies had irregular shapes and lacked disks.

- But as they cooled as well, they formed hot, thick disks that later became thinner and finally spiral 'arms' — a process that took billions of years.
- While the universe's younger galaxies have tended to spiral, the older ones have a variety of shapes.

ADDITIONAL INFORMATION

- **Galaxy:** Galaxies consist of stars, planets, and vast clouds of gas and dust, all **bound together by gravity.**
  - The largest contain trillions of stars and can be more than a million light-years across.
  - The smallest can contain a few thousand stars and span just a few hundred light-years.
  - Galaxies come in a **variety of shapes,** mostly spirals and ellipticals, as well as those with less orderly appearances, usually dubbed irregular.
- **Milky Way:** Earth is a part of the Milky way Galaxy.
  - It's a spiral galaxy with a disk of stars spanning more than 100,000 light-years.
  - Solar system takes about 240 million years to orbit the Milky Way just once.

GLOBAL PLANETARY DEFENCE EFFORTS

The Indian Space Research Organization (ISRO) aims to actively participate in a 'Global Planetary Defence Efforts' ahead of Earth's 2029 close encounter with Asteroid Apophis, in a recent international workshop held in Bengaluru marked Asteroid Day 2024.

Apophis Asteroid (aka 99942 Apophis):

- It is a **near-Earth asteroid** with a diameter of approximately 370 metres. Its trajectory brings it within 32,000 kilometres of Earth, and is **expected to pass by our planet in 2029.**
  - While this distance may seem vast in cosmic terms, it's remarkably close by astronomical standards.
- While the chances of a direct impact are low, the potential consequences demand proactive measures.
- **Planetary Defence:** ISRO recognizes the importance of studying Apophis during this close encounter.
  - By doing so, scientists hope to gain insights into planetary defence strategies that could prevent future asteroid impacts on Earth.

ISRO's Interest:

- ISRO recognizes the significance of **studying Apophis** during its close approach. The agency aims to contribute to planetary defence efforts by understanding the asteroid's composition, structure, and behaviour.
- **Observation and Study:** ISRO intends to study Apophis when it is 32,000 kilometres away from Earth. This observation will provide valuable data for developing effective defence strategies.
- **Collaboration:** ISRO may collaborate with other space agencies, including the Japan Aerospace Exploration Agency (JAXA), the European Space Agency (ESA), and NASA.
  - It could involve placing instruments on the joint Apophis mission or providing support in other ways.
- **Support and Knowledge Sharing:** ISRO may contribute by placing instruments on the joint mission or providing other forms of support.
  - The goal is to learn from this unique opportunity and enhance our understanding of asteroids and planetary defence.
  - By participating in the mission, India can contribute to planetary defence research.

Learning from NASA's DART Mission:

- The ISRO referred to **NASA's Double Asteroid Redirection Test (DART)** Mission in 2022, which facilitated the change of trajectory of an asteroid in deep space.
- NASA's DART showed that a spacecraft's kinetic impact with its target asteroid, **Dimorphous**, had successfully altered the orbit of the asteroid.

Conclusion:

- ISRO's interest in planetary defence underscores the need for global collaboration in safeguarding our planet from potential cosmic hazards.
- As Apophis approaches Earth, scientists and space agencies worldwide are gearing up to study and prepare for planetary defence efforts.
- India's participation in this endeavour reflects its commitment to advancing space science and protecting our home planet.

REGENERATIVE BRAKING AND ALTERNATIVE ENERGY RECOVERY METHODS

Recently, applications of Regenerative braking and alternative energy recovery methods have been highlighted.

Regenerative Braking:

- Regenerative braking is a system in electric vehicles that converts kinetic energy from braking into electrical energy, which is stored in batteries or used immediately. It involves the electric motor functioning as a generator to capture kinetic energy back into the vehicle's energy system.
- **Mechanism:** The electric motor in the vehicle reverses its role during braking, turning mechanical energy from the wheels into electrical energy.
  - This energy is either stored for later use or fed back into the vehicle's traction system.

COMPARISON		
Aspect	**Regenerative Braking**	**Rheostatic Braking**
Energy Recovery	Recovers and stores excess energy in the battery or another storage system.	Dissipates excess energy as heat through resistors.
Energy Efficiency	More efficient as it converts kinetic energy into usable electrical energy.	Less efficient as energy is lost as heat.
Impact on Battery	Increases battery lifespan by using energy that would otherwise be wasted.	No impact on battery as energy is not stored.
Heat Generation	Minimal heat generation since energy is stored rather than dissipated.	Significant heat generation, requiring cooling systems to manage thermal output.

BRAKING

It is the mechanism by which an automotive vehicle in motion slows down.

- A vehicle moving faster has more kinetic energy than a vehicle moving slower, so the process of braking removes (mostly) kinetic energy from the vehicle.
- The law of energy conservation means this removed energy has to go somewhere.

Limitations:

- **Limited Effectiveness at Low Speeds:** Regenerative braking systems are less effective at low speeds or when the vehicle is at a complete stop. At low speeds, the amount of energy that can be recovered is minimal, reducing the overall efficiency of the system.
- **Battery State of Charge**: The effectiveness of regenerative braking is dependent on the battery's state of charge. If the battery is fully charged, there is limited capacity to store additional recovered energy, reducing the benefits of regenerative braking.
- **Complexity and Cost**: Regenerative braking systems can add complexity to the vehicle's design and increase manufacturing costs. This complexity can also lead to higher maintenance requirements and potential reliability issues.
- **Limited Deceleration**: Regenerative braking alone may not provide sufficient deceleration for all driving situations. It often needs to be supplemented with traditional friction brakes, especially in emergency braking scenarios or steep descents.
- **Reduced Effectiveness on Slippery Surfaces**: On slippery or low-friction surfaces, such as ice or wet roads, regenerative braking can be less effective and may even reduce traction. This can affect the overall safety and performance of the braking system.

Way Forward:

- **Improve Battery Technology**: Develop advanced battery technologies with higher energy densities and better management systems to increase the effectiveness of energy recovery and address issues related to the state of charge.
- **Enhance System Integration**: Integrate regenerative braking more effectively with traditional braking systems to provide smoother transitions and ensure adequate deceleration across a range of driving conditions.
- **Optimize Control Algorithms**: Refine control algorithms to enhance regenerative braking performance at low speeds and on slippery surfaces. Adaptive systems that adjust braking strategies based on real-time conditions can improve overall effectiveness.
- **Develop Advanced Materials**: Invest in research and development of new materials and technologies that can enhance the efficiency and durability of regenerative braking components, reducing complexity and maintenance costs.
- **Increase Driver Awareness and Training**: Educate drivers about the benefits and limitations of regenerative braking systems. Training can help drivers use regenerative braking more effectively and understand how to complement it with traditional braking methods for improved safety and performance.

JUMPING GENES AND RNA BRIDGES

Scientists at the Carnegie Institution found that some genes were able to move around within the genome. These genes were called Jumping genes or transposons.

About:

- Transposons, often referred to as **"tools of evolution,"** play a significant role in genome dynamics by rearranging genetic material and introducing changes. Over 45% of the human genome comprises transposable elements.
- These elements can create mutations in genes, potentially leading to diseases. However, many transposons have accumulated mutations over time and have become inactive, meaning they no longer move within the genome.

Jumping Genes (Transposons):

- The name of the jumping gene is **IS110,** which stands for **Insertion Sequence,** and such sequences are found in an array of life-forms, including bacteriophages, bacteria, plants, worms, fruit flies, mosquitos, mice, and humans.
- They roam around the body, cutting and pasting themselves, **repairing DNA and modifying** it daily.

Bridge RNA:

- **Bridge RNA** refers to a type of RNA (Ribonucleic Acid) molecule that plays a crucial role in the process of **DNA rearrangement in certain organisms.**
- Bridge RNAs act as **molecular bridges between different DNA segments** during this intricate process of DNA rearrangement.

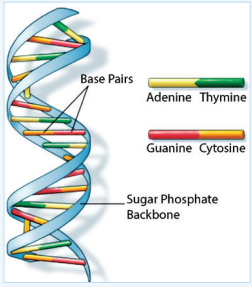
Significance of Jumping Genes:

- **Genetic Variation:** By inserting themselves into different locations within the genome, jumping genes create genetic variation. This variation can lead to new traits and potentially beneficial adaptations, contributing to the evolutionary process.
- **Genome Evolution:** Transposable elements play a crucial role in shaping the genome's structure. They can cause rearrangements such as insertions, deletions, and inversions, which can lead to the development of new genes and regulatory elements, driving genome evolution.
- **Mutation and Disease:** Jumping genes can disrupt normal gene function by inserting into or near important genes, potentially causing mutations and genetic disorders. Understanding their role in disease can aid in the development of diagnostic and therapeutic strategies.
- **Regulation of Gene Expression:** Transposable elements can influence the expression of nearby genes by providing new regulatory sequences or altering chromatin structure. This can impact cellular processes and contribute to variability in gene expression.
- **Evolutionary Research and Biotechnology:** Studying jumping genes helps researchers understand the mechanisms of genetic diversity and adaptation. Additionally, the properties of transposable elements are utilized in biotechnological applications, such as gene editing and creating genetic modifications in research organisms.

Significance of Bridge RNA:

- **Versatile DNA Manipulation**: Bridge RNA enables precise and flexible control over DNA rearrangements, such as insertion, excision, and inversion. This versatility allows researchers to design and implement a wide range of genetic modifications with high specificity.
- **Unified Mechanism for DNA Rearrangement**: Unlike other systems that may specialize in only one type of DNA rearrangement, bridge RNA provides a unified mechanism that can handle all three fundamental DNA rearrangements—insertions, excisions, and inversions. This makes it a powerful tool for comprehensive genome engineering.
- **Enhanced Customization**: With bridge RNA, researchers can program both the target and donor DNA sequences. This ability to specify both the sequences involved in the rearrangement offers greater customization compared to systems like CRISPR-Cas9, which typically only target specific DNA sequences for cutting.
- **Improved Precision**: By using bridge RNA to direct specific DNA movements and modifications, researchers can achieve higher precision in genetic manipulations. This precision is critical for applications in functional genomics, synthetic biology, and therapeutic gene editing.
- **Expanding Genetic Engineering Techniques**: Bridge RNA extends the capabilities of nucleic-acid-guided genome editing tools. It provides an additional approach to achieve complex genetic modifications that may not be feasible with existing technologies, broadening the scope of possible genetic engineering applications.

DNA (DEOXYRIBONUCLEIC ACID)



- DNA, is the **hereditary material** in humans. It is made up of four building blocks, or bases.
- These are called **adenine, cytosine, guanine and thymine** – usually shortened to A, C, G and T.
- A DNA molecule is made up of **two long strands of bases** that wind around each other into a spiral shape.
  - This is called the double helix and looks like a twisted ladder.
- The bases on one strand of the DNA molecule pair with bases on the opposite strand, coming together as a base pair.
  - Base pairs are complementary and always pair in the same way**: A with T, and C with G.**

Conclusion:

- Together, bridge RNA and jumping genes highlight the dynamic nature of genomes and underscore the importance of advanced tools and concepts in unraveling and harnessing the complexities of genetic material.
- Their applications promise to drive significant advancements in genetics, biotechnology, and medicine.

MITOCHONDRIAL DONATION

Recently, a new In Vitro Fertilisation (IVF) procedure known as Mitochondrial Donation gave families affected by certain forms of Mitochondrial disease (or Mito) hope that they can have children who are genetically related to them without Mito.

About:

- It is an **IVF-based assisted reproductive technology** designed to prevent the transmission of mitochondrial disease from mothers to their biological children.

- It ensures that only healthy mitochondria are passed on to embryos, minimising the risk of severe mitochondrial disease.
- It involves several techniques **aimed at creating embryos** with healthy mitochondria.
- Severe mitochondrial disease can have devastating effects on families, including premature child mortality, debilitating suffering, and poor quality of life.

Working:

- **In-Vitro Fertilisation (IVF):** The process begins with IVF, where eggs are fertilised outside the body.
- **Nuclear DNA from Both Parents:** The embryo contains nuclear DNA from both the prospective mother and father.
- **Mitochondria from a Donor:** Healthy mitochondria are introduced by using an egg donated by another woman (the mitochondrial donor).

Significance:

- **Prevention of Mitochondrial Diseases**: Mitochondrial donation offers a viable option for families with a history of mitochondrial diseases to have children who are free from these genetic disorders.
  - By replacing faulty mitochondria with healthy ones from a donor, this procedure helps prevent the transmission of debilitating diseases caused by defective mitochondrial DNA.
- **Genetic Relationship Preservation**: This technique allows parents to have a child who is genetically related to them while avoiding the inheritance of mitochondrial diseases. The child inherits nuclear DNA from both parents and mitochondrial DNA from the donor, preserving the genetic link between the parents and the child.
- **Advancement in Reproductive Medicine:** Mitochondrial donation represents a significant advancement in reproductive medicine.
  - It introduces a new method for addressing genetic conditions that was previously difficult to manage, expanding the options available for families affected by mitochondrial diseases.
- **Ethical and Social Impact**: The introduction of mitochondrial donation raises important ethical and social considerations, including debates about genetic modifications and the long-term implications for individuals born using this technology. Addressing these issues is crucial for the responsible implementation of mitochondrial donation procedures.
- **Research and Development Opportunities**: Mitochondrial donation opens new avenues for research into mitochondrial diseases and reproductive technologies.
  - Continued research can improve the techniques involved, enhance their effectiveness, and potentially extend the benefits of mitochondrial donation to other genetic conditions.

Concerns:

- **Ethical and Moral Concerns:** Mitochondrial donation raises ethical questions regarding genetic modifications, the manipulation of human embryos, and the potential long-term effects on future generations. These concerns require careful consideration and ongoing ethical debate.
- **Regulatory and Legal Issues**: The procedure is subject to complex regulatory and legal frameworks, which vary by country.
  - Navigating these regulations can be challenging, and differing standards may impact the availability and accessibility of mitochondrial donation techniques.
- **Long-Term Health Effects**: The long-term health effects of mitochondrial donation on children born through this method are not yet fully understood. There is a need for long-term studies to assess potential risks and ensure that the procedure does not introduce new health issues.
- **Technical and Procedural Complexity**: Mitochondrial donation involves advanced and technically complex procedures. Ensuring the precision and reliability of these techniques is crucial to minimize risks and maximize the success rates of the procedure.
- **Societal and Psychological Implications**: The use of mitochondrial donation can have societal and psychological impacts, including how individuals view genetic parentage and the potential for stigmatization. Addressing these implications is important for the acceptance and integration of the technology into society.

Way Forward:

- **Develop Comprehensive Ethical Guidelines**: Establish clear ethical guidelines and frameworks to address the moral and societal concerns related to mitochondrial donation. Engaging ethicists, scientists, and policymakers in discussions can help create balanced and widely accepted standards.
- **Enhance Regulatory Frameworks**: Create and harmonize regulatory standards for mitochondrial donation across different jurisdictions. This includes developing consistent protocols for clinical practice, ensuring safety, and facilitating international collaboration to address cross-border issues.
- **Conduct Long-Term Research**: Invest in longitudinal studies to monitor the health and development of individuals born through mitochondrial donation. This research will help identify any potential long-term effects and ensure that the procedure remains safe and effective over time.
- **Improve Technical Training and Procedures**: Continue to refine and standardize the technical aspects of mitochondrial donation to enhance precision and reliability. Providing extensive training for medical professionals and ensuring rigorous quality control can improve success rates and reduce procedural risks.

TIME CRYSTAL

Physicists have created 'Impossible' Time Crystal by Blasting Atoms Into Balloons.

About:

- By **blasting rubidium atoms with lasers,** physicists have excited them into a **puffy Rydberg state** in an experiment that results in the **exotic state of matter known as a time crystal.**
  - This new kind of time crystal has been generated from a **room-temperature gas of rubidium atoms** confined in a glass container.
- **First proposed in 2012** by the Nobel-prize-winning physicist **Wilczek,** time crystals are **groups of particles that repeat in time,** much like other crystals (such as table salt or diamonds) repeat in space.

Significance:

- **Advancement in Understanding Time Crystals**: The successful creation of a time crystal using rubidium atoms and lasers provides experimental evidence for the existence of time crystals. This confirms theoretical predictions and enhances our understanding of this exotic state of matter.
- **Exploration of Quantum Phenomena**: The study of time crystals allows researchers to investigate complex quantum phenomena such as quantum fluctuations and correlations. This could lead to new insights into the fundamental behavior of matter at quantum scales.
- **Implications for Quantum Computing**: Time crystals could have significant implications for quantum computing. Their unique properties, such as periodicity in time, might be leveraged to improve quantum systems' stability and coherence, potentially advancing the development of more powerful quantum computers.
- **Novel Experimental Techniques**: The method of creating time crystals by exciting rubidium atoms into a Rydberg state represents a new experimental approach. This technique could be applied to explore other quantum systems and states of matter, broadening the scope of experimental physics.
- **Potential Technological Innovations**: Understanding and harnessing time crystals might lead to the development of new technologies with applications in various fields, including precision timekeeping, energy storage, and materials science. Their unique temporal properties could inspire innovative solutions and technologies in the future.

TIRZEPATIDE

Recently, an expert committee of India's drug regulator approved the drug Tirzepatide.

About:

- In 2017, the US Food and Drugs Administration (FDA) approved **Ozempic**, with the active ingredient **semaglutide**, to manage type 2 diabetes. Soon, doctors saw an interesting side-effect — **weight loss.**
- In November 2023, Eli Lilly, another US pharma major, got FDA approval for the drug **Zep Bound to treat obesity**. **Zep Bound contains tirzepatide** as the active ingredient.
- The FDA has approved **semaglutide and tirzepatide for chronic weight management** in adults. These drugs can be prescribed to those who are obese (with a body mass index of over 30), or overweight (with a BMI between 27 and 30), and have at least one other health condition related to their weight (such as high blood pressure, high cholesterol, or type 2 diabetes).
- **Semaglutide and tirzepatide are polypeptides**, small proteins that boost the levels of naturally-occurring hormones in the body, including that of glucagon-like-peptide 1 (GLP-1), which control weight through the brain and digestive tract.
- **Side effects:** Nausea, Diarrhoea, Vomiting, Constipation and in rare cases risk of thyroid tumours.

COLD FUSION TECHNOLOGY

Hyderabad-based start-up HYLENR demonstrated how cold fusion technology can be used to generate Clean Energy.

About:

- HYLENR's reactors utilize **Low Energy Nuclear Reactors** by applying milligrams of hydrogen and a small volume of electricity to stimulate and generate excess heat through fusion.
- Cold fusion is a hypothesized nuclear reaction that is expected to occur at or near room temperature.
  - It involves the interaction of hydrogen or deuterium gas with metals such as palladium, zirconium, or nickel, which could potentially trigger a nuclear reaction and release energy at low temperatures.
- **Initial Claims:** In 1989, Martin Fleischmann and Stanley Pons reported detecting anomalous or excess heat in their experiment, which they attributed to nuclear processes. They also claimed to have observed small amounts of nuclear byproducts, including neutrons and tritium, using a tabletop setup that involved the electrolysis of heavy water on a palladium (Pd) electrode.

Advantages of Cold Fusion:

- **Potential for Clean Energy**: Cold fusion could provide a source of nuclear energy without the harmful radiation associated with traditional nuclear reactors. This could represent a major breakthrough in achieving clean, sustainable energy.

- **Simplified Equipment Requirements**: Cold fusion aims to produce nuclear reactions with relatively simple equipment compared to conventional nuclear reactors, which require complex and expensive infrastructure.
- **Low Temperature and Pressure Operation**: Unlike conventional nuclear fusion, which demands extremely high temperatures and pressures, cold fusion seeks to operate at or near room temperature, potentially making it more accessible and practical for energy production.
- **Reduced Environmental Impact**: If successful, cold fusion could significantly reduce the environmental impact associated with energy production by avoiding high-energy inputs and minimizing radioactive waste.
- **Potential for Abundant Fuel Supply**: Cold fusion could utilize common and readily available materials, such as hydrogen and deuterium, which are abundant and could provide a long-term energy solution.

Criticisms of Cold Fusion:

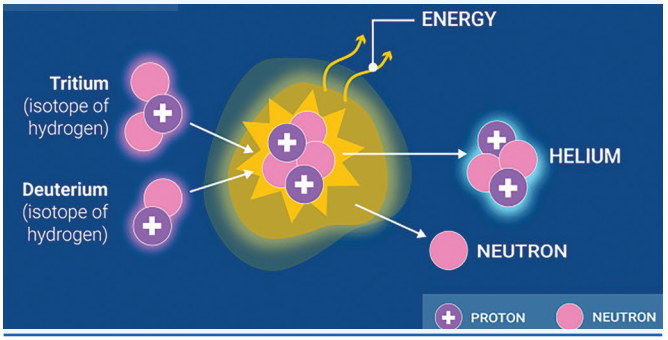
- **Lack of Reproducibility:** The primary criticism of cold fusion is the lack of consistent, reproducible results. Many experiments that attempted to replicate the original findings have failed, leading to doubts about the validity of cold fusion claims.
- **Insufficient Scientific Rigor:** The claims surrounding cold fusion often lack rigorous peer-reviewed scientific validation. This has led to skepticism within the scientific community regarding the reliability of the reported results.
- **Inconsistent Energy Production**: There is no guarantee that cold fusion experiments will produce energy every time they are conducted. The variability in results contributes to the ongoing debate and challenges in proving its feasibility.
- **Absence of Theoretical Framework:** Cold fusion lacks a well-established theoretical basis that explains how nuclear reactions could occur at such low temperatures, which undermines its scientific credibility.
- **Funding and Research Challenges:** Due to skepticism and negative results from early experiments, funding for cold fusion research has been limited. This has hindered the advancement of the field and slowed progress in addressing the underlying scientific questions.

Way Forward:

- **Enhance Experimental Rigor:** Improve the design and execution of cold fusion experiments to ensure better reproducibility and reliability of results. Implement standardized protocols and rigorous controls to reduce variability and increase the credibility of findings.
- **Invest in Theoretical Development:** Develop and refine theoretical models that can explain how nuclear reactions might occur at low temperatures. Strong theoretical foundations are essential for guiding experiments and understanding the underlying mechanisms of cold fusion.
- **Foster Collaboration and Peer Review**: Encourage collaboration between researchers, institutions, and international teams to share knowledge, resources, and data.
  - Promote peer-reviewed publications to validate findings and build a consensus within the scientific community.
- **Secure Funding and Support**: Increase funding and support for cold fusion research to enable more extensive and long-term studies.
  - Support from government agencies, private organizations, and academic institutions can provide the resources needed to explore this potentially transformative technology.
- **Explore Alternative Methods and Materials**: Investigate alternative approaches and materials that might facilitate cold fusion reactions.
  - This includes exploring different metal-hydrogen systems, experimental setups, and novel techniques that could offer new insights or improve the likelihood of achieving successful reactions.

NUCLEAR FUSION

- It is a process in which **two light atomic nuclei combine to form a heavier nucleus**, releasing a significant amount of energy in the process.
  - This process is the same as what powers stars, including our sun.
- The most common fusion reaction involves the isotopes of hydrogen: **deuterium and tritium.**
- When these isotopes fuse, they form helium and release a neutron, along with a large amount of energy.



CHANDIPURA VIRUS

The Chandipura virus outbreak has been reported in Gujarat.

About:

- Chandipura virus, aka **Chandipura vesiculovirus (CHPV),** is an **RNA virus** belonging to the **Rhabdoviridae family,** which also includes the rabies virus.
- It was first identified in **1965 in Chandipura,** a village in **Maharashtra.**

- **Spread:** It occurs by the sting of a vector-infected species of sandflies like **Phlebotomine sandflies** and **Phlebotomus papatasi,** and some mosquito species such as **Aedes aegypti** (which is also the vector for dengue).
  - The virus resides in the salivary gland of these insects, and can be transmitted to humans or other vertebrates like domestic animals through bites.
- **Symptoms:** It mainly affects children aged 9 months-14 years. Fever, vomiting, loose motion and headache are the main symptoms. The infection can reach the central nervous system which can lead to encephalitis — inflammation of the active tissues of the brain.
- **Treatment:** There is no specific antiviral treatment or vaccine for Chandipura virus infection. Management primarily involves supportive care to relieve symptoms and prevent complications.

PROJECT 'STRAWBERRY'

OpenAI is reportedly building a new AI model named Project 'Strawberry'.

About:

- OpenAI is working on a **new reasoning technology** under the code name **"Strawberry"**, believed to be the new name for **Project Q*.**
  - **Q* (Q-Star)** was reportedly a plan for making AI capable of planning, logical reasoning, and capabilities similar to that of a human brain.
- **Strawberry models,** with their enhanced reasoning, would **perform tasks that require planning and a series of actions over an extended time.**
- **Application:** Such models could undertake **advanced research** — conduct experiments, analyse data, and suggest new hypotheses. This could lead to **multiple breakthroughs in sciences.**
  - **In medical research,** they could assist in drug discovery, research in genetics.
  - With enhanced problem-solving abilities, AI could **solve complex mathematical problems.**
  - It could handle problems requiring logical deductions and be helpful in **legal analysis and strategic planning.**
  - **In business,** these models could analyse market trends, predict economic changes, assess risks, and help with investment decisions.

PRIMARY AMOEBIC MENINGOENCEPHALITIS

Kerala has issued technical guidelines for diagnosis, management of amoebic meningoencephalitis.

About:

- Primary Amoebic Meningoencephalitis (PAM) is a **rare but lethal central nervous system infection** of rapid fatality caused by **free-living amoebae** found in **freshwater, lakes, and rivers (never in seawater).**
- **Cause:** It is usually caused by an infection with **Naegleria fowleri**, a microscopic amoeba commonly called a **"brain-eating amoeba."**
  - The amoeba enters through the **nasal channels** and destroys brain tissue, causing **severe brain swelling and death in most cases.**
  - This disease occurs more often during the **warmer months** of the year.
  - Patients with PAM typically have a history of swimming, diving, bathing, or playing in warm, generally stagnant, freshwater during the previous one to 9 days.
- **Symptoms:** Headache, fever, nausea, and vomiting being the most common presenting signs and symptoms.
  - The diagnosis of PAM carries a high **mortality rate of greater than 97%.**
- **Treatment:** The optimal approach to treatment of PAM due to N. fowleri is uncertain. In theory, the best drug regimen should include an amebicidal drug (or a combination of drugs) with good in vitro activity that is capable of crossing the blood-brain barrier.

CLARION-CLIPPERTON ZONE

India plans to apply to the UN-backed International Seabed Authority (ISA) for licences to explore deep-sea minerals in the Clarion-Clipperton Zone in the Pacific Ocean.

About:

- The Clarion-Clipperton Zone is a vast plain located between Hawaii and Mexico, known for its significant deposits of polymetallic nodules. These nodules were first discovered by British sailors in 1873.
- Polymetallic nodules contain valuable metals such as copper, gold, silver, and zinc. Ferromanganese crusts are rich in cobalt, nickel, manganese, platinum, and rare earth elements, among other resources.
- India also expects to receive two more exploration permits from the ISA this year for the Indian Ocean, focused on the Carlsberg Ridge and Afanasy-Nikitin Seamount regions, known for polymetallic sulphide deposits and ferromanganese crusts.

Significance:

- **Reducing Dependency on Imports:** India's reliance on imports for raw materials like copper and lithium highlights the strategic importance of sourcing these minerals domestically. Exploration in the Clarion-Clipperton Zone can reduce

dependency on imports and enhance self-sufficiency in critical resources.

- **Meeting Green Energy Requirements:** India has identified 24 minerals as "critical" for energy transition, including those necessary for renewable energy technologies and electric vehicle batteries. Access to these resources supports India's goals of meeting its growing green energy demands and advancing sustainable development.
- **Strategic Resource Security:** Securing a stable supply of essential minerals from deep-sea exploration strengthens India's strategic resource security. It ensures a consistent and reliable supply of materials crucial for various industrial and technological applications.
- **Economic and Technological Advancement:** Engaging in deep-sea mining and exploration can drive economic growth and technological innovation. It fosters the development of advanced mining technologies and contributes to India's position as a key player in the global minerals market.
- **Environmental and Regulatory Leadership:** By actively participating in deep-sea mineral exploration, India can also influence international regulations and environmental standards for seabed mining. This leadership role helps promote responsible mining practices and the sustainable management of ocean resources.
- **Geopolitical Influence:** Expanding India's exploration efforts in the Clarion-Clipperton Zone enhances its geopolitical influence in the Indo-Pacific region. It strengthens India's strategic presence and cooperation with other nations involved in seabed mining and resource management.

DARK OXYGEN IN CLARION-CLIPPERTON ZONE

About:

- A recent study published in Nature Geoscience, a journal dedicated to Earth sciences research, shows oxygen emitted from mineral deposits 4,000 meters (about 13,000 feet) below the ocean's surface on the seafloor of the Pacific Ocean's Clarion-Clipperton Zone (CCZ).

Production of Dark Oxygen:

- The production of oxygen at such depths is thought to be impossible because there isn't enough sunlight for plants to do photosynthesis.
- The study explains that in this case oxygen is not produced by the plants, instead it comes out of metallic "nodules" that are similar in resemblance to lumps of coal. They are **splitting H_2O molecules** into hydrogen and oxygen.

AIR BREATHING PROPULSION TECHNOLOGY

The ISRO successfully completed the second experimental flight demonstrating Air Breathing Propulsion Technology.

About:

- Air Breathing Propulsion Technology **utilizes atmospheric oxygen for combustion**, eliminating the need to carry oxidizer.
- The absence of an on-board oxidiser in the atmospheric phase significantly reduces the rocket's weight**. For example,** ISRO's largest rocket, LVM3, carries 555 tonnes of propellant, of which 385 tonnes is oxidiser.
- This technology has the potential to revolutionize space travel by allowing vehicles to use atmospheric oxygen as an oxidizer, potentially reducing the overall weight of the propulsion system and increasing payload capacity.
- **Types of Air-Breathing Engines:** Ramjet, Scramjet, and Dual Mode Ramjet (DMRJ). Ramjets operate at supersonic speeds, Scramjets at hypersonic speeds, and DMRJs can transition between subsonic and supersonic combustion modes.

Significance of Air Breathing Propulsion Technology:

- **Weight Reduction:** Air breathing propulsion systems use atmospheric oxygen for combustion, eliminating the need for onboard oxidizers.
  - This significantly reduces the weight of rockets, as demonstrated by ISRO's LVM3 rocket, which carries 555 tonnes of propellant, including 385 tonnes of oxidizer. Reduced weight improves efficiency and payload capacity.
- **Cost Efficiency:** By minimizing the amount of oxidizer required to be carried into space, air-breathing engines can lower the cost of space missions.
- **Enhanced Payload Capacity:** The reduction in rocket weight due to the use of atmospheric oxygen enables a greater portion of the vehicle's capacity to be dedicated to payloads rather than fuel. This can lead to increased payload capacity and more efficient space missions.
- **Advancement in Space Travel:** Air-breathing propulsion technology, including engines like Ramjets, Scramjets, and Dual Mode Ramjets, has the potential to revolutionize space travel. These engines offer advancements in speed and efficiency, with Ramjets operating at supersonic speeds, Scramjets at hypersonic speeds, and DMRJs capable of transitioning between different combustion modes.

LISTERIA OUTBREAKS

Recently, two separate outbreaks of listeria, a bacteria which can contaminate food, have been reported in the United States and Canada.

About:

- It is a **bacterium** that can **contaminate food** and cause a serious infection called **listeriosis**. It spreads easily among **deli equipment** (a store where ready-to-eat food products), surfaces, hands and food.

- Symptoms of listeriosis include vomiting, nausea, cramps, severe headache, constipation, and fever.
- Foods that often harbour listeria include milk, raw sprouts, deli meats, hot dogs, soft cheeses, and smoked seafood.
- People with compromised immune systems, pregnant individuals, and the elderly are particularly vulnerable.
- Antibiotics are given in the treatment.

CHEYAVA FALLS OF MARS

NASA's Perseverance rover found a rock named Cheyava Falls on Mars.

About:

- Cheyava Falls measures 3.2 feet by 2 feet (1 metre by 0.6 metres).
- It is named after a waterfall in the Grand Canyon.
- It is situated at the northern edge of Neretva Vallis, an ancient river valley that is 400 metres wide, formed by ancient water flow into Jezero Crater.
- It shows signs of **organic material** and evidence of past water flow.
- It contains organic compounds, which are the building blocks of life, though these can also form through non-biological processes.
- It has large white veins of calcium phosphate and reddish bands of haematite. **"leopard spots"** were also discovered.

ADDITIONAL INFORMATION

- The **Perseverance Mars rover** is part of NASA's Mars Exploration Program.
- It is a long-term effort of robotic exploration of the Red Planet.
- Perseverance is investigating Jezero Crater – a region of Mars where the ancient environment may have been favorable for microbial life – probing the Martian rocks for evidence of past life.

WORLD'S FIRST THORIUM MOLTEN SALT NUCLEAR POWER STATION

China plans to start building the world's first molten salt reactor power station next year in the Gobi Desert.

About:

- **The Thorium Reactor** is scheduled to be completed in **2029**, generating heat at a maximum power of **60 megawatts.**
- Currently, the only **operating thorium reactor on Earth is located in the Gobi Desert.**
  - This experimental reactor can only produce **2 MW** of thermal power and does not generate electricity.
- **Applications:** The reactors have some potential military applications due to their compact structure and safety, such as powering naval ships, submarines and even aircraft.

Working of the Reactor:

- **Molten salt carrying thorium fuel enters the reactor** core through pipes to undergo a chain reaction.
- After the temperature rises, it flows out the other side and transfers heat to the molten salt without thorium that is circulating in a separate loop.
- The hot but **non-radioactive molten salt flows into the electricity plant** next to the reactor to drive a **carbon dioxide-based gas turbine for power generation.**
- The reactor **does not need water for cooling** because it uses liquid salt and carbon dioxide to transfer heat and generate electricity.

Significance:

- **Enhanced Safety:** Thorium molten salt reactors have inherent safety features due to their design.
  - The use of liquid salt instead of water for cooling reduces the risk of catastrophic failures.
  - If a malfunction occurs, the molten salt can safely drain into a containment container, minimizing environmental and safety risks.
- **Efficient Power Generation:** The reactor's ability to generate heat at a maximum power of 60 megawatts, with a potential for electricity generation through a carbon dioxide-based gas turbine, represents an advancement in efficient power generation. This efficiency can contribute to meeting growing energy demands.
- **Reduced Environmental Impact:** By using thorium as fuel, which is more abundant and produces less long-lived radioactive waste compared to uranium, the reactor contributes to a reduction in environmental impact. The liquid salt used for cooling also eliminates the need for water, further reducing environmental strain.
- **Innovation in Nuclear Technology:** The development of the world's first thorium molten salt reactor power station signifies a major breakthrough in nuclear technology.
  - It highlights China's leadership in pioneering advanced nuclear reactors and contributes to the global advancement of clean energy solutions.
- **Potential Military Applications:** The compact structure and safety features of thorium molten salt reactors offer potential military applications, such as powering naval ships, submarines, and aircraft.

8 SOCIETY

SEHER PROGRAM

Recently, Women Entrepreneurship Platform and TransUnion CIBIL Partner launched the SEHER Program to empower women entrepreneurs.

About:

- **Initiative Overview:** This credit education initiative is designed to empower women entrepreneurs in India by offering crucial financial literacy content and business skills tailored for women business owners.
- **Access to Credit:** The program aims to improve access to credit and financial resources for women-led businesses, facilitating their growth and sustainability.
- **Financial Knowledge:** It provides women entrepreneurs with essential knowledge about credit scores, loan eligibility, and financial planning, enabling them to make informed financial decisions.

Importance:

- **Reducing Gender Disparities:** Currently, only 7% of the overall outstanding loans to Micro, Small, and Medium Enterprises (MSMEs) are granted to women-led businesses.
  - This initiative seeks to address and reduce these gender disparities.
- **Employment Opportunities:** With around 20% of MSMEs being women-owned, the initiative also aims to boost employment opportunities by supporting the growth of these women-led enterprises.

SIERRA LEONE PASSED LAW AGAINST CHILD MARRIAGE

The president of Sierra Leone signed a law that banned marriage for children ages 18 and younger.

About:

- In 2020 UNICEF reported, there were about 800,000 girls younger than 18 in Sierra Leone who were married, which is about a third of the girls in the country.

Global Scenario:

- Every year, at least **12 million** girls are married before they reach the age of 18.
- The practice is particularly widespread in conflict-affected countries and humanitarian settings.
- There are **12 nations with high-burden of Child marriages** in the World: Bangladesh, Burkina Faso, Ethiopia, Ghana, India, Mozambique, Nepal, Niger, Sierra Leone, Uganda, Yemen and Zambia.

Indian Scenario:

- Under India's **Prohibition of Child Marriage Act of 2006,** the legal age of marriage for girls is 18 years and for boys it is 21 years. However, estimates suggest that each year, at least **1.5 million** girls under 18 get married in India.
- Over half of the girls and women in India **who married in childhood live in five states:** Uttar Pradesh, Bihar, West Bengal, Maharashtra and Madhya Pradesh.
  - **Uttar Pradesh** is home to the largest number.

Impact of Child Marriage:

- It violates the rights of girls, limits their school attainment, learning, and future earnings.
- Girls pressed into child marriage often become pregnant while still adolescents, increasing the risk of complications in pregnancy or childbirth.

MATERNAL HEALTHCARE FOR THE TRIBAL POPULATION

Recently a study on Gujarat's tribal population analyzed how geographical location and factors such as time and distance determine access to maternal healthcare facilities for the community.

Background:

- In 2023, a United Nations report showed that India was among the **10 countries that together accounted for 60% of global maternal deaths**, stillbirths and newborn deaths.
- India accounted for over **17%** of such deaths in 2020, followed by **Nigeria (12%) and Pakistan (10%).**

Marginalization of Tribals in Accessing Maternal Healthcare Facilities

- **Remote Locations:** Many tribal communities live in remote, hard-to-reach areas with poor infrastructure. This makes it difficult for pregnant women to access healthcare facilities in a timely manner.
- **Transportation constraints:** Social norms and limited resources often prevent women, especially in rural areas, from using personal vehicles, and there is limited public transportation available.

- **Limited healthcare Professionals:** A lack of trained healthcare professionals willing to work in remote and tribal areas severely limit access to quality care.
- **Awareness:** Due to geographical isolation, there is lack of awareness about the importance of maternal healthcare, which results in underutilization of available services.
- **Discrimination:** Tribal populations often face discrimination and stigma within the healthcare system, leading to feelings of alienation and reluctance to seek care.

Government Initiatives:

- **The ASHA programme** guidelines provide for recruitment of ASHA at habitation level in hilly, tribal and difficult areas.
- Government of India is supporting states in implementation of **National Ambulances Services** under National Health Mission (NHM) for free transportation of sick patients to the health facilities.
- All tribal majority districts whose composite health index is below the State average have been identified as **High Priority Districts (HPDs)** and these districts **receive more resources per capita** under the NHM as compared to the rest of the districts in the State.
- **The Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)**, provides antenatal care free of cost to pregnant women on 9th of every month.
- **The Sustainable Development Goals (SDGs) 3.1 and 3.2** aim to improve maternal and child health (MCH) outcomes and ensure access to quality healthcare services.

GENDER GAP IN EDUCATION

The World Economic Forum (WEF) report of 2024 on global gender gaps ranked India at 129 out of 146 economies.

Status of Gender Gap in Education:

- **General Overview:**
  - Despite high enrolment rates for women in primary, secondary, and tertiary education, progress remains sluggish.
  - The literacy gap between men and women is significant, standing at 17.2 percentage points.
- **Global Ranking:** India ranks 124th in terms of education, with a score of 0.964, a decline from the perfect score of 1.000 achieved in 2023.
- **Higher Education:**
  - The All India Survey on Higher Education (AISHE) report for 2021-22 shows that the Gross Enrolment Ratio (GER) for women is slightly higher than for men, with women at 28.5 compared to 28.3 for men.
  - Female enrolment in higher education has increased by 32% since 2014-15.
- **STEM Enrollment:** Women students constitute only 42.5% of those enrolled in STEM subjects from undergraduate to PhD levels.
- **Adult Literacy:** Census data from 2011 reveals that only 64.63% of women are literate, compared to 80.88% of men.

Reasons for Gender Gap in Education:

- **Limited Access to Schools:** Lack of schools within a reasonable distance from homes, especially in rural areas, discourages enrollment.
- **Early Marriage:** High rates of early marriage limit girls' opportunities to continue their education. Girls are expected to contribute to household chores and caregiving, reducing their time and opportunity for education.
- **Poverty:** Economic hardships force families to prioritize immediate income over long-term educational benefits, pulling girls out of school to work.
- **Harassment and Violence:** Concerns about the safety of girls traveling to and from school and in school itself deter parents from sending their daughters to school.

Government initiatives:

- **National Scheme of Incentives to Girls for Secondary Education:** The scheme was launched in 2008, to give incentives to students enrolled in class IX. The scheme is now on the **National Scholarship Portal (NSP).**
- **National Education Policy (NEP) 2020:** It is a comprehensive reform in the education sector that aims to transform the Indian education system. It emphasizes holistic development along with bridging the gender gap in education.
- **The Department of Science and Technology (DST)** is implementing a dedicated scheme **'Women in Science and Engineering-KIRAN (WISE-KIRAN)'**to cater women of all walks of life in order to enhance their participation in the field of Science and Technology (S&T) with ultimate goal to bring gender parity.

Incentives required for Girls:

- **Building more schools:** If a primary school exists within one or two kilometers of a child's home, parents are more likely to enroll their children, especially girls.
  - In Gujarat, where the government built few secondary and higher secondary schools, leaving largely to the private sector, girls make up only **45.2%** of students in secondary classes, far behind much poorer States like **Jharkhand (50.7%), Chhattisgarh (51.2%), Bihar (50.1%) and even Uttar Pradesh (45.4%).**
- **Presence of women teachers:** Prioritize hiring female teachers, especially in primary schools, to make parents more comfortable sending their daughters to school.
- **Transport facilities:** Free bus passes for school girls in States like Haryana, Punjab and Tamil Nadu, as well as schemes

to give free cycles to girls in Bihar and other States have improved enrolment.

- **Sanitation facility:** It remains a major obstacle for girls education in higher classes, especially after puberty, and may cause a large number of dropouts.
  - Though the Union and State governments have funded the construction of washrooms in schools, there is no funding for cleaning and maintenance, which is often left to lax local bodies.

AGING POPULATION AND DEMENTIA IN INDIA

Dementia, a major cause of cognitive disability and dependency among the elderly, is expected to affect millions of Indian families over the next two decades.

About:

- As of 2019, India is home to over 139 million people aged 60 and above, accounting for **more than 10%** of the nation's entire population.
- By 2050, the percentage of elderly people is projected to **nearly double to 19.5%**, with 319 million individuals over the age of 60.
- Consequently, it is anticipated that **one in every five Indians will be a senior citizen.**
- **Reason:** The **steady decline** in India's **Total Fertility Rate (TFR)** over the past several decades has led to an increase in the proportion of older adults in the population.
  - TFR has dropped from **5.2 in 1971 to 2.0 in 2020,** and it is now **lower than 2.1,** the replacement level.
- This shift has contributed to an **aging population,** as people are living longer and having fewer children.

DEMENTIA

- Dementia is an **umbrella term** for a range of conditions that **impair cognitive functions** such as memory, thinking, reasoning, and problem-solving.
- These impairments are severe enough to interfere with **daily life and activities.**
- Dementia is caused by **damage to brain cells,** which disrupts their ability to communicate with each other.
- There are **several types of dementia**, each with different underlying causes and symptoms.

Need for Policy Reforms:

- The country is confronting a growing challenge to **manage age-related diseases** such as **Alzheimer's, Parkinson's, vascular dementia, and other neurodegenerative disorders.**
- The **demographic shift** stands to exacerbate several risk factors for dementia, including **hypertension, obesity, smoking, depression, social isolation, and physical inactivity.**
- With an aging population, the number of individuals at risk of Alzheimer's and other forms of dementia **will increase substantially in India.**
- A failure to address this growing health concern could **result in significant social and economic consequences.**

Addressing Risk Factors:

- **Air Pollution:** Research suggests that long-term exposure to air pollution can lead to chronic inflammation, oxidative stress, and neuroinflammation, contributing to **cognitive decline and an increased risk of dementia.**
  - Essential to managing these risks will be the adoption of stringent air quality regulations and sustainable urban planning strategies to reduce air pollution levels.
- **Addressing hypertension and obesity** is critical.
  - Governments must develop and implement nationwide campaigns to raise awareness about the importance of a healthy lifestyle, emphasising regular exercise, a balanced diet, and weight management.
  - Strengthening primary healthcare services to facilitate early detection and treatment of hypertension, obesity, and related health issues is recommended.
- **Traumatic brain injury (TBI):** The state must implement public safety measures and regulations to reduce the incidence of TBI, focusing on road safety, occupational safety, and sports safety.

UNITED NATION ON GLOBAL HUNGER CRISIS

Recently, the State of Food Security and Nutrition in the World (SOFI) report was published by five United Nations specialised agencies, showing chronic hunger remained high and healthy food was out of reach of many people.

Key Findings of the Report:

- **Global Hunger Figures:** Approximately **733 million people faced hunger in 2023.** To put that in perspective, it's equivalent to one in eleven people globally.
  - **Future Projection:** The report warned that with ongoing trends, **about 582 million people are projected** to suffer chronic undernourishment by the end of the decade, with half of this population in Africa.
- **Regional Variations**
  - **Africa:** The percentage of the population facing hunger continues to rise, reaching 20.4%. In **Africa,** the situation is even more critical, where one in five people experienced hunger during the same period.
  - **Asia:** While hunger levels remain stable at 8.1%, this still represents a significant challenge because Asia is home to more than half of the world's undernourished population.

- **Latin America:** Encouragingly, progress is visible here, with hunger levels at 6.2%.

- **Impact of Urbanization:** Urbanisation, which was once thought to blur the lines between rural and urban food accessibility, is now drastically reshaping food systems. It affects the availability and affordability of healthy diets.
- **Setback in Progress:** Unfortunately, progress in the fight against global hunger has suffered a **setback of 15 years,** with levels of undernourishment comparable to those **seen in 2008-2009.** It means that despite our efforts, millions of people still go hungry.
- **COVID-19 and Ongoing Effects:** The enduring effects of the COVID-19 pandemic continue to complicate the hunger scenario. The report hints at what hunger might look like by 2030, considering these ongoing challenges.
  - Countries are falling significantly short of achieving **Sustainable Development Goal (SDG) 2: Zero Hunger by 2030.**
- **Beyond Hunger (Food Insecurity):** Access to adequate food remains elusive for billions. In 2023, 2.33 billion people globally faced moderate or severe food insecurity.
  - Among them, over 864 million experienced severe food insecurity—going without food for an entire day or more.
  - These numbers have stubbornly persisted since 2020, especially in Africa, where 58% of the population faces moderate or severe food insecurity.
- **According to UNICEF**, almost **8 million children** under the **age of 5 in 15** crisis-hit countries are at risk of death due to severe wasting—a condition where children become dangerously thin for their height. This crisis is exacerbated by factors such as **conflict, climate change, and economic instability.**

Related Government Steps:

- **India's National Family Health Survey (NFHS)** data shows positive trends in child stunting, wasting, and underweight percentages. These improvements reflect the impact of programs like the **Integrated Child Development Services** and the mid-day meal program.
- **Natural Calamities and Food Security:** During calamities like droughts, food production decreases, leading to shortages and price hikes. Some individuals may struggle to afford food, potentially resulting in starvation.
  - Historical examples, such as the devastating Bengal Famine of 1943, highlight the severity of food crises during widespread disasters.
- The government has also taken critical steps to enhance food security, including through an India-wide **Targeted Public Distribution System**, a National Nutrition Mission and the National Food Security Act, and **emergency assistance during the pandemic** demonstrate the government's commitment to food security.

ADDITIONAL INFORMATION

- **Sustainable Development Goal 2: Zero Hunger**
  - It aims to achieve Zero Hunger by ensuring that all people have physical and economic access to sufficient, safe, and nutritious food. Unfortunately, the world is currently far off track in achieving this goal.
  - The prevalence of moderate or severe food insecurity globally remained unchanged in 2022, affecting an estimated 2.4 billion people. This number is still 391 million more than in 2019.
- **Positive Trends:** Amidst these challenges, there is some positive news. Child stunting has declined steadily over the years, from 204.2 million in 2000 to 148.1 million in 2022. However, sustained efforts are needed to accelerate progress and address hunger comprehensively.
- **Dimensions of Food Security:**
  - **Availability:** This dimension encompasses food production within the country, food imports, and existing stockpiles. India's self-sufficiency in food grains has been a priority since Independence, with efforts like the Green Revolution contributing significantly.
  - **Accessibility:** Ensuring that food is within reach of every person is crucial. It involves factors like distribution networks, affordability, and transportation.
  - **Affordability:** Having enough resources to buy sufficient, safe, and nutritious food is essential. Poverty eradication plays a vital role in improving access to food.
- **India's Hunger Situation:**
  - India, unfortunately, bears a significant burden. **Persistent droughts, economic challenges**, and other factors have led to catastrophic levels of malnutrition among its children.
  - Within the country, millions of children suffer from severe nutrition insecurity, meaning they lack access to a diverse diet necessary for healthy growth and development.
  - Additionally, soaring food prices have made matters worse, leaving vulnerable children without access to life-saving treatment.
- **Global Hunger Index 2023:**
  - India faces significant challenges in ensuring food security for its population.
  - According to the Global Hunger Index (GHI), which measures hunger levels in countries, India's score has been a cause for concern. As of the most recent data available (2023) **India has ranked India 111 among 125 nations**, categorising India's severity of hunger as **'serious'.**
  - Indicators For GHI are Undernourishment, Child Stunting, Child Wasting, and Child Mortality.

9 CULTURE & HISTORY

SANTHAL HUL

In Jharkhand, June 30 is observed as Hul Diwas, marking the anniversary of the 1855 Santhal rebellion/ Santhal Hul, one of the earliest peasant uprisings against the British.

About:

- Santhal Hul of 1855 was a revolt against imperialism led by four brothers, **Sidho, Kanho, Chand, and Bhairav Murmu**, along with sisters **Phulo and Jhano.**
- The Santhals also fought against the upper castes, zamindars, darogas, and moneylenders, described by the umbrella term '**diku',** in an attempt to safeguard the economic, cultural, and religious aspects of their lives.
- In 1832, certain areas were delimited as **'Santhal Pargana**' or '**Damin-i-Koh'**, in present-day Jharkhand.
  - The area was allocated to the Santhals from areas of the Bengal Presidency.
- However they followed the repressive practice of land-grabbing and begari (bonded labor) of two types: ***kamioti and harwahi.***
- The Murmu brothers led around **60,000 Santhals** against the East India Company and engaged in guerrilla warfare.
  - The British hanged Sidhu in 1855, followed by Kanhu in 1856.

Santhal Pargana Tenancy Act of 1876 (SPT Act):

- The Act enacted by the British, prohibited the transfer of Adivasi lands (urban or rural land) to non-Adivasis.
  - The land can only be inherited as per the Act, thus retaining the rights of Santhals to self-govern their land.
- **The Chotanagpur Tenancy Act, (CNT Act)** enacted by the **British in 1908** as a result of the Birsa Movement, allows land transfers within the same caste and certain geographical areas with the approval of the District Collector.

MUDRAS IN BUDDHISM

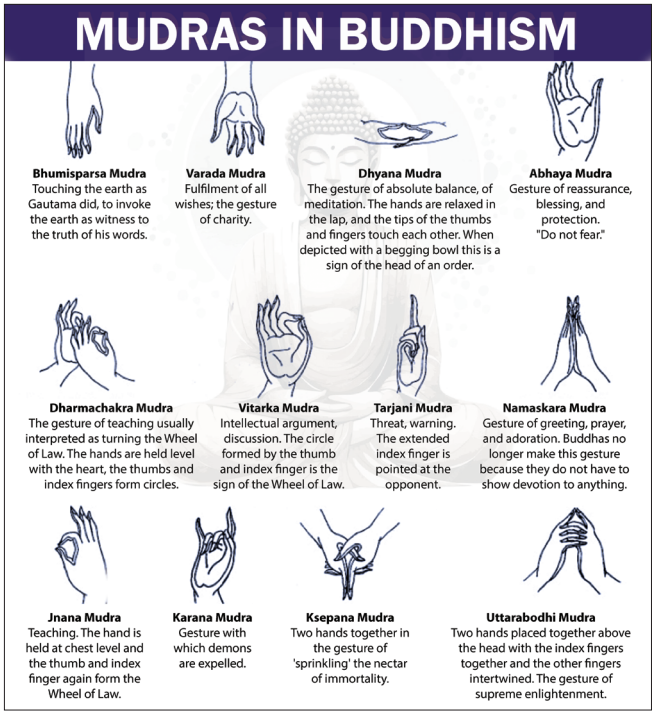
Recently, the Leader of Opposition in Lok Sabha, in his first speech, invoked the 'Abhaya Mudra', the gesture of the raised open palm that is commonly understood as conveying reassurance and a freedom from fear.

About:

- Mudras are symbolic hand gestures used in Buddhist art and practice made during rituals or depicted in images of **Buddhas, bodhisattvas, and tantric deities**.
- These gestures convey specific ideas, evoke particular states of mind, and represent various Buddhas and bodhisattvas.

Early Depictions:

- For about 500 years after the **Buddha, who lived in the 6th or 5th Century BCE,** the person of the great teacher **was not depicted in the form of an image or sculpture**.
  - At Sanchi, for instance, the Buddha is symbolised by a vacant throne or a footprint.
- The earliest physical depictions of the Buddha emerged around the turn of the first millennium.
- **Gandhara Art** (in present-day Pakistan and Afghanistan) and **Gupta Period Art** (in the Gangetic plains) featured the **first Buddharupa (Buddha images).**
- **Four primary mudras** appeared in these **early depictions:**
  - **Abhaya Mudra:** The **gesture, with the raised open palm,** of fearlessness, symbolising protection and reassurance.
  - Images of Tara, a popular figure in Vajrayana Buddhism, often show her with her right hand in the Abhaya Mudra.
  - **Bhumisparsha Mudra:** The Earth-touching gesture, representing the moment of enlightenment.
  - **Dharmachakra Mudra:** The wheel-turning gesture, symbolising teaching and spreading the Dharma.
  - **Dhyana Mudra:** The meditation gesture, reflecting inner contemplation.



Tantric Buddhism and Mudras:

- Tantric Buddhism incorporated mudras into its rituals. Tantric elements like 'Dharini', 'Mantra', 'Mudra', 'Yantra', and 'Mandala' played a crucial role in worship.

BUDDHISM

- Siddhartha, also known as Gautama was the founder of Buddhism
- **Born**: 563 BC in Lumbini (modern-day Nepal).
- He belonged to a small gana known as the Sakya gana, and was a kshatriya.
- He left his worldly possessions and princedom in search of knowledge. He wandered for several years, meeting and holding discussions with other thinkers.
- He attained enlightenment under the peepal tree in Bodh Gaya in Bihar and gave his first sermon at Sarnath near Varanasi which is known as Dharma-Chakra-Pravartana (turning of the wheel of law).
- He spent the rest of his life travelling on foot, going from place to place, teaching people, till he passed away at Kusinara.

Mahayana and Vajrayana Buddhism:

- As Mahayana (Greater Vehicle) and Vajrayana (Thunderbolt Vehicle) Buddhism evolved, hundreds of new mudras entered Buddhist iconography.
- Mahayana practitioners revered bodhisattvas and read Mahayana Sutras, while adhering to strict principles.

MINIATURE PAINTINGS

100-year-old miniature paintings were damaged, as water entered the Siri Fort museum after heavy rain in Delhi.

About:

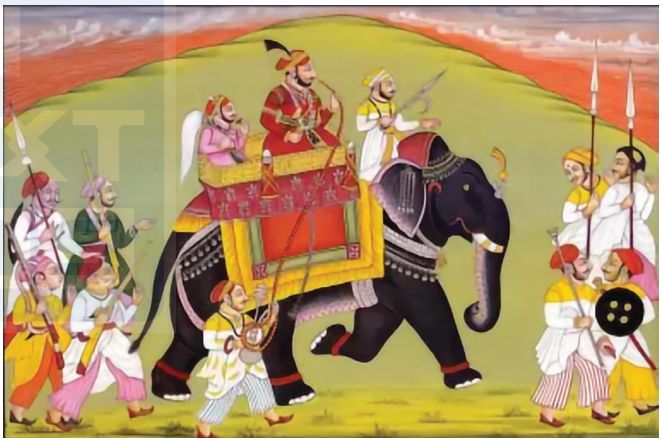
- Miniature painting is a traditional style of art that is very detailed, often referred to as painting or working **"in miniature".**
- Artists use fine brushes made from animal hair and natural pigments, often mixed with binders like gum.

Origin of Indian Miniature Paintings:

- **Origins and Early Development:**
  - The earliest miniature paintings in India date back to the 7th century AD, thriving under the patronage of the Palas of Bengal.
  - These early works featured illustrations on palm leaf manuscripts, typically three inches wide, depicting Buddhist deities and accompanying Buddhist texts and scriptures.
- **Evolution and Persian Influence:**
  - The 15th century marked a significant evolution in miniature painting with the introduction of Persian influences.
  - This period saw the transition from palm leaves to paper as the primary medium for these artworks.
  - The themes expanded to include hunting scenes and diverse facial types, and the color palette became richer, incorporating vibrant aquamarine blues and golds.

Miniature Paintings in Medieval India:

- Miniature Art in India truly thrived under the **Mughals (16th-18th century AD),** defining a rich period in the history of Indian art.
- Due to decreased patronage during the **reign of Aurangzeb**, many artists proficient in Mughal Miniature Art migrated to other princely courts.
  - **Rajput school:** It encompasses various regional schools, each associated with a specific Rajput kingdom, including Mewar, Marwar, Jaipur, Bundi, Kota, Kishangarh etc.
  - **Pahari school:** Pahari painting includes several distinct schools or styles, each associated with a particular region or court, such as **Guler, Kangra, Chamba, Basohli, and Mandi.**



SWAMI VIVEKANANDA

Recently, the Prime Minister of India paid homage to Swami Vivekananda on his Punya Tithi.

About:

- **Birth and Early Life:**
  - Swami Vivekananda was born on January 12, 1863, in Calcutta as Narendranath Datta.
  - This date is now celebrated as National Youth Day in India.
  - He showed an early interest in Western philosophy, history, religion, spirituality, and theology.
- **Spiritual Journey:**
  - He met the revered religious leader Ramakrishna Paramhansa, who became his Guru.

- Vivekananda remained deeply devoted to Ramakrishna until the latter's death in 1886.
- In 1893, upon the request of Maharaja Ajit Singh of the Khetri State, he adopted the name 'Vivekananda,' changing from the name 'Sachidananda,' which he had previously used.
- Swami Vivekananda attained Mahasamadhi on July 4, 1902, marking the end of his earthly journey.

- **Literary Contributions:** Swami Vivekananda authored several influential works, including "Raja Yoga," "Jnana Yoga," and "Karma Yoga," which continue to inspire readers worldwide.

Contributions and Significance:

- **Focus on Indian Philosophies:** He played an important role in introducing the philosophies of Yoga and Vedanta to the West.
- **Vedanta** is one of the **six schools of Hindu philosophy** and is based on Upanishads and their interpretation. Its aim was to enquire about 'Brahman' (ultimate Reality).
- It sees **Veda as the ultimate source of information** and whose authority could not be questioned.
  - He preached **'Neo-Vedanta',** an interpretation of Hinduism through a Western lens and believed in combining spirituality with material progress.
  - It reconciles dualism and non-dualism and rejects the **'universal illusionism'** of Shankara.
- He is best known for his speech at the Parliament of the World's Religions in Chicago in 1893.
- He started the speech with the opening remarks, ***'My brothers and sisters of America'*** and covered topics including universal acceptance, tolerance and religion.
- He began delivering lectures at various places in the US and UK and became popular as the **'Messenger of Indian Wisdom to the Western World'.**

Legacy:

- **Netaji Subhas Chandra Bose** had called him the **'Maker of Modern India'.**
- **Quote:** 'Arise, awake, and stop not until the goal is reached' remains etched in our collective consciousness.

US INDEPENDENCE DAY 2024

The US celebrates Independence Day on July 4 every year, commemorating the country's declaration of Independence from Great Britain.

About:

- In 1775, the **American Revolutionary War** started after thirteen American colonies revolted to gain independence from British rule under **King George III.**
- On **July 2, 1776,** the Continental Congress **secretly voted to end the British rule** in America – this marked the start of an independent state.
- After the decisive vote of the Congress, on **July 4, 1776,** the final wording of the Declaration of Independence was approved and published.
- The adoption of the Declaration of Independence established the United States as a **sovereign and independent nation.**

KHANDAGIRI & UDAYAGIRI CAVES

President Droupadi Murmu visited the Khandagiri and Udayagiri caves in Bhubaneswar, Odisha.

About:

- The rock cut caves were built around the **2nd century BC** by **King Kharavela** of the **Meghavahana dynasty.**
- These were first discovered by British Officer **Andrew Sterling** in the 19th century AD.
- The caves were built for the **Jain monks** and offered them a place to stay and meditate.
- Originally there were around one hundred and seventeen caves built. However only **thirty-three caves survive** today.
  - **Eighteen caves** are located in the Udayagiri hill and **fifteen** in the Khandagiri hill.

Major Caves of Udayagiri Caves:

- **Hathigumpha:** or the elephant cave as it is known, bears the inscriptions of King Kharavela.
- **Rani Gumpha:** or the Queen cave ; is a double storeyed structure with beautiful carvings.
- **Ganesh Gumpha:** the Ganesha Cave known for its carvings of Jain tirthankars and other sculptures.
- **Vyaghra Gumpha:** or the Tiger cave is so called because the entrance is shaped like the head of the tiger and the door shaped like a tiger's throat

Major Caves of Khandagiri Caves:

- **Barabhuji Gumpha** features the twelve armed Sasana Devi's facing each other along with Tirthankar sculptures.
- **Trushula Gumpha:** The twenty-four Jain Teerthankar's carved on the walls of the cave.
- **Ambika Gumpha:** The Yaksha and Yakshini of each Tirthankar is carved on the walls of the cave.

WORLD'S OLDEST CAVE PAINTINGS

Recently, Scientists have discovered World's oldest cave paintings. Until now, the oldest-known cave painting was one at Leang Tedongnge cave, also in Sulawesi, from at least 45,500 years ago.

About:

- The cave painting was found on the ceiling of **Leang Karampuang cave** in the Maros-Pangkep region of South Sulawesi, Indonesia.
- It depicts three human-like figures interacting with a wild pig, painted in dark red pigment.
- Scientists used a **new dating method** involving laser technology to date calcium carbonate crystals that formed over the painting.
  - The painting has been determined to be at least 51,200 years old, making it the oldest confidently dated cave art discovered.
- **Narrative Interpretation:** Researchers interpret the painting as a narrative scene, potentially the oldest-known evidence of storytelling through art.

Implications:

- Another Sulawesi cave painting at Leang Bulu' Sipong 4, depicting hunting scenes, was also re-dated to at least 48,000 years old.
- These discoveries predate European cave art, challenging previous assumptions about the birthplace of cave art and human storytelling.
- It underscores the importance of Southeast Asia as a pivotal region in the history of human cultural development.
- It opens new avenues for understanding the cultural and cognitive evolution of early humans through their artistic expressions.

AHOM 'MOIDAMS'

Recently, the Ahom era 'Moidams' in Assam's Charaideo district, were recommended for UNESCO World Heritage status.

About:

- The term **'Moidam'** refers to the **ancient mound-burial system** of the **Ahom Dynasty**, which ruled over Assam in northeastern India.
- These Moidams **serve as the final resting places for Ahom royalty**, preserving not only their mortal remains but also the cherished objects associated with them.
- **Charaideo Necropolis** are pyramid-like structures that silently narrate the saga of Ahom royalty, their legacies, and the passage of time, situated on elevated land.

UNESCO Recommendation:

- The international advisory body **International Council on Monuments and Sites (ICOMOS)** recommended the inclusion of Ahom 'Moidams' in the prestigious **UNESCO World Heritage List**.
- ICOMOS evaluated a total of 36 nominations globally, including 19 new ones. Among these, the **Ahom Moidam stood out as India's sole applicant.**
- It marks a crucial step toward formal recognition by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Basis for Recommendation:

- ICOMOS recommended the inscription of Moidams on the World Heritage List based on **Criteria (III) and (IV):**
- **Criterion (III):** Moidams bear exceptional testimony to the Ahom cultural tradition and civilization, which has both lived and disappeared over time.
- **Criterion (IV):** They represent outstanding examples of a specific type of architectural ensemble—namely, the mound-burial system—that reflects significant stages in human history.

RATNA BHANDAR OF PURI JAGANNATH TEMPLE

Recently, the Ratna Bhandar, the sacred treasury of 12th-century Shree Jagannath Temple, Puri was opened after 46 years after years of legal battles, controversies and debates.

About:

- It comprises **two chambers:** the **Bhitar Bhandar (Inner Treasury) and the Bahar Bhandar (Outer Treasury).** It isn't just a repository of wealth; it's a testament to the unwavering faith of countless devotees.
- These chambers safeguard a collection of rare and precious items—donated over centuries by devotees and kings—to **Lord Jagannath.**

Jagannath Puri Temple:

- It was built in the **12th Century AD** by **King Anatavarman Chodaganga Deva** of the **Eastern Ganga Dynasty**, and is currently located in **Odisha**.
- It is one of the Dhammas (Holiest of the holy place) out of **four Dhammas** that is **Puri, Dwarika, Badrinath & Rameswar, in India.**
- It was called the **'White Pagoda'** and is a part of **Char Dham pilgrimages** (Badrinath, Dwaraka, Puri, Rameswaram).
- According to the Hindu beliefs, the power of 'Yama', the god of death, has been nullified in Puri due to the presence of Lord Jagannath, popularly known as Lord Krishna.

Architecture:

- The entire temple complex is enclosed within two concentric walls, the **Kuruma Bheda (Inner wall) and the Meghnad Pachira (Wall), built on Kalingan Architecture.**
- **Four Gates:** Eastern **'Singhadwara'** (main gate), Southern **'Ashwadwara'**, Western **'Vyaghra** Dwara' and Northern **'Hastidwara'**.
- **Nilachakra** (or the Blue wheel) perched on top of the temple is made of eight metals or **Ashtadhatu**.

- The **Aruna stambha**– the 33 ft monolith structure pillar in front of the Singhadwar or the main entrance of the temple was **originally located at the Sun Temple, Konark.**

BIRTH ANNIVERSARY OF LOKMANYA TILAK

PM Narendra Modi has paid tributes to Lokmanya Tilak on his birth anniversary.

Early Life:

- **Birth:** Born on **July 23, 1856**, in Maharashtra's Ratnagiri.
- He was a freedom fighter, social thinker, philosopher, teacher, one of the **first and strongest advocates of Swaraj ("self-rule")** who had played an important role in India's freedom movement.
- He organized two important festivals, **Ganeshotsav in 1893** and **Shiv Jayanti in 1895.**

Political Career:

- In **1890**, Tilak joined the **Indian National Congress.**
- Tilak opposed the moderate views of Gopal Krishna Gokhale, and was supported by fellow Indian nationalists Bipin Chandra Pal in Bengal and Lala Lajpat Rai in Punjab. They were referred to as the **"Lal-Bal-Pal".**
  - The trio also mobilized Indians against the **Bengal partition** and proposed the **Swadeshi movement** and boycott of foreign goods.
- **Imprisonment:** Tilak was arrested by the British on the charges of **sedition in 1908** and sentenced to **six years of imprisonment in Mandalay (Burma).**
- **Home Rule Movement:** After returning from Burma, Tilak was involved in the Home Rule Movement.
- In **1916,** he concluded the **Lucknow Pact** with Mohammed Ali Jinnah, which provided for Hindu-Muslim unity in the nationalist struggle.

Literary Work:

- He launched two weeklies, **Kesari (in Marathi)** and **Mahratta (in English)**, which criticized British policies of the time.
- He published **The Orion or Researches into the Antiquity of the Vedas (1893)** and The **Arctic Home in the Vedas (1903).**
- In the **Mandalay jail**, he wrote the **Srimad Bhagavadgita Rahasya (Secret of the Bhagavadgita)**, an original exposition of the most sacred book of the Hindus.

NEW NCERT TEXTBOOK REFERS HARAPPAN SOCIETY AS 'SINDHU-SARASVATI CIVILISATION'

The new NCERT Class 6 Social Science textbook has incorporated numerous new elements.

About:

- In the new edition, the Harappan civilisation is referred to as the **'Indus-Sarasvati' or 'Sindhu-Sarasvati**' civilisation.
  - It states that the Sarasvati basin included major cities of the civilisation, such as **Rakhigarhi and Ganweriwala**, along with smaller cities and towns.
  - The river, now known as **Ghaggar in India and Hakra in Pakistan**, is described as seasonal.
  - It attributes the decline of the Harappan civilisation to climate change, leading to reduced rainfall and the drying up of the Sarasvati River in its central basin.
- It states that India had its prime meridian, the **"Madhya rekha,"** passing through Ujjain. This **"Ujjayini meridian"** served as a reference for calculations in Indian astronomical texts long before the establishment of the Greenwich Meridian.
  - **Varāhamihira,** a famous astronomer, lived and worked there some 1,500 years ago.
- Also references to the **Iron pillar at the Qutub Minar site,** which dates back to the Gupta dynasty era, along with mentions of the **Sanchi Stupa**, the **monolithic temples of Mahabalipuram** and the paintings in the **Ajanta caves** have been dropped.

HARAPPAN CIVILIZATION

- The Harappan civilization is believed to be **one of the oldest world civilizations** together with Egypt and Mesopotamia.
- It was developed along the **river Indus** and for that reason it is also known as the **Indus Valley Civilization.**
- The Harappan civilization is identified as a **Bronze-age civilization** because many objects have been found that are made up of **copper based alloys.**

Major Features of Civilization:

- **Urban Planning:** Their towns were well planned and they had brick houses which were situated along the roads.
  - Every house was equipped with a staircase, a kitchen and several rooms.
  - Their courtyards had wells, bathrooms and they had proper drainage systems.
- **Ornaments:** The Harappans wore ornaments made of **gold, silver, ivory,shell, clay, semi-precious stones and others.**
- **Trade and Commerce:** The civilization had extensive trade networks, reaching as far as Mesopotamia, Afghanistan, and the Arabian Peninsula.
- **Religion and Iconography:** Harappan artifacts depict various symbols and motifs believed to be related to religious beliefs.
  - These include figures such as the **"Priest King"** and images of animals like **bulls,** suggesting possible reverence for certain animals.
- **Craftsmanship and Artistry:** The Harappans produced **intricate pottery,** including the **famous red pottery** with black painted motifs.

- They also created jewelry, sculptures, and seals made of **steatite, terracotta, and other materials.**
- **Agriculture:** They cultivated crops such as **wheat, barley, peas, and cotton.**
- **Social Organization:** The society was likely stratified, with evidence suggesting a **hierarchical structure.** This is indicated by variations in housing sizes and the presence of public buildings.
- **Decline and Disappearance:** The reasons for the decline of the Harappan Civilization are still debated among historians and archaeologists.
  - Possible factors include ecological changes, such as shifts in river courses, as well as invasions and internal conflicts.

NATIONAL FLAG DAY

India's National Flag Day commemorates the adoption of the Indian national flag on July 22, 1947, by the Constituent Assembly.

About:

- It was designed by Pingali **Venkayya.**
- **Specifications:** The Indian national flag, known as the **"Tiranga"**, features three **horizontal stripes of equal width.**
  - **The top stripe is saffron (kesaria),** representing courage and sacrifice.
  - **The middle stripe is white,** symbolising peace and truth, with a **navy blue Ashoka Chakra (wheel)** at its centre, which signifies the eternal wheel of law.
  - **The bottom stripe is green,** denoting growth and auspiciousness.
  - The flag's proportions are in the ratio of **2:3** and the **Ashoka Chakra has 24 spokes, representing continuous progress.**
- **Historical context: The Ashoka Chakra replaced the spinning wheel,** or "Charkha," which was a symbol of self-reliance and resistance during the freedom struggle.
  - This change was suggested by **Badr-ud-Din Tyabji** and endorsed by Mahatma Gandhi.
  - Ashoka Chakra is similar to the wheel that can be seen on the **abacus of Ashoka's Sarnath Lion Capital,** with 24 spokes and its diameter is about equal to the width of the white band.
- **The Flag Code of India:** The Flag Code of India was modified in **2002,** allowing citizens to display and use the national flag on any day and not just National days as was the case earlier, but with respect and dignity.
  - Citizens are permitted to fly the flag throughout the year, provided they adhere to the guidelines, which include hoisting the flag between sunrise and sunset unless adequately illuminated at night.
- **Part IV-A of the Constitution:** According to **Article 51A (a),** It shall be the duty of every citizen of India to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem.

CHANDRA SHEKHAR AZAD

The Prime Minister, Shri Narendra Modi has paid tributes to Chandra Shekhar Azad on his birth anniversary.

About:

- Chandra Shekhar Tiwari, popularly known as Chandra Shekhar Azad, was born on 23 July 1906.'
- **Entry into Politics:** He joined the Non-Cooperation Movement at 15 years old in 1921.
  - Arrested in December 1921 and displayed defiance by declaring his name as "Azad," his father's name as "Swatantrata," and residence as "Jail."
- **Involvement in Revolutionary Activities:** Disillusioned by the suspension of the Non-Cooperation Movement in 1922, he joined the Hindustan Republican Association (HRA) led by Ram Prasad Bismil.
  - Participated in fundraising through robberies of government establishments.
  - Joined significant actions including the **Kakori Train Robbery (1925), the killing of John P. Saunders (1928),** and the **attempted assassination of the Viceroy (1929).**
- **Formation of the HSRA:** In 1928, Azad, along with Bhagat Singh and others, reorganized the HRA into the Hindustan Socialist Republican Association (HSRA) with the aim of achieving an independent India based on socialist principles.
- **Death:** On 27 February 1931, surrounded by police in Alfred Park (now Azad Park) in Allahabad, he engaged in a shootout.
  - He fought bravely, allowing his comrades to escape, but ultimately shot himself with the last bullet to avoid capture.
- **Legacy:** He remains a symbol of fearless patriotism and dedication to the cause of Indian independence, known for his commitment to revolutionary ideals and sacrifices made in the struggle against British rule.

CORRIDOR PROJECTS FOR VISHNUPAD AND MAHABODHI TEMPLES

The Finance Minister announced corridor projects for Bihar's Vishnupad and Mahabodhi temples during her Union Budget speech.

About:

- These will be modelled on the successful **Kashi Vishwanath Temple Corridor,** to transform them into **world-class pilgrim and tourist destinations.**

- **The Vishnupad Temple at Gaya:** The Hindu temple is dedicated to **Lord Vishu.**
  - Architecturally, the temple is around 100 feet tall and has 44 pillars.
  - It is located on the **banks of the Falgu river** and was built in **1787** on the orders of **Queen Ahilyabai Holkar**.

- **Mahabodhi Temple at Bodh Gaya:** The Mahabodhi Temple Complex at Bodh Gaya is a **UNESCO World Heritage Site.**
  - The temple stands to the **east of the Mahabodhi Tree,** where Gautam Buddha is believed to have attained nirvana.
  - The temple has a unique shape and a height of **170 feet.**
  - The Mahabodhi Temple Complex is the first temple **built by Emperor Asoka** in the 3rd century B.C., and the present temple dates from the 5th–6th centuries.

KALARIPAYATTU

Ministry of Youth Affairs & Sports Recognized Kalaripayattu Federation of India for Promotion of Kalaripayattu in Country.

About:

- **Origin and Historical linkages:** It originated in Kerala, India, but its exact origin is uncertain.
  - It is mythologically linked to Lord Parasurama reclaiming Kerala, though historians dispute this.
    - Historically dated between 200 BCE and 600 CE, with peak popularity in the 14th to 16th centuries.
- **Evolution:** Initially used for hunting, it evolved into a structured combat system effective for self-defense and warfare.
  - It is considered one of the oldest and most scientific martial arts globally.
- **Physical Feats:** Includes feats like chattom (jumping), ottam (running), and marichil (somersault), integral to the training.
  - It Involves learning to use various weapons such as swords, daggers, spears, maces, and bows with arrows.
- **Cultural Significance:** Kalaris (training grounds) are important centers of both martial training and religious worship.
  - Specialization in indigenous medicinal practices is also a focus of Kalaripayattu.

AMARAVATHI: THE RISE AND FALL OF ONE OF THE GREATEST BUDDHIST SITES

Union government announced the facilitation of financial support of Rs.15,000 crore through multilateral development agencies for the development of Amaravati.

About:

- **Discovery and Initial Use (Late 1700s): Raja Vessareddy Nayudu** discovered ruins in Dhanyakatakam village, Andhra Pradesh, and used the limestone pillars and panels for building materials, unknowingly destroying parts of the ancient Amaravathi site. Others in the region followed suit, leading to further destruction until 1816.
- **Modern Capital Named Amaravati:** In 2015, Andhra Pradesh Chief Minister named the new capital Amaravati, derived from the ancient Buddhist site, for numerological reasons.
  - The capital is about 20 km from the original Amaravathi.
  - Amaravati, famous for the Amareswara temple, which is dedicated to Lord Shiva, dates back to the 2nd century BCE and was once the capital of the Satavahanas and also the Pallava kings.

Introduction and Spread of Buddhism in Andhra:

- Buddhism, emerging in the 5th century BCE in Magadh, reached Andhra through trade.
  - **Amaravati was a seat of Buddhism** prior to the rise of Satavahanas, and a stupa and monastery were built there during the reign of **Emperor Ashoka** (269-232 BC) under Mauryan Empire.
- Andhra's first urbanization was linked to Buddhism's growth. Merchants played a key role in supporting Buddhism.
- Local practices like megalithic burials influenced the design of stupas.

Significance of Amaravathi in Buddhism:

- Amaravathi was a major center for Mahayana Buddhism, with Acharya Nagarjuna's teachings spreading it across South Asia and beyond.
- The Amaravathi stupa led to the development of the Amaravathi school of art, a major style of ancient Indian art known for its aesthetic sculptures and influence on later Buddhist art across South and Southeast Asia.

Decline of Buddhism in Andhra:

- The decline of Buddhism in Andhra was linked to the rise of Shaivism and socio-economic changes. By the 4th century CE, Buddhism faced reduced patronage and competition from other religions.
- **Destruction and Looting (19th Century):** Following Mackenzie's survey, many sculptures were removed and sent to various locations, including London, where they experienced further deterioration.

10 MISCELLANEOUS

DURAND CUP TOURNAMENT

Recently, the President of India has unveiled the Trophies of the Durand Cup Tournament, the President's Cup and Shimla Trophy.

About:

- **Asia's Oldest and World's Third Oldest Football Tournament:** The inaugural edition was held in Shimla in 1888, originally known as the Army Cup, and was exclusively for British Indian Army troops.
- **Named After:** Sir Henry Mortimer Durand, the founder of the tournament.
- **Origins and Evolution**
  - **Initial Format:** Started as a football competition for various Armed Forces departments and regiments, as well as princely states.
  - **Post-Independence:** Continues to include teams from different regiments of the Indian Armed Forces as guest participants.
- **Unique Trophy System:**
  - **The Durand Cup:** A rolling trophy and the original prize.
  - **The Shimla Trophy:** A rolling trophy first awarded by Shimla residents in 1904.
  - **The President's Cup:** For permanent retention, first presented by Dr. Rajendra Prasad, India's first President, in 1956.

INDIAN NEWSPAPER SOCIETY (INS)

The Prime Minister inaugurated the INS Towers on his visit to the Indian Newspaper Society (INS) Secretariat.

About:

- The early beginnings of the Society can be traced back to **October 11, 1927,** with the name of **The India, Burma & Ceylon Newspapers' London Committee.**
- It was changed to **Indian & Eastern Newspaper Society (IENS) in 1935.**
- This was an organization based in London representing and acting solely under the authority of newspapers, magazines, reviews and other journals published in **India, Burma, Ceylon and other countries of Asia.**
- **Functions:** To act as a **central organization of the Press of India** and of any other country in Asia, which desires to associate itself with the Society.
  - To promote and safeguard the **business interests of its members.**
  - It plays a major role in **protecting and promoting freedom** of the press in India.
  - To collect information upon all topics having a practical business interest for its members and to communicate the same to them.

U-WIN PORTAL

The U-WIN portal is set for a pan-India launch likely by the end of August, aiming to maintain an electronic registry of routine immunisations.

About:

- **Universal Immunization Web Interface (U-WIN),** a replication of the Covid-19 vaccine management system Co-WIN, aims to maintain an electronic registry of routine immunizations.
  - **India's Universal Immunization Programme (UIP)** is a part of the Reproductive and Child Health (RCH) Program under **National Health Mission (NHM).**
- **U-WIN platform** aims to target 2.9 crore pregnant women and 2.6 crore infants (0-1 years) annually by providing 11 vaccines against 12 vaccine preventable diseases through more than 1.2 crore vaccination sessions across the country.
- Vaccination can be availed **against 12 vaccine preventable diseases:**
  - **Nationally against 11 diseases:** Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, severe form of childhood Tuberculosis, Rotavirus Diarrhoea, Hepatitis B, Meningitis & Pneumonia caused by Haemophilus Influenza Type B and Pneumococcal Pneumonia and
  - **Sub-Nationally against 1 Disease:** Japanese Encephalitis (JE vaccine is provided **only in endemic districts).**

Key Features:

- **Immunisation Cards:** For pregnant women and children, U-WIN generates immunisation cards linked to their **ABHA ID (Ayushman Bharat Health Account).** These cards serve as a handy reference for vaccination schedules.
  - It generates a **uniform QR-based**, digitally verifiable e-vaccination certificate, similar to Covid vaccination certificate, which **can be accessed anytime by the citizens through a single click**. No more manual record-keeping; everything is digitised.

- **Universal Coverage:** U-WIN captures every vaccination event for pregnant women, newborns, and children under the UIP.
- **Real-Time Updates:** U-WIN enables real-time updates on vaccination status, delivery outcomes, and session planning. Healthcare workers and program managers can access accurate information promptly.
- **Individual Tracking:** Each pregnant woman and newborn receives a digital registration. This personalised tracking ensures timely reminders for upcoming doses and follow-ups, reducing dropouts.

GLOBAL EDUCATION MONITORING REPORT: UNESCO

A new report by the Global Education Monitoring Report of the United Nations Educational, Scientific and Cultural Organization (UNESCO) has highlighted the long-term impact of climate shocks experienced in early childhood.

About:

- The paper is part of a series aimed at **fostering dialogue on education** and the UN-mandated Sustainable Development Goals (SDGs).
- It raises concerns about the **lasting damage extreme weather events** can inflict on a **child's development.**
- The report emphasised the **vulnerability of young children.**
  - Their reliance on adults and developing bodies make them more vulnerable to the immediate physical hazards of floods, droughts, and heatwaves.

Major Findings:

- **Climate related stressors:** These are heat, wildfires, storms, floods, droughts, diseases and rising sea levels, affecting education outcomes.
  - These experiences can have a negative impact on a child's cognitive abilities, emotional well-being, and educational opportunities.
- **Severity:** A 10-year-old in 2024 will experience twice as many wildfires and tropical cyclones, three times more river floods, four times more crop failures, and five times more droughts over her lifetime in a 3°C global warming pathway than a 10-year-old in 1970.
- **Impact on Learning: Children in Ecuador** who were exposed to severe El Nino floods while in the womb, were **shorter and performed worse on cognitive tests** five to seven years later.
- **Impact on Enrollment:** An **analysis of disasters experienced early in life by over** 140,000 children in **seven Asian countries** discovered a **negative relationship between school enrollment,** particularly for boys, and mathematics performance, particularly for girls, by the age of 13 to 14.
- **School Closures: Most low and middle-income countries** are experiencing climate-related school closures every year, **increasing chances of learning loss and dropout.**
  - At least **75 percent of extreme weather** events have resulted in school closures over the last 20 years.
  - **Tropical Cyclone Gita** damaged **72 percent of Tonga's schools** in 2018.
- **Decrease in Number of Completed Grades:** Flood exposure reduced the number of completed grades among 12- to 15-year-olds in Ethiopia (3.4 percent), India (3.8 percent) and Vietnam (1.8 percent), **owing to household income loss.**
- **Impact of Heat:** An analysis of census and climate data from **29 countries between 1969 and 2012** found that exposure to higher-than-average temperatures during prenatal and early life is associated with **fewer years of schooling, particularly in Southeast Asia.**
  - High temperatures reduced high-stakes test performance in China, resulting in lower high school graduation and college entrance rates.
- **Rain variability** can also have a negative impact on educational outcomes.
  - An analysis of Demographic and Health Survey data from ten African countries reveals that **abnormally low precipitation has a negative impact on primary school completion.**
- **Drought** reduced children's mathematics and reading scores in rural Maharashtra, India by 4.1 percent and 2.7 percent, respectively.

Way Forward:

- **Strengthening Resilience and Adaptation in Education Systems:**
  - **Building Standards:** Develop and enforce construction standards that enhance the resilience of school buildings to extreme weather events such as floods, storms, and heatwaves.
  - **Disaster-Proofing:** Invest in infrastructure upgrades that minimize damage during climate-related disasters and enable rapid recovery.
- **Emergency Preparedness and Response:**
  - **School Emergency Plans:** Implement comprehensive emergency preparedness plans for schools to ensure they can continue operating or quickly resume operations after a disaster.
  - **Training and Drills:** Conduct regular drills and training for school staff and students to manage and respond to climate-related emergencies effectively.
- **Mental Health and Well-Being Programs:**
  - **Counseling Services:** Provide access to mental health support and counseling for children affected by climate-related stressors to address cognitive and emotional impacts.

- **Resilience Training:** Implement programs to build resilience and coping strategies among students exposed to climate stressors.

- **Targeted Educational Support:**
  - **Catch-Up Programs:** Develop catch-up education programs to help children recover from learning losses caused by disruptions, including tutoring and remedial classes.
  - **Nutritional Support:** Address nutritional deficiencies caused by climate-induced economic stress through school-based feeding programs and community support.
- **Improving Data and Research:**
  - **Monitoring and Evaluation:** Conduct regular assessments of how climate-related stressors impact educational outcomes to inform policy and intervention strategies.
  - **Longitudinal Studies:** Support longitudinal studies to track the long-term effects of climate stressors on children's education and development.
- **Research and Innovation:**
  - **Funding Research:** Invest in research to understand the specific impacts of various climate stressors on education and develop innovative solutions to mitigate these effects.
  - **Knowledge Sharing:** Promote knowledge sharing and collaboration between researchers, educators, and policymakers to implement evidence-based interventions.
- **Integrating Climate and Education Policies:**
  - **Policy Alignment:** Align climate adaptation policies with educational policies to ensure a cohesive approach to managing the impacts of climate stressors on education.
  - **Advocacy Efforts:** Advocate for increased funding and support for education systems vulnerable to climate change, emphasizing the need for sustainable and adaptive educational practices.

ABHINAV BINDRA AWARDED "OLYMPIC ORDER"

Abhinav Bindra has been honoured with the Olympic Order for his outstanding contributions to the Olympic movement. He is the first Indian to receive this prestigious award.

About:

- It is the **highest award presented by the International Olympic Committee (IOC).**
- Established in 1975, it is awarded to individuals who have rendered distinguished service to the Olympic Movement.
- It can be bestowed upon IOC members, athletes, and other individuals who have made significant contributions to the development and promotion of the Olympic Games and its ideals.
- **The award comes in three grades:** gold, silver, and bronze, with the gold medal being the most prestigious.
- The recipients of the Olympic Order are chosen by the IOC's Executive Board.
- The award symbolizes the recipient's dedication to the Olympic spirit and their contributions to promoting the values of excellence, friendship, and respect in sports.

ADDITIONAL INFORMATION

- Abhinav Bindra holds the distinction of being **India's first individual gold medalist at the Olympics,** securing the gold at the 2008 Beijing Olympics in the men's 10-meter air rifle event.
- He won the gold medal at the 2006 World Championships in the 10 m air rifle event, and gold medals in the Commonwealth Games in 2002, 2006, and 2010 in pairs events.

HENLEY PASSPORT INDEX-2024

According to the latest ranking of the Henley Passport Index, India's passport now ranks at the 82nd spot, allowing Indians visa-free entry to 58 countries.

About:

- The Henley Passport Index is the original, authoritative ranking of all the world's passports according to the number of destinations their holders can access without a prior visa.
- The Index is an annual list put together by **Henley & Partners**, a London-based global citizenship and residence advisory firm.
- It is based on exclusive data from the **International Air Transport Association (IATA)**.
- The index covers **227 destinations and 199 passports**.

Key Findings:

- **Singapore** occupied the **top spot** in the Index with its citizens having visa-free entry to 195 countries. It dethroned Japan from the first place, which is now at the second place along with Spain, France, Germany and Italy.
  - The passports of all five countries allow visa-free access to 192 destinations.
- **Afghanistan's** passport at the 103rd spot, remains the **world's weakest**, allowing visa-free entry to only 26 destinations.

NIPUN BHARAT MISSION

Recently, the union government launched the NIPUN (National Initiative for Proficiency in Reading with Understanding and Numeracy) Bharat Mission.

About:

- It is **launched by the Ministry of Education**, a crucial step toward ensuring that every child in India acquires **foundational literacy** —such as reading, writing, **and numeracy skills** that are essential for a child's overall development and future success.
- The **mission's primary goal** is to achieve universal **Foundational Literacy and Numeracy (FLN)** among children in the **age group of 3 to 9 years.**
- By the end of **Grade 3 (approximately age 8-9)**, every child should possess the necessary competencies in reading, writing, and basic maths.

Significance:

- **National Education Policy (NEP) 2020 Emphasis:** NEP places foundational literacy and numeracy as the highest priority.
  - It recognises that without these fundamental skills, further learning becomes challenging.
- **Universal Access:** NIPUN Bharat aims to ensure that no child is left behind. Regardless of socio-economic background or geographical location, every young learner should have access to quality education.
- **Holistic Development:** Strong foundational skills not only enable academic success but also contribute to a child's overall cognitive, emotional, and social development.

Implementation and Key Components:

- **National Steering Committee:** It was set up by the Ministry of Education to oversee the progress of NIPUN Bharat. It includes education secretaries from various states and other key stakeholders.
- **Monitoring and Tracking:** State and union territories are preparing implementation plans to achieve universal FLN in primary schools. Regular monitoring ensures progress toward the 2026-27 goal.

Collaborative Efforts:

- **NCERT:** It plays a pivotal role in designing curriculum frameworks, teacher training, and assessment tools for NIPUN Bharat.
- **CBSE:** It actively supports the mission by integrating FLN competencies into its curriculum.

PROPOSAL BY PARAKH ON STUDENT ASSESSMENT

The Performance Assessment Review and Analysis of Knowledge for Holistic Development (PARAKH) suggested to Include Class 9-11 performance for Class 12 results.

About:

- National Assessment Centre- PARAKH was set up in NCERT as an independent constituent unit in 2023, to fulfil the basic objectives of setting norms, standards, guidelines and implement activities related to student assessment along with other tasks as mandated by the National Education Policy (NEP) 2020.
- **There are four major areas of focus for PARAKH:**
  - Capacity Development in Competency Based Assessment
  - Large-Scale Achievement Survey
  - Equivalence of School Boards
  - Holistic Progress Cards for the Foundational, Preparational, Middle and Secondary Stages**.**

Recent Recommendations:

- **Integration of Performance:** Performance from Classes 9, 10, and 11 should be included in the final Class 12 report card, with weighted contributions of 15% from Class 9, 20% from Class 10, 25% from Class 11, and 40% from Class 12.
- **Assessment Types:** Class 9: 70% formative assessments, 30% summative assessments.
  - **Class 10:** 50% formative assessments, 50% summative assessments.
  - **Class 11:** 40% formative assessments, 60% summative assessments.
  - **Class 12:** 30% formative assessments, 70% summative assessments.
- **Holistic Progress Card:** Includes self-evaluation, teacher assessments of group work, and peer feedback.
- **Credit System:** Classes 9 and 10: 40 credits each.
  - **Classes 11 and 12:** 44 credits each.
  - Subject-specific credits include 32 for Classes 9 and 10 (e.g., 12 for languages, 4 each for mathematics, science, social science).
- **National Credit Framework:** Boards are recommended to develop a credit transfer system aligned with the National Credit Framework.
- The credit system aligns with the NEP 2020's concept of the Academic Bank of Credits.

COMBINED EVALUATION

Weight	Class 9	Class 10	Class 11	Class 12
Formative	70%	50%	40%	30%
Summative	30%	50%	60%	70%

- Formative are classroom assessments through holistic progress cards, projects, group discussions, etc; summative are end-term examinations
- Each class will have two terms for assessment

Weighted marks at the end of higher secondary stage

Class 9	Class 10	Class 11	Class 12
15%	20%	25%	40%

11 DATA RECAP

- **Stampede data:** According to the National Crime Records Bureau, nearly 2,000 people lost their lives in stampedes in India between 2000 and 2013
- **Goods and Services Tax (GST)** completed seven years in June 2024, the gross monthly collection reached **Rs 1.74 lakh crore**, marking a 7.7% increase compared to the previous year.
- **Contribution of MSMEs:** Account for more than **11 crore jobs** and contribute around **27% of India's GDP.** The sector consists of around **6.4 crore MSMEs** , with **1.5 crore** of them registered on the Udyam portal and employs around **23% of the Indian labor force,** making it the second-largest employer in India after agriculture.
  - They account for **38.4%** of the total manufacturing output and contribute **45.03%** of the country's total exports.
- **State-wise Maize Production:** Madhya Pradesh and Karnataka lead in maize cultivation, each accounting for **15%** of the total maize area in India. Other significant maize-producing states include **Maharashtra (10%), Rajasthan (9%), and Uttar Pradesh (8%).**
- **India-Russia Relations:** As per figures from the Department of Commerce, bilateral trade during Financial Year 2022- 23 amounted to **US$ 49.36 billion**. Indian exports amounted to US$ 3.14 billion, while imports from Russia amounted to **US$ 46.21 billion.**
- **Defense sector of India:** India's defense budget of **US$ 74.7 billion** ranked fourth highest globally in 2024.
  - India has the world's fourth largest defense expenditure, as of 2022, and India has set a target of **US$ 6.02 billion** worth of annual defense exports by 2028-29.
- Defense exports was ₹21,083 crore in FY 2023-24, reflecting a growth of 32.5% over the last fiscal when the figure was ₹15,920 crore.
- **Quantum Data:** According to an estimate computed by consulting firm **McKinsey,** four sectors — automotives, chemicals, financial services, and life sciences — are expected to gain about **$1.3 trillion** in value by 2035 due to quantum S&T.
  - Among investments by countries, China leads with **$10 billion** in 2022, followed by the European Union and the U.S.
  - India's contribution is currently **$730 million (Rs 6,100 crore)**
- **Global Mangrove Protection Status:**
  - Globally, **40%** of the world's remaining mangrove forests are in protected areas. For many countries, such as Brazil, Mexico, and Bangladesh, over **75%** of their mangroves are protected.
  - However, in countries like Malaysia, Papua New Guinea, and Myanmar, less than **5%** of mangrove forests are under protection.
  - The Global Mangrove Alliance (GMA) has set an ambitious target of doubling the protection of mangroves by 2030.
  - Achieving **80%** global protection poses a significant challenge, necessitating a substantial increase in the application of **Other Effective Area-based Conservation Measures (OECMs).**
- **Landslide Atlas of India:**
  - India is among the top five landslide-prone countries in the world.
  - Excluding snow-covered areas, around **12.6 percent** of India's geographical land area is prone to landslides.
  - A rough break-up of reported landslides in India is as follows:
    - About 66.5 percent from the North-Western Himalayas
    - About 18.8 percent from the North-Eastern Himalayas
    - About 14.7 percent from the Western Ghats.
- **National Mental Health Survey (NMHS) 2015-16:**
  - **Prevalence:** 10.6% of adults in India suffer from mental disorders.
  - **Treatment Gap:** The gap for mental disorder treatment ranges between 70-92% for various disorders.
  - **Urban Metro Regions:** 13.5% prevalence of mental morbidity.
  - **Rural Areas:** 6.9% prevalence.
  - **Urban Non-Metro Areas:** 4.3% prevalence.
  - **Age Group:** Individuals aged 25-44 years are the most affected by mental illnesses.
- **India-Austria Relations:** India is now considered one of Austria's most important trading partners outside the EU, with a trade volume of **EUR 2.7 billion.**
  - Austrian direct investment in India amounted to **EUR 733 million** at the end of 2023, while Indian investment in Austria recently reached **EUR 1.6 billion.**
- **Annual Survey of Unincorporated Enterprises (ASUSE) :** The informal sector of India is facing challenges as about **16.45 lakh jobs** have been lost over the last seven years.India with almost **85% informal labour** is generating more than half of the country's GDP.
- **Electronics sector:** The global electronics market is estimated at **US$ 4.3 trillion**. India's electronics sector reached USD 155 billion in FY23. The electronics production nearly doubled from **USD 48 billion in FY17 to USD 101 billion in FY23**, driven primarily by mobile phones.

Test Yourself

Objective Questions

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Mains Questions

GS PAPER - I

1. Analyze the rise and fall of Amaravati as a significant Buddhist site, focusing on its historical importance, cultural contributions, and factors leading to its decline. ***(10 Marks, 150 Words)***

2. Discuss the contributions of Lokmanya Tilak to India's independence movement, highlighting his role in promoting national unity, social reforms, and political awakening. ***(10 Marks, 150 Words)***

3. Examine the gender gap in education in India, focusing on regional disparities, socio-economic factors, and strategies needed to achieve gender parity in educational attainment. ***(15 Marks, 250 Words)***

4. Assess the share of women in unincorporated sector enterprises in India, exploring challenges, opportunities, and the impact on economic empowerment and gender equality. ***(10 Marks, 150 Words)***

5. Analyze the rising mental health issues in India, focusing on the underlying causes, social stigma, and the need for improved healthcare infrastructure and awareness. ***(10 Marks, 150 Words)***

PAPER-II

6. Examine the concept of constitutional morality in the Indian context, discussing its significance in balancing democratic principles with social justice and individual rights. ***(10 Marks, 150 Words)***

7. Evaluate the socio-political factors behind the demand for a separate 'Bhil Pradesh,' and its implications for tribal rights and regional governance in India. ***(15 Marks, 250 Words)***

8. Critically assess the effectiveness of Gram Nyayalayas in delivering accessible justice in rural India, addressing challenges related to implementation and public awareness. ***(10 Marks, 150 Words)***

9. Discuss the evolution of the India-Russia strategic relationship, highlighting key areas of cooperation and the challenges in the current geopolitical landscape. ***(15 Marks, 250 Words)***

10. Analyze India's role and strategic interests in the Shanghai Cooperation Organisation (SCO), considering its implications for regional security and cooperation. ***(10 Marks, 150 Words)***

11. Evaluate the potential impact of Southeast Asian nations joining BRICS, focusing on economic integration, geopolitical dynamics, and regional cooperation. ***(15 Marks, 250 Words)***

PAPER-III

12. Analyze the challenges of crowd management in India, focusing on the role of technology, law enforcement, and public awareness in ensuring safety and order. ***(15 Marks, 250 Words)***

13. Discuss the causes and impacts of landslides in India, highlighting the role of early warning systems and sustainable land use practices in mitigating risks. ***(10 Marks, 150 Words)***

14. Evaluate the need for technology upgradation in MSMEs, discussing its role in enhancing productivity and competitiveness in a globalized economy. ***(15 Marks, 250 Words)***

15. Analyze the logistic challenges in trade within India, and the impact on domestic and international commerce. ***(15 Marks, 250 Words)***

16. Examine the impact and challenges of the Green Revolution in maize cultivation in India, focusing on productivity, sustainability, and food security. ***(15 Marks, 250 Words)***

17. Examine the impact of oil spills on the environment, discussing their effects on marine ecosystems, wildlife, and the measures needed for effective mitigation. ***(15 Marks, 250 Words)***

18. Critically analyze the introduction of genetically modified (GM) mustard crops in India, focusing on its implications for agriculture and environment. ***(10 Marks, 150 Words)***

19. Examine the strategic importance of a Ballistic Missile Defence System for India, considering its role in national security and regional deterrence. ***(10 Marks, 150 Words)***

20. Assess the progress and challenges of defense production in India, focusing on self-reliance, technology transfer, and the role of private sector involvement. ***(10 Marks, 150 Words)***