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OCTOBER
2024



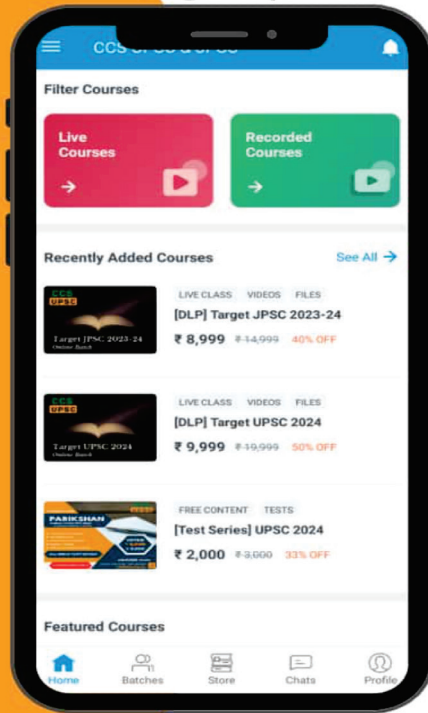
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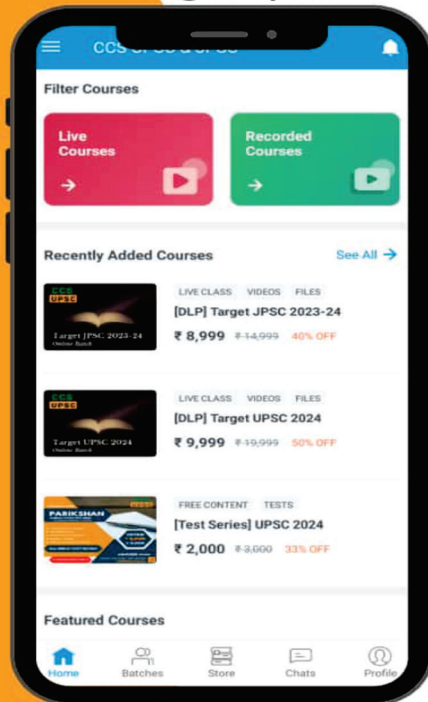
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October-2024

Current Affairs

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Chapter-1

HISTORY & CULTURE

Ramon Magsaysay Award

Tags: GS1, Arts and Culture, Awards, Ramon Magsaysay Award

Context:

- Hayao Miyazaki, a renowned Japanese filmmaker and co-founder of Studio Ghibli, has won the 2024 Ramon Magsaysay Award, recognized for his contributions to animated films that resonate across ages.
- His work is distinguished by its gentle, hand-drawn visuals and deep themes, including pacifism, environmentalism, and strong female characters.
- Miyazaki's films, such as Spirited Away and Princess Mononoke, reflect his concerns about modern society, war, and the destruction of nature.

About Ramon Magsaysay Award:

- The Ramon Magsaysay Award, established in 1957, is Asia's highest honor and premier prize, recognizing individuals with exceptional dedication to serving the people of Asia, regardless of their background.
- It is awarded annually on August 31st, coinciding with the birthday of Ramon Magsaysay, the third president of the Philippines.
- Recipients receive a certificate, a medallion with Magsaysay's image, and a cash prize.
- The award, often referred to as Asia's equivalent of the Nobel Prize.



Munich Agreement

Tags: GS1, World History, Munich Agreement

Context:

- The Munich Agreement, was an accord between Germany, France, Italy, and Great Britain, allowing Nazi Germany to annex the Sudetenland, a region in Czechoslovakia with a large ethnic German population.
- This agreement, aimed at appeasing Adolf Hitler to maintain peace in Europe, was strongly supported by British Prime Minister Neville Chamberlain.
- However, Czechoslovakia, despite being directly affected, was not a party to the negotiations and was pressured into accepting the deal.
- The Munich Agreement is widely seen as a disastrous act of appeasement that failed to prevent further aggression.
- Hitler violated the agreement within six months by invading the rest of Czechoslovakia, signalling that expansionist totalitarianism could not be placated.
- This sequence of events set the stage for World War II, which began on September 1, 1939, when Nazi Germany invaded Poland, leading Britain and France to declare war on Germany.

Lothal

Tags: GS1, Arts and Culture, Indus Valley Civilization, Lothal

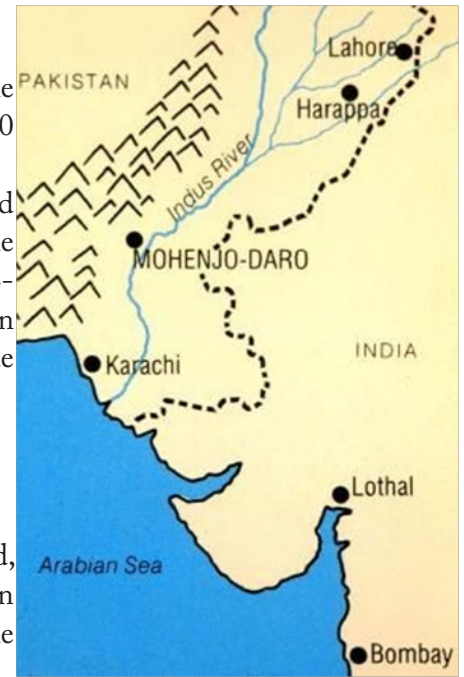
Context:

- A new study by IIT Gandhinagar has provided fresh evidence supporting the existence of a dockyard at Lothal, Gujarat, during the Harappan Civilization.
- The research reveals that the Sabarmati River, which now flows 20 km away, once ran close to Lothal, enhancing its significance as a major trade route.

- The study suggests that Lothal was connected via waterways to other Harappan sites like Dholavira, facilitating trade with regions as far as Mesopotamia.

About Lothal:

- Lothal, located in the Bhāl region of Gujarat, was one of the southernmost sites of the Indus Valley Civilization, built around 2200 BC.
- It was a significant trade centre, known for trading beads, gems, and ornaments with West Asia and Africa. The name “Lothal” means “the mound of the dead” in Gujarati, similar to the meaning of “Mohenjo-daro” in Sindhi. Lothal is notable for having the world’s earliest known dock, which connected it to the Sabarmati River, facilitating trade between Harappan cities and the Saurashtra peninsula.



Konyak Tribes

Context:

- The Konyak Union, representing the Konyak tribe in Nagaland, has requested to address errors in the boundary depiction between Nagaland’s Mon district and Assam’s Charaideo district on Google Maps.
- They pointed out that two Nagaland villages, Hota-Hoti and Tekun, established over six decades ago, are incorrectly shown within Assam.

About Konyak Tribes:

- The Konyak people, of Mongoloid origin, historically practised animism, worshipping natural objects before adopting Christianity. Their language belongs to the Northern Naga sub-branch of the Sino-Tibetan family. Known as headhunters in Northeast India, they follow a patriarchal social structure.



Chapter- 2

POLITY

1. Child Sexual Exploitation and Abuse Material

Syllabus: Vulnerable section – Children

Context:

- The article explores Supreme Court recently delivered landmark judgment clarifying the penal consequences for the possession, storage, and consumption of Child Sexual Exploitation and Abuse Material (CSEAM), overturning a controversial Madras High Court ruling.

Judgment overview:

- The Supreme Court clarified that storing, watching, or possessing Child Sexual Exploitation and Abuse Material (CSEAM) is a crime under the POCSO Act, overturning a prior Madras High Court decision that had quashed charges against a man for merely possessing such material.
- The Court emphasized that “child pornography” is a misnomer and coined the term “Child Sexual Exploitative and Abuse Material” (CSEAM) to reflect the seriousness of the crime.
- It held that possession, storage, and even viewing of CSEAM falls under criminal liability, whether for personal use or commercial purposes.
- The Court explained that “constructive possession,” where individuals have control over CSEAM without physically possessing it, is punishable under the law.

Constitutional Provisions Related to Child Protection in India:

- Article 15(3): Provides the State with the authority to make special provisions for the protection and welfare of children.
- Article 21: Right to life and personal liberty, which includes the protection of children from exploitation and abuse.
- Article 39(e) and (f): Mandates the State to ensure that children are not abused and are provided with opportunities and facilities to develop in a healthy manner, protecting their dignity and freedom.
- Article 47: Focuses on improving public health, which includes preventing child exploitation and ensuring their welfare.

Key Legal Provisions Under the POCSO Act, 2012:

- Section 13: Defines child pornography (now CSEAM) and punishes its production, distribution, and possession.
- Section 14: Imposes penalties for using a child for pornographic purposes, with increasing severity for repeated offenses.
- Section 15: Penalizes the storage of child sexual abuse material for commercial purposes, ensuring strict consequences for possession or storage.
- Section 19: Mandates the reporting of offenses under the POCSO Act, making it obligatory for citizens, including tech companies, to report any suspected CSEAM-related activities.

Significance of the judgment:

- Broadened interpretation of CSEAM Laws: Criminalizes mere possession, closing legal loopholes previously exploited in court rulings.
- Strengthens child protection laws: Reinforces the POCSO Act as a tool to combat online child exploitation, ensuring stricter penalties.

3. Victim-centric approach: Emphasizes victim protection, aiming for quicker content takedowns and advocating for the psychological well-being of child victims.
4. Tech companies' role: The ruling calls for tech platforms to report CSEAM cases, enhancing collaboration between law enforcement and online service providers.

Limitations of the judgment:

1. Neglects adolescent behavior: The judgment does not distinguish between consensual adolescent exchanges and exploitative content, risking criminalization of teenage behavior.
2. Overburdening law enforcement: Calls for tech platforms to report cases without assessing whether local police are equipped to handle increased caseloads.
3. Ignores content takedown prioritization: The judgment fails to focus on the timely removal of harmful content, which is often the immediate need of victims.
4. Fails to address root issues: Despite its tough stance, the judgment overlooks nuanced challenges in the rehabilitation and education of offenders, especially minors.

Key recommendations:

1. Terminology change: The Court recommended replacing “child pornography” with “Child Sexual Exploitative and Abuse Material” (CSEAM) in all judicial orders and legislations.
2. Sex education: The Court stressed the importance of positive, age-appropriate sex education to prevent harmful sexual behavior and foster an understanding of consent, helping to deter the consumption and distribution of CSEAM.
3. Obligation of tech platforms: Social media intermediaries must not only remove CSEAM but also report such content to the local authorities under the POCSO Act. Compliance with the IT Act alone does not absolve their liability.
4. Public awareness: The Court suggested raising awareness about CSEAM through public campaigns to destigmatize reporting and increase community vigilance.
5. Support services: It emphasized the need for psychological counseling and rehabilitation services for both victims and offenders, including Cognitive Behavioral Therapy (CBT) for those involved in CSEAM.

Conclusion:

- This judgment aims to strengthen the legal framework against CSEAM, ensuring a victim-centric approach while addressing the need for preventive measures through education and public awareness.

Custodial Death Judgement

Syllabus: Governance: Criminal Justice System

Context:

- The Supreme Court has delivered a split verdict in an appeal by police officers convicted of culpable homicide not amounting to murder and other offences in a decades-old custodial death case for the alleged torture and death of a man in police custody in December 1995.

Judgement Summary:

1. The Supreme Court delivered a split verdict in a custodial death case, focusing on the conviction under Section 304 (culpable homicide) of IPC.
2. The key issue revolved around identifying the body, with differing views on whether the prosecution proved beyond a reasonable doubt that the deceased was the victim.
3. One opinion upheld convictions for custodial torture but acquitted the accused of culpable homicide due to lack of conclusive identification.
4. The ruling highlighted concerns about police misconduct and the need for accountability in cases involving custodial abuse.

About Custodial Death Overview & Data:

Negatives of Custodial Deaths:

1. **Human Rights Violations:** Custodial deaths represent gross violations of Article 21 of the Constitution (Right to Life), as seen in cases like the Mathura custodial rape case (1972).
2. **Erosion of Trust in Law Enforcement:** Incidents like Jayaraj and Bennix's custodial deaths (2020) undermine public confidence in the justice system.
3. **Excessive Force:** The use of third-degree methods during interrogation leads to physical and mental trauma, often going unpunished due to lack of accountability.
4. **Global Reputation:** India's extradition efforts are hampered as countries cite concerns over custodial torture (e.g., Vijay Mallya's case).

Measures to Combat Custodial Deaths:

1. **Strengthening Legal Systems:** Enact comprehensive laws criminalizing custodial torture, as per Supreme Court directives (e.g., Prakash Singh case, 2006).
2. **Police Reforms:** Separate law and order from investigation functions, and ensure human rights training for police officers.
3. **Technology Implementation:** Use body cameras and install mandatory CCTV cameras in all police stations for enhanced oversight.
4. **Oversight Mechanisms:** Expand the jurisdiction of the National Human Rights Commission (NHRC) to investigate custodial deaths, including those under armed forces' jurisdiction.
5. **Sensitization Programs:** Regular workshops on ethical treatment and custodial rights for law enforcement officers.

Conclusion:

- Custodial deaths erode human dignity and legal trust. Reforms in policing, stronger oversight, and adherence to human rights principles are vital to upholding justice and ensuring the protection of individuals in custody.

Clause 6 of the Assam Accord

Context:

- After a meeting with representatives of the All Assam Students' Union (AASU) on Wednesday, Chief Minister Himanta Biswa Sarma set the ball rolling for the implementation of 52 recommendations of the Justice Biplab Sarma Committee regarding Clause 6 of the Assam Accord.

Key Features of Clause 6:

1. **Protection for Assamese Identity:** It calls for measures to safeguard the unique identity and culture of the Assamese people.
2. **Legislative Safeguards:** Provisions for legislative steps to ensure the protection of Assamese cultural and social interests.
3. **Cultural and Linguistic Preservation:** It emphasizes promoting the Assamese language and cultural heritage, particularly against the backdrop of the state's demographic changes due to immigration.
4. **Political Representation:** Suggested measures include reservations for Assamese people in the state legislature, Parliament, and local bodies.

Justice Biplab Sarma Committee

1. **Established:** In 2019, a 14-member high-level committee was formed by the Union Home Ministry, chaired by retired Justice Biplab Sarma.
2. **Objective:** To recommend specific measures for implementing Clause 6 of the Assam Accord.

Key Recommendations of the Committee:

1. **Definition of "Assamese People":** The committee recommended defining "Assamese people" as indigenous tribals, citizens residing in Assam on or before January 1, 1951, and their descendants.

2. Land and Language Safeguards: Limiting land ownership to Assamese people in certain areas and making Assamese the compulsory official language.
3. Reservation: Recommendations for 80-100% reservations in government jobs, educational institutions, and political seats for Assamese people.
4. Cultural Heritage: Establishment of cultural complexes and authorities to promote Assam's diverse cultural practices.

Implementation Status:

- While the Assam government has accepted 52 recommendations, key political recommendations like Inner Line Permit and reservations require Constitutional amendments and have been left out for now.

Cabinet approved to hold Simultaneous Elections

Syllabus: Polity: Elections

Context:

- The Union Cabinet has approved the move to hold simultaneous elections for the Lok Sabha, state Assemblies, and local bodies. The proposal, is based on recommendations from the Kovind Committee.

Main points of the simultaneous election proposal:

1. Simultaneous Elections: Lok Sabha, state Assemblies, and local government bodies to hold elections together.
2. **Two Phases:**
 - o Phase 1: Align Lok Sabha and state Assembly elections.
 - o Phase 2: Conduct local body elections within 100 days of the first phase.
3. **Constitutional Amendments:**
 - o Two amendments are required, passed with a special majority in both houses of Parliament.
 - o State ratification: At least half of the states must ratify amendments.
4. Mid-term Elections: If a state Assembly or Lok Sabha is dissolved early, the new term will last only until the next scheduled simultaneous election.
5. Single Electoral Roll: A unified electoral roll for all elections will be created in consultation with State Election Commissions.
6. Dissolution of Assemblies: Some state Assemblies will dissolve earlier than their five-year term to align with the simultaneous election schedule.
7. Election Commission Role: The ECI can recommend delaying certain state elections but must align them with future simultaneous elections.

HOW THE NUMBERS STACK UP IN PARLIAMENT

WHAT PARTIES TOLD PANEL

32 OF THE 47 parties that gave their opinion to the Kovind panel supported the idea; 15 opposed it. NDA ally TDP didn't give its opinion, but told *The Indian Express* that it backed One Nation, One Election in principle. The BSP was initially against it, but now has come out in support.

ALL 32 PARTIES were either BJP allies, or friendly towards the party then. Now, the BJP has turned against the BJP. Of the 15 parties against the move, five are in power in states, including Congress.



Kovind presents report to President Murmu in the presence of Home Minister Amit Shah. File

PARLIAMENT PICTURE NOW

PARTIES THAT BACKED the idea of simultaneous elections before the Kovind panel have 271 members in Lok Sabha now. This number includes the 240 MPs from the BJP.

THE NDA, including TDP and others who neither supported nor opposed simultaneous polls before the Kovind panel, has 293 MPs in Lok Sabha.

NUMBERS GAME IN LOK SABHA

A TWO-THIRDS majority of members present and voting is needed for the required constitutional amendment to go through — in the full House of

543, that works out to 362 MPs.

NDA HAS 293 MPs — so there is a possibility of passage of the amendment only if 439 MPs vote on the Bill, and the remaining 104 abstain. Alternatively, the government will have to convince non-NDA parties to back it.

ARITHMETIC IN RAJYA SABHA

NDA HAS 121 MPS, including the six nominated members. The opposition INDIA bloc has 85 MPs.

IF ALL 250 members are present, a simple majority would be 125 and two-thirds would be 164 MPs. Currently, there are 234 MPs in RS.

What is One Nation One Election (ONOE)?

- One Nation One Election is a proposal to synchronize the timing of all elections in India, including those for the Lok Sabha, state legislative assemblies, and local bodies. The aim is to streamline the electoral process, reduce campaign expenditures, minimize disruptions to governance, and enhance political stability by holding all elections simultaneously at regular intervals, typically once every five years. ONOE was the norm until 1967 but after that cycle was broken. Earlier Law Commission also recommended the idea of ONOE in its report.

Constitutional Articles involved:

Article	Description	Amendment Required
Article 324A	Article 324 of the Constitution vests the Election Commission with the authority to supervise, direct, and control elections for Parliament, state legislatures, the President of India, and the Vice-President of India.	
The committee has suggested the inclusion of a new Article 324A in the Constitution.	This new article would empower Parliament to make laws to ensure that municipality and panchayat elections are held simultaneously with the General Elections (to Lok Sabha and state Assemblies) without requiring state ratification.	
Article 83 and Article 172	Article 83(2) and Article 172(1) stipulate a five-year term for the Lok Sabha and state legislative Assemblies, respectively, commencing from their first sitting unless dissolved earlier.	The committee recommended an amendment for synchronizing Assembly elections with Lok Sabha polls, suggesting no need for state ratification.
Article 325	Article 325 prohibits the exclusion of any person from a special electoral roll based on religion, race, caste, or sex.	The committee suggested amendment for a single electoral roll and electoral identity cards, requiring state ratification.
Articles 328 and 327	Article 328: Power of Legislature of a State to make provision with respect to elections to such Legislature.	As per the committee, the Constitution empowers Parliament, not states, to conduct Assembly elections, implying that simultaneous poll amendments do not mandate state ratification.

Benefits of “one nation, one election”:

Benefits	Description
Reducing Election Expenditure	Conducting all elections simultaneously minimizes expenses on logistics, security, and campaigning.
	The Election Commission of India had pegged the expenditure for simultaneous elections at Rs 4,500 crore. In comparison, the 2014 Lok Sabha polls cost Rs 3,870 crore to the exchequer while the 2015 Bihar elections alone cost the government Rs 300 crore.
Better Governance	Simultaneous elections reduce distractions to governance and allow elected governments to focus on developmental and welfare activities.
Voter Convenience	Voters are spared from multiple rounds of voting throughout the year, ensuring better turnout and convenience.
Reduced Security Concerns	Simultaneous elections decrease security concerns by requiring a unified security setup across the country.
Level Playing Field	All parties and candidates have equal opportunities, promoting fairness and transparency in the electoral process.
Reduced Impact on Education	Simultaneous elections lessen the impact on the education sector by minimizing the involvement of teachers in the electoral process.

Limitations of “one nation, one election”:

Challenges	Description
Ratification by States	The committee proposal that Ratification by states is not needed for most of the amendments may increase tension between the centre and states and also be struck down by Judicial Review
	In Kihoto Hollohan v Zachillhu (1992), the Supreme Court invalidated a law related to lawmaker disqualification because it lacked ratification by the states.
Constitutional Challenges	Implementing “one nation, one election” requires lengthy and complicated constitutional amendments, necessitating consensus among political parties and states.
Anti-federalism	Combining assembly elections with general elections risks submerging regional issues under the national narrative, potentially undermining local representation.
Complexity of Logistics	Managing simultaneous elections entails significant logistical arrangements, including security deployment, electoral roll preparation, and polling booth management.
	It would require greater numbers of electronic voting machines (EVMs) and voter-verifiable paper audit trail (VVPAT) machines
Dominance by National Parties	Simultaneous elections may favour national parties with more resources, potentially disadvantaging regional parties and diminishing the representation of regional issues.
Impact on Democracy	Conducting simultaneous elections might limit voters' engagement with all issues, possibly compromising informed decision-making and the overall democratic process.
Voter's choice and interests	Simultaneous elections may shift voter focus to national issues, potentially favouring larger national parties over regional ones. This could marginalize regional parties and diminish voter interests.
	Additionally, separate elections enhance accountability by subjecting politicians to more frequent electoral scrutiny.

International Experience:

1. South Africa: National and provincial legislature elections are simultaneous for five years, with municipal elections held two years later.
2. Sweden: Elections for the national legislature (Riksdag), provincial legislature/county council (Landsting), and municipal assemblies (Kommunfullmaktige) are held every fourth year on the second Sunday in September.
3. Britain: The Fixed-term Parliaments Act, 2011 ensures stability by holding elections on the first Thursday of May every fifth year, starting from May 7, 2015.

Way forward

- Parliamentary standing committee on Law and Justice recommended a two-phase election schedule, according to which elections to some legislative assemblies whose term end within six months to one year before or after the election date could be held during the midterm of Lok Sabha. For the rest of the states, elections could be held along with the general elections to Lok Sabha.
- Cost can be brought under control by ensuring that the legal cap on the expenditure of candidates is followed by all parties.
- Concept of One year, One election will be easier than ONOE, and will have the same benefits.

Conclusion:

- While the objectives for simultaneous polls offer considerable opportunities, the challenges involved and practical limitations highlight the need for wider political support and legislative amendments. Going forward toward this goal, elaborate deliberations and a consensus-based mechanism for implementation are essential.

Analysis of Public Accounts Committee (PAC)

Syllabus: Polity: Parliamentary Committee

Context:

- The newly constituted Public Accounts Committee (PAC) has taken a proactive step by selecting 161 subjects for review, including five key areas like banking reforms and energy transition, mainly based on CAG reports.
- Headed by Congress MP K.C. Venugopal, the PAC aims to scrutinize the government's expenditure beyond formalities, focusing on its effectiveness and integrity. This oversight is crucial given the allegations of crony capitalism and lack of accountability in recent years.

About Public Accounts Committee (PAC):

Aspect	Details
Role	Audits government revenue and expenditure, examining C&AG audit reports after being presented in Parliament.
Assistance	Comptroller and Auditor General (C&AG) assists in investigations.
Function	Ensures government spending is within the scope of Parliament's grants.
Genesis	Established in 1921, became a Parliamentary Committee under the Speaker's control in 1950.
Membership	22 members (15 from Lok Sabha, 7 from Rajya Sabha), elected annually.
Chairperson	Appointed from Lok Sabha, traditionally from the Opposition since 1967-68.
Exclusions	Ministers are not members; if a member is appointed a Minister, they must vacate their seat.
Key Functions	1. Scrutinizes government accounts and C&AG reports. 2. Reviews legality, authority, and prudence of expenditure.
Examination Focus	Ensures appropriations are spent for the approved purpose, follow authority, and maintain economy and efficiency.

PAC and Financial Accountability – Roles and Concerns:

1. Examination of CAG Reports:

- The PAC examines annual audit reports by the Comptroller and Auditor General (CAG), which are presented to Parliament by the President.

2. Scrutiny of Expenses:

- Reviews public expenditure not only for technical irregularities but also for economy, prudence, and propriety.
- Highlights waste, loss, corruption, and inefficiency
- Limitations: Conducts post-mortem scrutiny and has no role in controlling expenses beforehand.

3. Streamlining Government Activities:

- Works with Public Estimates and Public Undertakings Committees to oversee government expenditures.
- Promotes efficiency and financial propriety.
- Limitations: Lacks power for day-to-day intervention and its recommendations are advisory, not binding.

4. Need-based Policy-making:

- Offers constructive suggestions for optimal use of resources and passive improvements in government policies.
- Limitations: Has no direct role in policymaking, and it cannot issue orders—Parliament decides on its findings.

Conclusion

- Moving forward, the PAC should reinvent itself to more effectively handle the complexity of scrutinizing the accounts and audit of expenditures through capacity building, accessing the inputs of experts and information exchanges.

Supreme Court Ruling on Judges' Elevation

Context:

- The Supreme Court has ruled that the elevation of judges must be decided collectively by the High Court Collegium, not by an individual Chief Justice.
- SC also clarified that although the 'content of consultation' is beyond Judicial review 'effective consultation' falls within its ambit.

Background of the case:

- The Court directed the Himachal Pradesh High Court Collegium to reconsider District Judges Chirag Bhanu Singh and Arvind Malhotra for promotion. It emphasized that the process must involve collective deliberation and cannot be decided solely by the High Court Chief Justice.

About Collegium:

- The Collegium system recommends appointments for Supreme Court (SC) and High Court (HC) judges.
 - o Supreme Court: The Collegium includes the Chief Justice of India (CJI) and four senior-most SC judges.
 - o High Court: The HC Collegium consists of the HC Chief Justice and two senior HC judges.
- Appointments are made by the President under Articles 124 and 217 of the Constitution.

Collegium System

How are the Judges in India Appointed?

- **What is Collegium System?**
It is a system of transfer and appointment of judges that has evolved through judgments of the Apex court.
- **When was it Introduced?**
Introduced in 1993 – The Second Judges Case.
Formed in the consultation with the 2 senior-most judges in the SC.
- **How many Judges are comprised?**
In 1998 – Supreme Court expanded the Collegium into 5 member body.
 - Supreme Court Collegium headed by CJI & 4 other senior most judges of Apex Court
 - High Court Collegium Chief Justice & 4 other Senior most judges of that court
- **Problems addressed**
In 1998 – Supreme Court expanded the Collegium into 5 member body.

- **Appointment of CJI**
Step 1: The senior most just of SC is considered to hold the office.
Step 2: Recommendation of Outgoing CJI is considered
Step 3: The Union Minister of Law sends the recommendation to the PM who advises President to matter of appointment.
- **Transfer of Judges**
 - In the matter of Transfer – the opinion of the CJI is deemed “determinative”.
 - The consent of other judges is not required
 - There can be acting CJ in High court for not more than a month
- **Why the System Drawn Criticism?**
 - Due to lack of transparency
 - Lawyers too remain unaware of their names in elevation
 - Critics also cite the scope of nepotism



Chapter- 3

GEOGRAPHY

Cyclone Asna

Context:

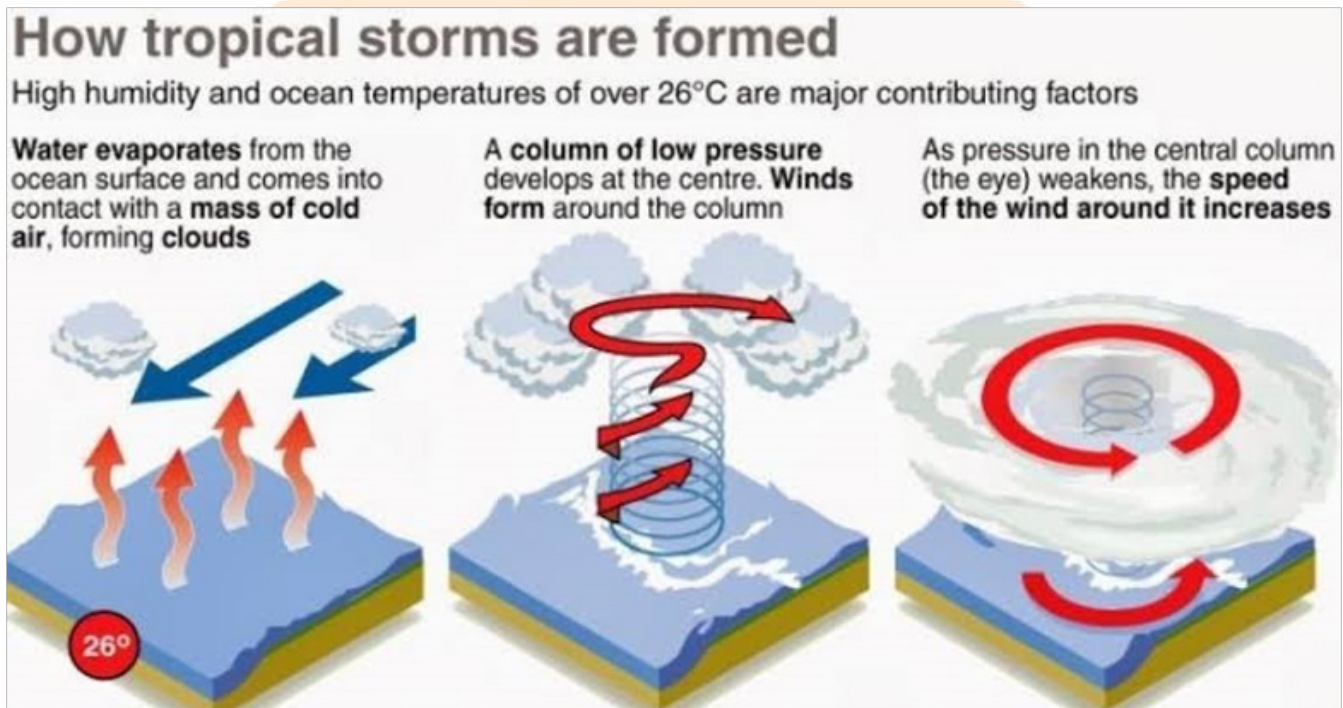
- Cyclone Asna, which formed over the Kutch coast in Gujarat, moved towards Oman without causing a significant impact in the region.
- The cyclone, which originated from a deep depression, brought some rain and strong winds but caused no major damage or casualties.

About Cyclones:

- Cyclones are intense systems of air circulation around a low-pressure center, characterized by violent storms and adverse weather conditions.
- In the Northern Hemisphere, cyclones rotate counterclockwise, while in the Southern Hemisphere, they rotate clockwise.
- The term “cyclone” comes from the Greek word “Cyclos,” meaning the coils of a snake, a reference coined by Henry Piddington due to the appearance of tropical storms in the Bay of Bengal and the Arabian Sea resembling coiled serpents.

Cyclones are classified into two main types:

1. Tropical Cyclones: These form in tropical regions and include hurricanes and typhoons.
2. Extra-Tropical Cyclones: Also known as temperate, middle-latitude, or frontal cyclones, these occur in the mid-latitudes and are associated with weather fronts and low-pressure systems.

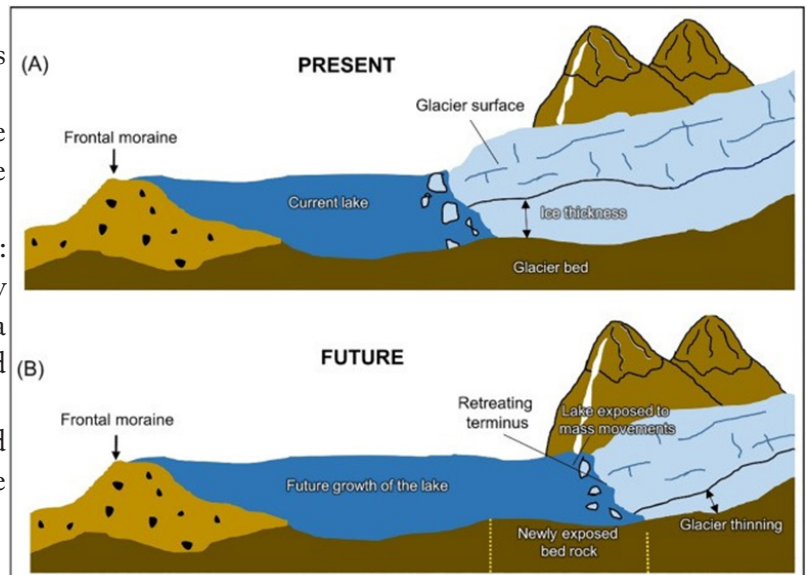


Glacial lake outburst flood (GLOF)

Context:

- A central team, as part of the GLOF (Glacial Lake Outburst Flood) Early Warning Systems Mission, visited Tenchungkha Lake in Sikkim, marking the first of 16 planned assessments in the region.
 - o The NDMA (National Disaster Management Authority) has identified 188 critical lakes across the Indian Himalayan Region, vulnerable to GLOF events, and is working with state governments and experts, including ISRO scientists, to implement early warning systems and risk mitigation strategies.

- Glacial lakes are large bodies of water formed by meltwater from glaciers, located in front of, on top of, or beneath melting glaciers.
- They develop near the glacier's snout as meltwater accumulates.
- Hazard: As these lakes grow, they are often dammed by unstable ice or loose sediment, making them dangerous.
- GLOF (Glacial Lake Outburst Flood): This occurs when the dam or boundary around a glacial lake fails, causing a sudden release of water that can flood downstream areas.
- Triggers: GLOFs can be caused by earthquakes, heavy rains, or ice avalanches.



Galathea Bay

Context:

- The Centre has designated Galathea Bay in the Andaman & Nicobar Islands as a 'Major Port,' marking the start of a 44,000 crore project.
- The Great Nicobar Island International Container Transshipment Terminal (GNIICTT) at Galathea Bay, with a depth of 20 meters, is a \$9 billion project in the Andaman and Nicobar Islands. It will be India's second deep-water container transshipment terminal, following Vizhinjam International Seaport. This international transshipment hub will be developed through a public-private partnership and aims to capture cargo currently handled abroad.
- India has 12 major ports and 200 non-major ports, with major ports regulated by the Major Ports Authority Act, 2021, and non-major ports managed by State Maritime Boards.



Delay in Census: Govt Dissolves Standing Committee on Statistics

Context:

- The government has dissolved the 14-member Standing Committee on Statistics (SCoS), which was overseeing statistical surveys, amid concerns about the delay in conducting the national census. The committee, led by former Chief Statistician Pronab Sen, had previously raised issues over delays in both the economic and population censuses. The last census was conducted in 2011, with the next due in 2021.
- The Ministry of Statistics and Programme Implementation (MoSPI) stated that the committee's work overlapped with that of the newly formed Steering Committee for National Sample Surveys, leading to its dissolution.

Standing Committee on Economic Statistics (SCES)

1. Established: 2019 by MoSPI
2. Nature: Temporary committee for addressing critical statistical issues
3. Funding: Government of India (via MoSPI)
4. **Objectives:**
 1. Advise on survey methodology (sampling, design, instruments)
 2. Finalize survey tabulation plans

Steering Committee for National Sample Surveys (NSS)

1. Established: July 2023
2. Objective: Oversee survey-related matters of NSSO, based on NSC recommendations.

Chapter-4

ENVIRONMENT

Air Pollution

Syllabus: Air Pollution

Context:

Air quality in Delhi slipped into the 'poor' category (AQI 200-300) for the first time since mid-June, signalling the imminent arrival of North India's bad air season.

New WHO Global Air Quality Guidelines			
Pollutant	Time	2005 levels	New 2021 levels
PM_{2.5} Particulate matter <2,5 microns	Annual	10	5
	24-hour	25	15
PM₁₀ Particulate matter <10 microns	Annual	20	15
	24-hour	50	45
O₃ Ozone	Peak season	-	60
	8-hour	100	100
NO₂ Nitrogen dioxide	Annual	40	10
	24-hour	-	25
SO₂ Sulfur dioxide	24-hour	20	40
CO Carbon monoxide	24-hour	-	4

Air pollution data:

1. Global ranking: According to IQAir's 2023 report, India is ranked as the third most polluted country globally.
2. 5 concentration: The average PM_{2.5} concentration in India stands at 54.4 µg/m³.
3. Economic impact: Air pollution results in an estimated economic loss of 2.7 lakh crore annually, accounting for 1.36% of the GDP.

Causes of air pollution:

Natural causes:

1. Wildfires and dust storms: Natural events like wildfires and dust storms contribute to the spread of particulate matter in the air.
2. Volcanic activity: Volcanic eruptions emit gases such as Sulfur dioxide, impacting air quality regionally and globally.

Anthropogenic causes:

1. Vehicular emissions: Cars and industrial transportation are key sources of nitrogen oxides (NO_x) and particulate matter (PM).

2. **Industrial emissions:** Factories release pollutants like Sulfur oxides (SO_x) and carbon dioxide (CO₂), contributing to local and global air pollution.
3. **Stubble burning:** Common in Punjab, Haryana, and UP, this practice exacerbates pollution, especially in Delhi-NCR during winter.
4. **Waste burning:** Open burning of solid waste releases harmful chemicals into the air, further deteriorating air quality.
5. **Coal-based power plants:** These plants contribute to over half of the SO₂ emissions and 30% of NO_x emissions in India.

Impact of air pollution:

1. **Health:** It causes respiratory issues, heart disease, and premature deaths, with PM_{2.5} being the most harmful pollutant.
2. **Environment:** Air pollution leads to acid rain, which damages crops and ecosystems, and contributes to climate change.
3. **Economic Loss:** According to the World Bank, air pollution causes a significant reduction in workforce productivity, GDP growth, and healthcare costs.

Measures to control air pollution:

1. Technological interventions:

- **Air quality monitoring:** Enhancing infrastructure for real-time air quality monitoring can help with early warnings and targeted actions.
- **Emission norms:** Strengthening and expanding Bharat Stage VI norms for vehicles, along with the promotion of electric vehicles (EVs), can help reduce emissions.
- **Use of renewable energy:** Transitioning from coal-based power plants to solar, wind, and other renewable sources can reduce harmful emissions.

2. Policy interventions:

- **National Clean Air Programme (NCAP):** Aimed at reducing PM_{2.5} levels by 20-40% by 2026, NCAP emphasizes coordinated efforts across states and sectors.
- **Graded Response Action Plan (GRAP):** Especially for Delhi-NCR, GRAP implements emergency measures during severe pollution episodes.
- **Stubble management programs:** Encouraging farmers to adopt alternative methods to burning, like using bio-decomposers, can mitigate seasonal pollution spikes.

3. Community and behavioral changes:

- **Public awareness:** Awareness campaigns on the health impacts of air pollution and encouraging citizens to adopt cleaner practices like carpooling and waste segregation.
- **Green urban spaces:** Expanding green belts in urban areas can help absorb pollutants and improve overall air quality.

Best global practices:

1. **Singapore's Green Plan:** Aimed at achieving net-zero emissions and reducing air pollution through sustainable urban planning, electric vehicle incentives, and strong public transportation systems.
2. **London's Ultra-Low Emission Zone (ULEZ):** A system that charges vehicles that do not meet emissions standards, helping to reduce city pollution significantly.

Conclusion:

- India's air pollution crisis requires a sustained, multi-sectoral approach that prioritizes long-term solutions over short-term optics. Drawing inspiration from global best practices, India must focus on integrating scientific methods, technological solutions, and public engagement to tackle air pollution effectively.

Urban Flooding

Syllabus: Natural Disaster

Context:

Guwahati, like many growing urban centres, is grappling with the increasing frequency of urban flooding. Despite several town planning initiatives, the city's infrastructure and drainage system remain insufficient, often exacerbated by rapid urbanization, deforestation, and poor planning.

Causes of Urban Flooding

Natural Causes:

1. **Heavy Rainfall:** Guwahati experiences torrential downpours during the monsoon, leading to surface runoff that overwhelms the drainage systems.
2. **Topography:** The city's hilly terrain and low-lying areas prevent proper water drainage, especially when natural outlets are blocked.
3. **River Overflow:** Proximity to the Brahmaputra River increases the risk of flooding, as the river swells during heavy rains or when glaciers melt upstream.



Man-Made Causes:

1. **Unplanned Urbanization:** The rapid, unchecked development of commercial and residential areas without adequate planning blocks natural drainage systems.
2. **Encroachment of Wetlands:** Wetlands that acted as natural water sinks have been encroached upon, reducing water absorption capacity.
3. **Inadequate Drainage Infrastructure:** Drainage systems designed in the 1970s are outdated, incomplete, and incapable of handling current water levels, leading to flooding.
4. **Loss of Permeable Surfaces:** Excessive concretization, with limited green spaces, reduces groundwater recharge and increases runoff, leading to waterlogging.

Impacts/Consequences of Urban Flooding

1. **Disruption to Daily Life:** Flooding disrupts transportation, power supply, and basic services, causing inconvenience to residents and economic loss.
2. **Health Hazards:** Stagnant water creates breeding grounds for diseases like dengue, malaria, and cholera.
3. **Economic Loss:** Flooding leads to damage of property, infrastructure, and loss of business, significantly impacting the local economy.
4. **Environmental Degradation:** Waterlogging erodes soil, impacts natural ecosystems, and contaminates water bodies.
5. **Displacement of People:** Prolonged flooding often results in displacement of residents, especially from low-lying areas.

Mitigation Measures

1. Comprehensive Urban Planning:

- Adopt sponge city concepts with green infrastructure, such as rain gardens and permeable pavements, to absorb excess water.
- Implement sustainable land-use practices to avoid further encroachment on wetlands and water bodies.

2. Drainage System Upgrades:

- Follow NDMA (National Disaster Management Authority) guidelines to design modern drainage systems that can handle extreme rainfall events.
- Revive old drainage plans and focus on cleaning and expanding natural water channels, like the Bhoroglu River.

3. Watershed Management:

- Restore and protect wetlands, lakes, and ponds, ensuring natural water retention to reduce runoff.
- Promote rainwater harvesting at the community and household levels to recharge groundwater.

4. Resilient Infrastructure:

- Ensure all new construction, especially in flood-prone areas, follows building codes to prevent waterlogging.
- Prohibit basement construction in low-lying regions and enforce slope analysis to avoid risky development.

5. Early Warning Systems and Crisis Management:

- Establish early warning systems to alert citizens in flood-prone areas.
- Set up local disaster management committees involving NGOs, CBOs, and local stakeholders for efficient flood response.

Conclusion:

- By integrating traditional water management techniques with new-age solutions like green infrastructure and strict regulatory measures, cities can mitigate both natural and man-made causes of flooding. Comprehensive urban governance and participatory approaches will ensure resilient, future-proof urban development.

Project cheetah

Reference: Indian Express

Context:

Project Cheetah, which saw the introduction of the African sub-species of the wild cat in India, completed two years on September 17.

Background of Project Cheetah:

1. Cheetah Extinction in India: Cheetahs were officially declared extinct in India in 1952 due to overhunting and habitat loss.
2. Goal of Reintroduction: The project aims to establish a viable cheetah population in central India, restoring ecosystems such as grasslands and savannahs.
3. Translocation from Africa: In 2022, the first batch of 8 cheetahs arrived from Namibia, followed by 12 from South Africa in early 2023.
4. Cheetah Breeding and Expansion: The project also seeks to promote breeding and establish a metapopulation across various wildlife reserves in India.
5. Ecosystem Restoration: Cheetahs are used as an umbrella species to restore open ecosystems, contributing to the conservation of other species dependent on these habitats.

Analysis of Two Years of Performance:

Positives:

1. Successful Translocation: 24 cheetahs, including cubs, have survived the initial translocation and acclimatization to India's environment.
2. Breeding Success: 17 cubs have been born within two years, showing potential for population expansion.
3. Adaptive Movements: Some cheetahs, like Veera, have demonstrated wide-ranging movements, indicating the possibility of cheetahs adapting to free-range life.
4. Multi-location Translocation: Plans to expand the project to Gandhi Sagar Wildlife Sanctuary are underway to spread out the population.

Challenges:

1. High Mortality Rate: 8 cheetahs (40% of translocated adults) and 5 cubs (29%) have died due to issues such as infection, mating injuries, and environmental stress.
2. Limited Wild Release: Most cheetahs are still in enclosures, raising concerns about their ability to thrive independently in the wild.

3. **Prey Deficit:** The declining prey population, especially chital, poses a major challenge in supporting both cheetahs and leopards in Kuno National Park.
4. **Interstate Coordination:** The cheetahs' movements across states highlight the need for landscape-level conservation strategies and cooperation across regions.

Way Ahead:

1. **Prey Base Augmentation:** Immediate efforts are required to increase prey density in Kuno and Gandhi Sagar to support the cheetah population.
2. **Habitat Restoration:** Conservation efforts should focus on restoring and protecting grasslands and savannahs, spanning multiple districts and states.
3. **Gradual Wild Release:** Post-monsoon release plans must be carefully managed to ensure cheetahs adapt successfully to free-range habitats.
4. **Transparent Project Management:** Improved communication with experts and the public is essential for long-term success, especially regarding challenges and strategies.

Conclusion:

- While Project Cheetah has shown promise through breeding success and acclimatization, the high mortality rate and delayed wild release raise concerns about its sustainability. A focus on habitat restoration, prey management, and effective coordination will be crucial to ensuring the project's long-term success.

5 years of Coalition for Disaster Resilient Infrastructure (CDRI)

Syllabus: Disaster Management

Context:

Coalition for Disaster Resilient Infrastructure (CDRI) marks its fifth Anniversary

- Also, CDRI announced a \$2.5 million fund to support cities in 30 low and middle-income countries, including India. This Urban Infrastructure Resilience Programme (UIRP) aims to enhance awareness, planning, and financial resources for integrating climate resilience into infrastructure.
- Previously, the Union Cabinet had given its approval for ratification of the Headquarters Agreement (HQA) between the Government of India (GoI) and the Coalition for Disaster Resilient Infrastructure (CDRI).

About CDRI:

CRDI	
About	CDRI is a global partnership of National Governments, UN agencies, multilateral development banks, the private sector, and academic institutions.
Objective	It aims to promote the resilience of infrastructure systems to climate and disaster risks, thereby ensuring sustainable development.
Launched by	It was launched by the PM of India during the UN Climate Action Summit (New York) in 2019. It is seen as India's attempt to obtain a global leadership role in climate change and disaster resilience matters
Secretariat	New Delhi
Members	Since its launch, 31 Countries, 6 International Organisations and 2 private sector organisations have become members of CDRI.
Upgradation	In 2022, the Cabinet approved the recognition of CDRI as an International Organisation and for the signing of HQA for granting CDRI exemptions, immunities and privileges as contemplated under the UN (Privileges and Immunities) Act, 1947
Significance of HQA agreement	Ratification will provide CDRI an independent and international legal persona so that it can carry out its functions internationally, more efficiently.

How can CDRI help in enhancing the reach and resilience of Infrastructure

- The Coalition for Disaster Resilient Infrastructure (CDRI) is an international partnership of governments and other agencies working to promote resilience to disasters.

Improving Reach

- CDRI advocates for prioritizing connectivity infrastructure like rural roads and telecom to enhance access to remote and vulnerable communities.
- It partners with development banks like ADB to mobilize financing for reach-enhancing projects which governments may overlook due to modest returns.
- CDRI highlights how reaching the last mile reduces disaster risks and long-term costs by facilitating evacuation, monitoring and service delivery.
- It is developing geospatial models to identify underserved regions prone to disasters to guide investment priorities for reach.

Enhancing Resilience

- CDRI has formulated 10 resilience standards and guidelines customizable for countries based on hazard risks and local needs.
- It trains infrastructure agencies on lifecycle resilience solutions encompassing disaster-resistant design, construction and proactive asset management.
- CDRI promotes cost-effective engineering innovations like bio-engineering for slope stabilization and decentralized renewable energy systems to build resilient eco-infrastructure.
- It works with countries to develop disaster resilience plans for critical infrastructure like power grids, communication networks and transport systems.
- CDRI helps countries assess infrastructure risks and resilience gaps through detailed diagnostic tools and simulations.

Conclusion

- Thus CDRI focuses on furthering inclusion and resilience together by advocating connectivity infrastructure to remote areas and building the capacity of countries on end-to-end solutions for resilient design, delivery and operations, thus steering policy towards inclusive and resilient

International Big Cat Alliance (IBCA)

Context:



- India officially joined the International Big Cat Alliance (IBCA), a global initiative launched by Prime Minister Modi on April 9, 2023, during the 50th anniversary of Project Tiger.
- The IBCA aims to conserve big cats like tigers, lions, and cheetahs. India is among four founding members, alongside Nicaragua, Eswatini, and Somalia. With headquarters in India, the alliance will collaborate with 24 countries and nine organizations to protect big cats and their habitats, promoting sustainable resource use and addressing climate challenges.

About Global Alliance for Big Cats:




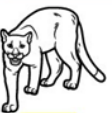

Context:

India has proposed to launch a mega global alliance to protect big cats and assured support over five years with guaranteed funding of \$100 million (over Rs 800 crore).

About International Big Cat Alliance (IBCA)

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Context: Context: India has proposed to launch a mega global alliance to protect big cats and assured support over five years with guaranteed funding of \$100 million (over Rs 800 crore)

About International Big Cat Alliance (IBCA)

	Description
Purpose	Protection and conservation of the 7 major big cats - tiger, lion, leopard, snow leopard, puma, jaguar and cheetah
Member countries	97 range countries and other interested nations and organs.
Activities	Advocacy, partnerships, knowledge portal, capacity building, eco-tourism, expert groups and finance tapping
Governance structure	General Assembly, Council, and Secretariat
Funding	\$100 million grant assistance by India for the first 5 years; later through membership fees, contributions from bilateral and multilateral institutions, and the private sector
Previous initiatives	India had in 2019 called for an Alliance of Global Leaders to curb poaching and illegal wildlife trade in Asia.
Importance of saving the tiger	India is the only country in the world to have 5 big cats in wild (all except pumas and Jaguars). Big cats are umbrella and flagship species whose loss can set off a "trophic cascade," (prey populations may explode, resulting in overgrazing and degrading the health of the landscape). India is home to 75% of global tigers.

Visit Insights IAS Daily Current Affairs

Report: India's Strategy to Avoid Harm in the Global EV Market Shake-Up

Syllabus: Environment Conservation / Energy

Context:

A Global Trade Research Initiative (GTRI) report, "India's Strategy to Avoid Harm in the Global EV Market Shake-Up," urges India to let market forces guide its EV sector's growth and develop its own strategy.

Background:

- In 2023, China dominated the global EV market, exporting 1.6 million EVs. Western countries have begun imposing tariffs on Chinese EV imports, prompting China to move production to ASEAN nations and India. Indian EV production remains reliant on Chinese components, including batteries.
- India's reliance on coal for electricity generation significantly reduces the environmental benefits of electric vehicles (EVs), undermining their potential to contribute to cleaner transportation. Additionally, over 80% of the cost of EVs in India is tied to components imported from China, particularly batteries, which increases the country's dependency on Chinese supply chains. To address these challenges, it is recommended that India invest in research and development for advanced battery technologies, such as solid-state batteries and hydrogen fuel cells, while also establishing robust recycling infrastructure. Moreover, supporting clean energy sources for EV charging and conducting comprehensive assessments of EVs' environmental impacts will be crucial for ensuring long-term sustainability.

What are Electric Vehicles?

Electric vehicles (EVs) use electric motors for propulsion instead of traditional internal combustion engines. Interest in EVs has surged due to concerns over carbon emissions from fuel-based vehicles. There are three main types of EVs:

1. **Battery Electric Vehicles (BEVs):** Fully powered by batteries with zero emissions.
2. **Plug-in Hybrid Electric Vehicles (PHEVs):** Use both an electric motor and gasoline engine; can be charged externally.

3. Hybrid Electric Vehicles (HEVs): Combine electric and gasoline power, but cannot be externally charged; the battery is charged via the engine or regenerative braking.

Previously, Union Government has approved an E-Vehicle policy aimed at positioning India as a manufacturing hub for electric vehicles (EVs) with cutting-edge technology.

Aspect	Details
Policy Objective	Promote India as a manufacturing destination for electric vehicles (EVs) with advanced technology
Implementation	The Project Management Agency (PMA) will be responsible for providing secretarial, managerial and implementation support and carrying out other responsibilities as assigned by the Government of India (GoI)
Ministry	Ministry of Heavy Industries
Eligibility Criteria	Minimum Investment Requirement: Rs 4150 Cr (approximately USD 500 Mn)
	Maximum Investment: No cap on maximum investment
	Manufacturing Timeline: Set up manufacturing facilities within 3 years
	Domestic Value Addition (DVA) criteria during manufacturing: 25% within a period of 3 years, and 50% within 5 years from the date of issuance of approval letter by the Ministry of Heavy Industries/ PMA
	The Bank guarantee will be returned only when 50% DVA is attained an investment of at least Rs 4,150 crore has been made, or to the extent of duty foregone in 5 years, whichever is higher.
	Performance Criteria: All electric passenger vehicles shall meet the performance criteria of the Production Linked Incentive (PLI) Auto scheme.
Tenure of the Policy	5 years or as notified by GoI.
Key Benefits	Encourages technological advancements in EV manufacturing; Fosters Make in India initiative; Promotes healthy competition among EV players; Reduces crude oil imports and trade deficit; Mitigates air pollution, particularly in urban areas; Positive impact on health and environment
Other Initiatives to Promote EV	Faster Adoption and Manufacturing of EVs (FAME) India scheme: Phase I was launched in 2015 and Phase II was launched in 2019.
	EV 30@30 initiative for the deployment of EVs and target at least 30 per cent of new EV sales by 2030
	PLI Scheme for Automobile and Automotive Components (PLI-Auto) in 2021, as financial incentives to promote domestic manufacturing and draw investments into the value chain of the automotive manufacturing industry.

Measures to Accelerate EV Adoption in India:

1. Battery Lease-to-Own Program: Reduce initial costs by leasing batteries.
2. Invest in Battery Technology: Develop advanced, high-density batteries.
3. Increase Charger Density: Expand and convert parking meters to charging points.
4. Standardization: Develop standard protocols for interoperability.
5. EV Rural Entrepreneurs Program: Support rural charging station setups.
6. Highway Battery Swap Corridors: Create swap stations along major routes.
7. Equal Subsidies for EVs and Hybrids: Provide equal support for both technologies.
8. Second-Life Battery Bazaar: Repurpose used batteries for various applications.

Lessons from Other Countries:

- Europe: Financial incentives boost adoption.
- China: Government support and competition drive market growth.
- US: Innovation and strategic funding are key.

Role of Methane in Climate Change

Syllabus: Environmental Conservation

Context:

Methane, though short-lived (12 years), traps 84 times more heat than CO₂ over 20 years, making it a powerful greenhouse gas.

What is Methane?

- It is an Odorless, colourless, and flammable gas; the second-largest contributor to global warming after Carbon Dioxide and the primary contributor to the formation of ground-level ozone.

The International Energy Agency (IEA) released its annual Global Methane Tracker 2024 report

Key Findings of the Report	In 2023, methane emissions from the energy sector remained close to a record high.
	Fossil fuel production and usage, alongside bioenergy, contributed to nearly 120 million tonnes (Mt) of emissions, with approximately 70% originating from the top 10 emitting countries.
	Among these, the United States leads in methane emissions from oil and gas operations, followed by Russia, while China ranks highest in the coal sector.
Recommendations of the Report	Achieving a 75% reduction in methane emissions by 2030 necessitates an estimated investment of around US \$170 billion
	Improved tools for emission tracking, like satellite imagery, have enhanced transparency, yet systematic and transparent data utilization is essential to reduce emission
Global Initiatives to Control Methane	International Methane Emissions Observatory, Global Methane Pledge (India is not part of it), Global Methane Initiative, MethaneSAT
Indian Initiatives	GobarDhan scheme, National Biogas and Organic Manure Programme.
About IEA	IEA (HQ: Paris; Founded in 1974) is an autonomous intergovernmental organisation to ensure the security of oil supplies. Membership: 31 countries. World Energy Outlook is Published every year and provides critical analysis and insights on trends in energy demand and supply.

Role of methane in climate change:

Aspect	Details	Example
Heat Trapping Ability	Methane traps about 84 times more heat than CO ₂ over a 20-year period.	Methane's short-term heat-trapping effect significantly contributes to global warming.
Duration in Atmosphere	Methane stays in the atmosphere for about 12 years before dissipating.	Despite its short life, its intense heat-trapping impact is substantial during its presence.
Contribution to Global Warming	Methane is responsible for approximately one-third of global warming since the Industrial Revolution.	It has a major impact on rising global temperatures and changing climate patterns.
Sources	Human activities and natural sources. 60% of the methane that makes it into the atmosphere comes from human activities.	Human: Agriculture (e.g., cow burps), landfills, and fossil fuel extraction. Natural: Wetland permafrost thawing.
Energy Sector Emissions	Methane escapes during oil and gas production, transportation, and storage.	Methane leaks occur from rusty equipment or during gas flaring and venting processes.

Way Forward

To address methane emissions, several strategies can be employed. Adopting sustainable agricultural practices, such as precision farming and conservation tillage, can reduce emissions from agriculture. Methane-capturing technologies in livestock operations and landfills can capture and convert methane into usable energy. Implementing rice cultivation techniques like System of Rice Intensification (SRI) and Direct Seeded Rice (DSR) can cut methane from rice paddies. Additionally, promoting biogas production from organic waste offers a renewable energy source and helps mitigate methane emissions from waste decomposition.

Cyclone Asna

Context:

Cyclone Asna, which formed over the Kutch coast in Gujarat, moved towards Oman without causing a significant impact in the region.

- The cyclone, which originated from a deep depression, brought some rain and strong winds but caused no major damage or casualties.

About Cyclones:

- Cyclones are intense systems of air circulation around a low-pressure center, characterized by violent storms and adverse weather conditions.
- In the Northern Hemisphere, cyclones rotate counterclockwise, while in the Southern Hemisphere, they rotate clockwise.
- The term “cyclone” comes from the Greek word “Cyclos,” meaning the coils of a snake, a reference coined by Henry Peddington due to the appearance of tropical storms in the Bay of Bengal and the Arabian Sea resembling coiled serpents.

Cyclones are classified into two main types:

- Tropical Cyclones:** These form in tropical regions and include hurricanes and typhoons.
- Extra-Tropical Cyclones:** Also known as temperate, middle-latitude, or frontal cyclones, these occur in the mid-latitudes and are associated with weather fronts and low-pressure systems.

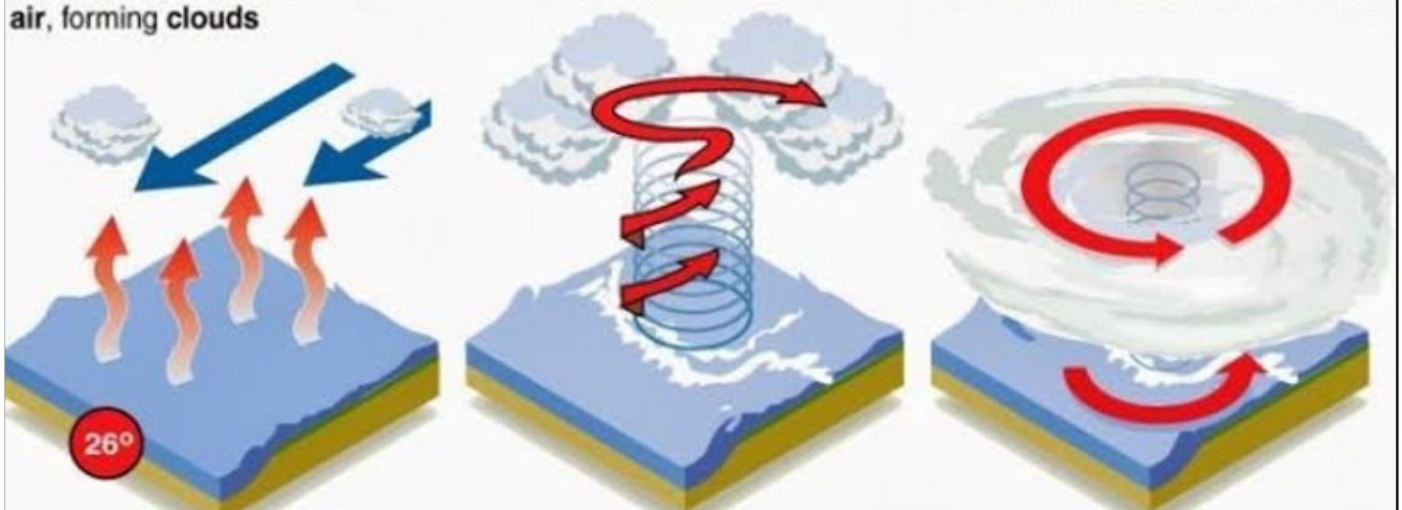
How tropical storms are formed

High humidity and ocean temperatures of over 26°C are major contributing factors

Water evaporates from the ocean surface and comes into contact with a mass of cold air, forming clouds

A column of low pressure develops at the centre. Winds form around the column

As pressure in the central column (the eye) weakens, the speed of the wind around it increases



Chapter-5

SCIENCE & TECHNOLOGY

Cabinet has approved the Chandrayaan-4 mission

Syllabus: Science and Technology: Space

Source: PIB

Context:

- The Union Cabinet has approved the Chandrayaan-4 mission, aimed at demonstrating technologies for returning to Earth after landing on the Moon and collecting lunar samples for analysis.
- This mission follows Chandrayaan-3 and will help develop key technologies for a future Indian lunar landing by 2040. The project will be led by ISRO, with strong involvement from industry and academia, and is expected to be completed within 36 months. The mission supports India's broader space vision, including plans for an Indian Space Station by 2035.

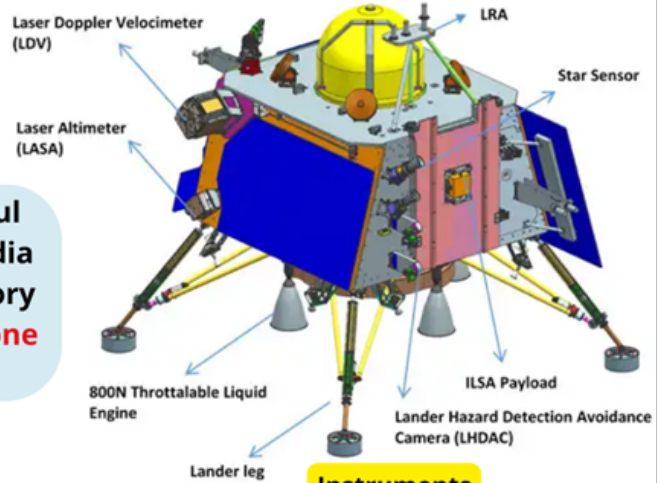
Historical overview of ISRO's major programs – satellites, launch vehicles, and planetary exploration:

Program	Key Achievements
Satellite Programs	
Aryabhata (1975)	Marked India's entry into space era; conducted experiments in X-ray astronomy, aeronomics, and solar physics.
Bhaskar-1 & Bhaskar-2	Experimental remote-sensing satellites laying the groundwork for Indian Remote Sensing (IRS) Satellite system.
IRS-1A (1988)	Launched Earth Observation spacecraft aiding land-based applications like agriculture, forestry, etc.
INSAT Series	Initiated communication revolution, providing nationwide connectivity, broadcasting, meteorological info, etc.
IRNSS (NavIC) (2013)	Started for terrestrial, aerial, marine navigation, location-based services, etc.
Launch Vehicle Programs	
1963 Nike Apache	Initial rocket launch; 'sounding rocket' experiment.
SLV-3 (1980)	India's first launch vehicle; entry into space-faring nations.
PSLV	Reliable and versatile workhorse; enabled critical space missions.
GSLV	Addressed PSLV's limitations; introduced cryogenic engines.
GSLV Mk-III	Heaviest launch vehicle; used for Chandrayaan-2 and Chandrayaan-3 missions.
Planetary Exploration	
Chandrayaan-1 (2008)	Detected water on the Moon; the fifth country to reach the lunar surface.
Mangalyaan (2013)	First interplanetary mission; reached Mars orbit, showcasing interplanetary technology.
Chandrayaan-2 (2019)	Aimed for lunar exploration but faced a setback with the lander's soft landing.
Chandrayaan-3 (2023)	Achieved a successful soft landing on the Moon, contributing to India's lunar capabilities.

Chandrayaan-3 mission



Chandrayaan-3 mission's successful soft landing on the Moon marks India becoming the **fourth nation** in history to reach the lunar surface and **1st one to land on Moon's South Pole**



Comparison of Chandrayaan-1, 2 and 3

Aspect	Chandrayaan-1	Chandrayaan-2	Chandrayaan-3
Launch Year	2008	2019	2023
Objectives	Study lunar surface	Study lunar surface and land rover on lunar South Pole	Demonstrate landing capabilities for Lunar Polar Exploration Mission
Components	Orbiter, Moon Impact Probe	Orbiter, Lander (Vikram), Rover (Pragyan)	Propulsion module, Lander, Rover
Findings	Confirmed lunar water, caves, activity	Built upon Chandrayaan-1's water evidence	—
Communication	Communication issues after 312 days	Lander crash-landed, rover unable to operate	Successfully landed on moon and will operate for 1 lunar day (14 Earth days)
Launch Vehicle	PSLV	GSLV-Mk 3	LVM3
Landing Site	—	Lunar South Pole	Lunar South Pole
Major Partners	—	—	Japan (for Lunar Polar Exploration Mission); support from NASA and ESA (European Space Agencies)

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Significance of the Chandrayaan-4 mission for India:

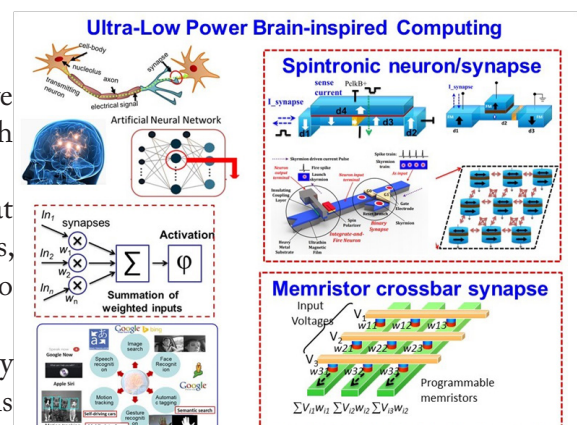
1. Technological Advancement: Demonstrates India's capability to return safely from the Moon after landing.
2. Lunar Sample Collection: First mission to bring back samples from the Moon for scientific analysis.
3. Foundation for Manned Missions: Lays groundwork for a future manned lunar mission by 2040.
4. Indigenous Development: Enhances self-reliance in critical space technologies.
5. Boost to Space Industry: Involves Indian industries, generating employment and technology spin-offs.
6. Global Space Leadership: Strengthens India's position among elite spacefaring nations.

Neuromorphic computing

Context:

Scientists at the Indian Institute of Science (IISc), Bengaluru have made a significant breakthrough in neuromorphic computing, which mimics the human brain's structure and functioning.

- They've developed an analogue computing platform that can process and store data using 16,500 conductance states, a major advancement over traditional computers limited to two states.
- This platform improves efficiency and reduces energy consumption for complex AI tasks, such as training models like ChatGPT.



- The team also demonstrated the system's capabilities by recreating NASA's "Pillars of Creation" image with much less energy.
- This innovation promises to revolutionize computing, impacting industries like AI, finance, and tech by enabling faster data processing and more efficient machine learning systems.

Zorawar

Context:

The DRDO has successfully completed the first phase of developmental field trials for the Zorawar Light Tank, designed for high-altitude deployment, particularly in areas like Ladakh.

- Conducted in desert terrain, the trials tested the tank's firing accuracy, with the tank meeting all performance goals.
- Developed by the Combat Vehicles Research & Development Establishment (CVRDE) in collaboration with Larsen & Toubro (L&T), Zorawar is a testament to India's growing indigenous manufacturing capabilities, involving contributions from numerous Indian industries, including MSMEs.
- Weighing 25 tonnes, the tank is highly mobile and versatile, capable of being transported by C-17 aircraft. It integrates technologies like unmanned systems and loitering munition, lessons drawn from the Russia-Ukraine conflict.



Centre's BioE3 Policy: Harnessing Biotechnology for Economic Development

Syllabus: Science and Technology

Context:

The recently launched BioE3 (Biotechnology for Economy, Environment, and Employment) policy aims to transform manufacturing processes across sectors to be more sustainable and less wasteful, utilizing biotechnology to mimic natural biological systems.

This marks the beginning of the "industrialisation of biology" with potential economic impacts.

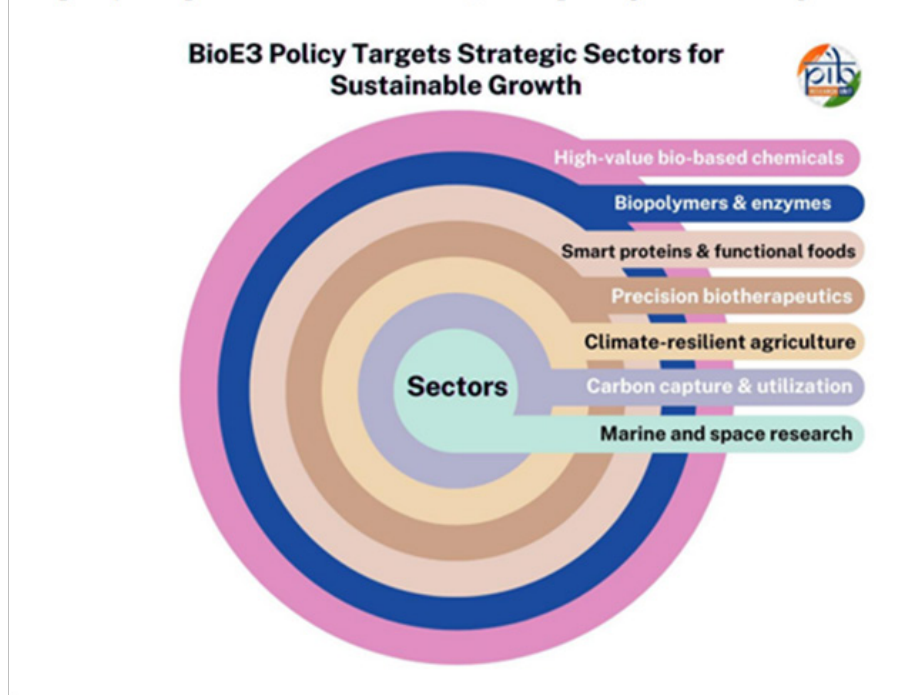
BioE3 Policy:

- Aims to boost biomanufacturing and bio-based products across sectors, aligning with goals like a 'Net Zero' carbon economy and circular bioeconomy. It focuses on R&D innovation, biomanufacturing hubs, skilled workforce development, and ethical biosafety. Core areas include bio-chemicals, smart proteins, precision biotherapeutics, and climate-resilient agriculture.

Vigyan Dhara Scheme:

- A unified scheme by the Department of Science & Technology to enhance R&D, increase researcher numbers, and improve gender parity in science. It focuses on sustainable energy, water, and promotes innovation across education and industry. Aligns with India's vision of "Viksit Bharat 2047."

The policy's scope is broad and ambitious, encompassing several strategic sectors:



Benefits of Biotechnology:

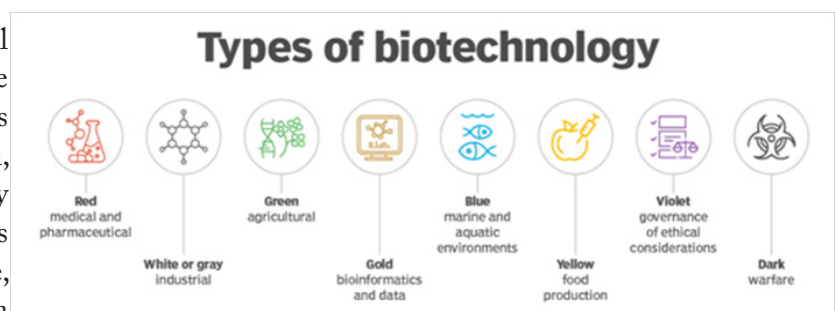
- **Sustainability:** Biotechnology offers eco-friendly alternatives to traditional products like plastics and fuels.
- **Medical & Agricultural Applications:** New possibilities in areas like gene editing, protein synthesis, and organ engineering.
- **Environmental Impact:** Biological carbon capture through microorganisms reduces the need for traditional storage methods.

BioE3 Policy's Impact on India:

- **Long-Term Vision:** Prepares India to harness future biotechnologies, promoting research, education, and industry partnerships.
- **Biomanufacturing Hubs:** Focuses on bio-based chemicals, smart proteins, climate-resilient agriculture, and space/marine research.

India's Bio-Economy

- India ranks among the top 12 global biotech destinations and 3rd in the Asia-Pacific region. In 2024, its BioEconomy reached \$130 billion, with a goal of \$300 billion by 2030. The biotech sector includes Biopharmaceuticals, Bio Agriculture, Bio IT, and Bio Services. India is a leading producer of low-cost drugs, vaccines, and biosimilars. With 55% of its land dedicated to agriculture, India is a major player in Bt-Cotton and organic farming.



Challenges in Biotechnology

Despite its growth, biotechnology faces significant challenges:

1. **Ownership and Access:** Patents on biotechnologies can limit access, especially in developing countries.
2. **Ethical Issues:** Biotech innovations like cDNA raise concerns about human life and commercialization of genetic material.
3. **Uncertainty:** Emerging genomic techniques bring unknown risks and potential for harm.
4. **Security Threats:** Synthetic biology advancements could be misused for creating biological weapons.

5. Environmental Impact: Agricultural biotech may affect ecosystems, non-target species, and pollinators due to changes in pesticide use and pest-resistant crops.

Government Initiatives:

- 9 biotech parks and 60 bio-incubators.
- Rs. 2,251 crore allocated to biotech in the 2024-25 budget.
- National Biopharma Mission and Biotechnology Development Strategy 2020-25 support skill development and innovation.

Way Ahead:

- India's young, skilled workforce and scientific resources are key to future growth. More biotech incubators and a strong biomanufacturing ecosystem will drive innovation and start-ups, boosting the industry.
- Though results will take time, BioE3 aligns with India's broader technology missions, positioning the country for future economic benefits

Vishvasya-Blockchain Technology Stack

Context:

- The Government of India has launched the Vishvasya-Blockchain Technology Stack, offering Blockchain-as-a-Service (BaaS) with geographically distributed infrastructure to support permissioned blockchain applications.

What is Blockchain?

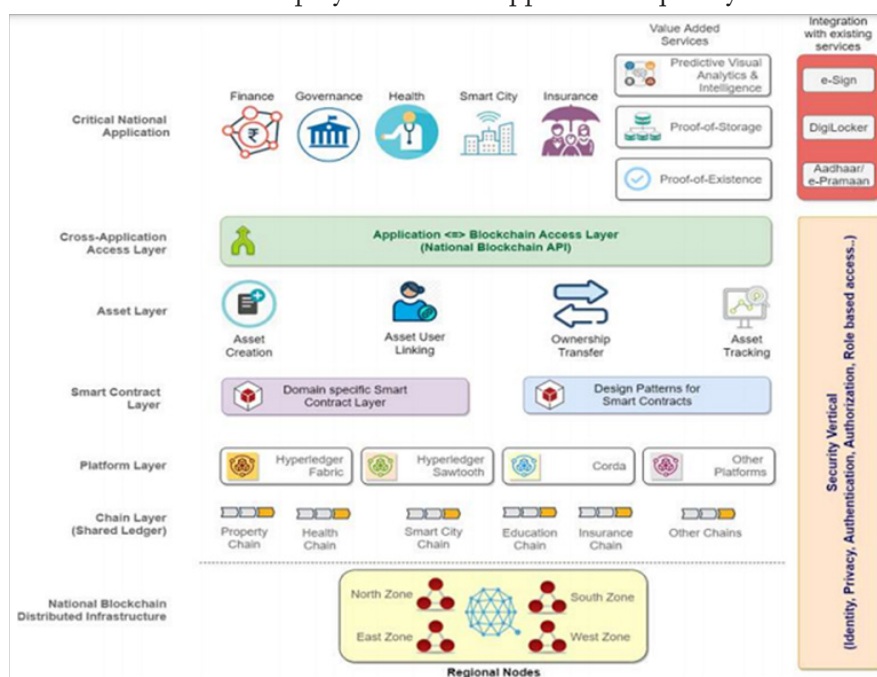
- Blockchain is a digital ledger technology where data (like transactions) is stored in "blocks" that are linked together in a chronological "chain." Each block is securely encrypted, making the data tamper-proof. Example: Bitcoin, where blockchain tracks all transactions in a secure, decentralized way.

What is Blockchain Technology Stack?

- It refers to the layers of technologies needed to build and operate a blockchain. It includes the infrastructure (servers, networks), core blockchain functionality (protocols, consensus mechanisms), smart contracts (automated, self-executing contracts), and APIs (tools to interact with the blockchain). Example: Ethereum's technology stack enables decentralized apps and smart contracts.

What is Blockchain-as-a-Service (BaaS)?

- It is a cloud-based service where third parties provide infrastructure and tools to build and use blockchain applications without needing to develop or maintain the blockchain themselves. Example: Microsoft Azure's BaaS allows businesses to deploy blockchain applications quickly.



About Vishvasya (BaaS)

- Vishvasya offers Blockchain-as-a-Service (BaaS) using a distributed infrastructure to support permissioned blockchain applications. BaaS provides cloud-based tools for companies to build and manage blockchain apps. It is part of the National Blockchain Framework (NBF), which aims to utilize blockchain in areas like health, agriculture, and finance while addressing adoption challenges.

Features of Vishvasya BaaS:

- Rapid blockchain application development
- Security-audited containers for production
- Blockchain security audit guidelines
- Geographically distributed infrastructure (Hyderabad, Pune, Bhubaneswar)
- Easy onboarding documentation
- NBFLite: Lightweight platform for research and learning

Additional Launches:

- NBFLite: A sandbox for startups and academia to prototype blockchain apps.
- Praamaanik: A blockchain tool for verifying mobile app origins.
- National Blockchain Portal

Blockchain Application:

Sector	Blockchain Application
Cryptocurrency	Enables decentralized, peer-to-peer digital currency transactions. Examples: Bitcoin, Ethereum.
Energy	Used for peer-to-peer energy trading platforms and streamlining renewable energy access.
Finance	Supports online payments, accounts, and market trading. Example: Singapore Exchange Limited uses blockchain for a more efficient interbank payment system.
Healthcare	Facilitates secure transfer of medical records, manages the drug supply chain, and aids genetic research.
Smart Contracts	Automates contract execution when predefined conditions are met, without human intervention.
Media and Entertainment	Handles copyright data and digital rights management. Example: Sony Music Entertainment uses blockchain for efficient digital rights management.
Retail	Monitors the flow of goods between suppliers and customers. Example: Amazon Retail's blockchain-based system for verifying the authenticity of items sold on the platform.
Blockchain-as-a-Service	Provides cloud-based blockchain infrastructure and tools for creating applications and digital services.
Supply Chain Management	Improves transparency and traceability in supply chains, ensuring authenticity and reducing fraud.
Government Services	Applied in voting systems, personal identification security, and secure data management

India & Blockchain Technology Initiatives

- RBI Regulatory Sandbox: Supervises blockchain startups in cryptocurrencies and exchanges.
- National Strategy on Blockchain: Promotes state-specific blockchain apps for e-governance services, excluding digital currencies like Bitcoin.
- State-specific Initiatives: States like Telangana, Tamil Nadu, and Maharashtra focus on blockchain centres and incubators (e.g., Telangana Blockchain District, Tamil Nadu Blockchain Policy 2020).
- Digital India Initiatives: Blockchain identified as a key emerging technology.
- Centre of Excellence for Blockchain Technology: Established by NIC for a nationwide interoperable blockchain ecosystem.

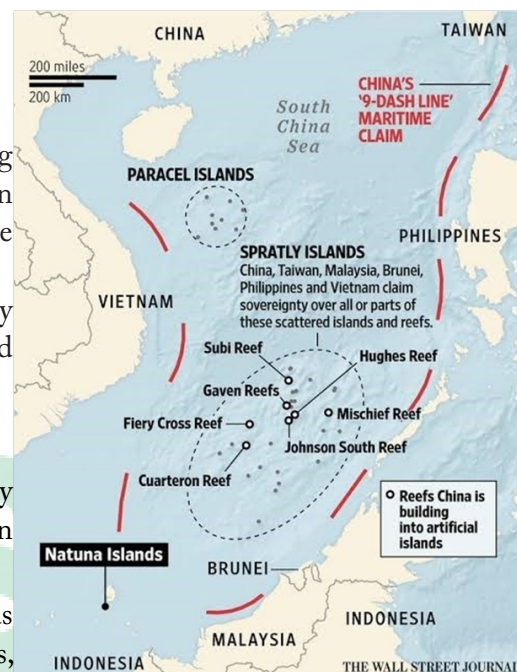
South China Sea

Syllabus: International Relations

Context:

- The South China Sea (SCS) has become a hotspot for rising tensions due to China's aggressive territorial claims. Countries in the Indo-Pacific region, particularly Southeast Asian nations, are feeling the heat of this assertiveness.
- China's naval and coast guard activities, seen as provocations by regional nations, have led to increased military engagements and diplomatic efforts to counter its growing influence.

Events So Far in the South China Sea:



- China's Claims:** China claims almost the entire SCS, backed by infrastructure development like military bases and airstrips on artificial islands.
- Grey Zone Tactics:** Chinese vessels frequently engage in dangerous maneuvers, ramming smaller ships, harassing resupply missions, and using military-grade lasers.
- Legal Dismissal:** In 2016, a Permanent Court of Arbitration ruled against China's claims in the SCS, but China continues to reject the ruling.
- Philippines Conflict:** Tensions escalated as Chinese vessels disrupted Philippine resupply missions to the Second Thomas Shoal, where the Philippines has stationed its BRP Sierra Madre.
- Military Exercises:** China conducted naval drills with Russia, demonstrating its resolve to defend its claims in the SCS.

Island/Region	Location	Claimants	Conflict
Senkaku/Diaoyu Islands	East China Sea	Japan (controls), China (claims as Diaoyu), Taiwan	Tensions between Japan and China over sovereignty; frequent Chinese patrols contesting Japan's control.
Spratly Islands	South China Sea	China, Taiwan, Vietnam, Philippines, Malaysia, Brunei	China's militarization and island-building have intensified disputes with other Southeast Asian nations.
Paracel Islands	South China Sea	China (controls), Vietnam, Taiwan	China controls these islands after a conflict with Vietnam in 1974; Vietnam continues to claim them.
Scarborough Shoal	South China Sea	China, Philippines, Taiwan	Disputed between China and the Philippines; China took control in 2012 despite a tribunal ruling in favor of the Philippines.
East China Sea	East China Sea	China, Japan, Taiwan	General tensions over territorial control, including issues surrounding the Senkaku/Diaoyu Islands.

Impacts:**1. Regional Impacts:**

- **Military Buildup:** Countries like Japan, the Philippines, and Vietnam are increasing defense spending and acquiring advanced weapons like India's BrahMos missiles.
- **Strategic Alliances:** Japan, the Philippines, and South Korea are strengthening ties with the U.S., conducting joint exercises, and enhancing military cooperation.

2. Impact on India:

- **Strategic Interests:** India sees the SCS as vital for freedom of navigation and trade. Disruptions here could affect India's security and economic interests.
- **Quad Involvement:** India's participation in Quad and collaborations with ASEAN nations positions it as a key player in countering China's influence in the Indo-Pacific.

3. Global Impact:

- **S. Involvement:** The U.S. has committed to defending its regional allies, ensuring freedom of navigation and opposing China's unilateral actions in the SCS.
- **Global Trade Disruption:** The SCS is a critical trade route; instability could disrupt global supply chains, affecting oil and gas flows and undersea cable networks.

Way Ahead:

1. **Strengthening Alliances:** Regional countries must bolster alliances with the U.S. and other democratic nations to counterbalance China's dominance.
2. **Diplomatic Engagements:** A multilateral dialogue involving ASEAN, China, and global powers should focus on peaceful dispute resolution.
3. **Legal Recourse:** Countries should leverage international legal frameworks to challenge China's actions and push for compliance with the 2016 arbitration ruling.

Conclusion:

- The situation in the South China Sea requires a balance of realism (military deterrence) and liberalism (cooperation through multilateral institutions) to prevent conflict while safeguarding regional stability.

LAC issue**Syllabus: International Relations****Context:**

- India and China are learnt to have made "significant progress" in narrowing their gap on pending issues along the Line of Actual Control (LAC) in eastern Ladakh.

Progress on LAC issue:

1. **Recent Diplomatic and Military Talks:** The 31st WMCC talks and upcoming Corps Commanders' meeting are key to finalizing troop redeployment and disengagement along the LAC. Both sides are discussing implementation details.
2. **Confidence-Building Measures and Troop Movements:** Local commanders are holding regular meetings to prevent clashes, with both sides on alert but avoiding confrontation. Redeployment of troops will be gradual, continuing winter stocking efforts.
3. **Infrastructure and Military Enhancements:** India is planning to raise the 72 Division by mid-2024 for deployment in Ladakh, enhancing its military capabilities. Border infrastructure development continues to strengthen preparedness.
4. **Diplomatic Statements and Progress:** Statements from both sides indicate that 75% of disengagement issues have been resolved, with disengagement completed at four points. Further talks aim to achieve complete disengagement.
5. **Legacy Issues:** Long-standing disputes at Depsang Plains and Demchok persist, with Chinese troops blocking access to patrol points. Ongoing discussions are focused on resolving these legacy issues.

Background on LAC:

1. **LAC Definition:** The Line of Actual Control (LAC) separates Indian-controlled territory from Chinese-controlled territory.
2. **Sectors:** It is divided into three sectors—eastern (Arunachal Pradesh and Sikkim), middle (Uttarakhand and Himachal Pradesh), and western (Ladakh).
3. **Length Discrepancy:** India claims the LAC to be 3,488 km long, while China claims it is around 2,000 km long.

Timeline of LAC Developments:

Year	Event
1959	Chinese PM Zhou Enlai mentions LAC in letters to Indian PM Nehru.
1962	After the India-China war, China claims it withdrew 20 km behind the LAC.
1993	India formally accepts the LAC concept in a peace agreement with China.
2013	Depsang Plains standoff, where PLA incurs into Indian territory.
2017	Doklam crisis, China refers to the “1959 LAC” during the standoff.
2020	Major standoffs in Galwan Valley and other areas, disengagement efforts start.
2022	Both sides disengage at PP-15 in Gogra-Hot Springs.

Differences Between India and China on LAC:

1. **China's Stance:** China views the LAC in the eastern sector to align with the McMahon Line, claiming Arunachal Pradesh as South Tibet.
2. **India's Stance:** India rejects China's 1959 definition of the LAC and asserts that Aksai Chin and Arunachal Pradesh are part of its territory.
3. **Border Discrepancy:** China's claim lines in Ladakh are vague, allowing for creeping military incursions.

Way Forward to Resolve the Issue:

1. **Clarification of the LAC:** Both sides need to agree on an LAC map that is demarcated on the ground to prevent further conflicts.
2. **Ongoing Dialogue:** Diplomatic and military-level talks should continue to resolve legacy issues like Depsang Plains and Demchok.
3. **Confidence-Building Measures:** Local commanders from both sides should maintain regular meetings to avoid skirmishes.
4. **Buffer Zones:** The creation of additional buffer zones can temporarily ease tensions, though permanent solutions are required.

Conclusion:

- While India and China have made significant progress on disengagement along the LAC, key areas of tension remain unresolved. Continuous dialogue, better border infrastructure, and transparency in troop movements are essential for stabilizing relations and achieving a long-term resolution to border disputes.

SCO

Context:

- India's participation in the Shanghai Cooperation Organisation (SCO) is significant, with discussions on External Affairs Minister S. Jaishankar possibly attending the 2024 meeting in Pakistan, despite strained bilateral ties.

About SCO:

- **Origin:** Started as the “Shanghai Five” in 1996 to address security issues.
- **Establishment:** Formed in 2001, adding Uzbekistan and evolving into the SCO.
- **Members:** 10 members including India, China, Russia, Pakistan, and the recent addition of Belarus.

- 2024 Summit host: Astana, Kazakhstan
- 2025 SCO Summit;
- People's Republic of China will assume the SCO chairmanship for the next term, and Qingdao, China will be appointed the SCO's tourism and cultural capital for 2024-2025.

2024 SCO Summit Summit:

- New Membership: Belarus joining as the 10th member.
- Astana Declaration: Adoption of 25 key agreements on issues like energy and security.
- India-China Dialogue: Focus on resolving border disputes and disengagement along the LAC.

UN Summit of the Future 2024

Syllabus: International Relations

Context:

- UN Secretary-General Antonio Guterres called for urgent reforms to outdated UN institutions on peace, security, and finance at the UN Summit of the Future 2024. India's Prime Minister also attended the summit.

What is the UN Summit of the Future 2024?

- The UN Summit of the Future 2024 aims to reform and strengthen international governance to address contemporary global challenges. It focuses on sustainable development, peace, security, and technology, culminating in the adoption of the "Pact for the Future," which includes commitments to accelerate SDGs, promote equitable digital access, and safeguard the interests of future generations.

Key Highlights of the UN Summit of the Future:

1. Purpose: Reform international governance to address global challenges and ensure a sustainable future.
2. Theme: "Multilateral Solutions for a Better Tomorrow."
3. Outcome: Adoption of the "Pact for the Future" with two annexes: the Global Digital Compact and the Declaration on Future Generations.
4. Pact for the Future: Accelerates SDGs, supports climate action, promotes a just transition from fossil fuels, and commits to nuclear disarmament and AI governance.
5. Global Digital Compact: Promotes equitable access to technology and universal AI governance.
6. Declaration on Future Generations: Emphasizes long-term thinking, considering the interests of future generations.
7. India's Stance: Called for UN reforms, supported global digital governance and advocated for expanded Security Council membership.

What is the Pact for the Future?

- The Pact for the Future is an action-oriented agreement from the 2024 UN Summit of the Future, addressing global challenges like sustainable development, peace, security, digital cooperation, and future generations. It aims to reform global governance and includes the Global Digital Compact and a Declaration on Future Generations.

The Pact address 21st-century challenges like climate change and conflict. Adopted by consensus, except for a group led by Russia, key points include:

1. Sustainable Development: Empower developing countries in global finance and strengthen safety nets for the poor.
2. Peace and Security: Recommit to nuclear disarmament and prevent misuse of new technologies.
3. Science and Technology: Promote ethical research, protect indigenous knowledge, and empower women.
4. Youth and Future Generations: Include future generations in decision-making.
5. Global Governance: Reform UNSC to better represent Africa and prevent an arms race in space

Proposed Reforms by the UN Secretary-General:

1. **Security Council Reform:** Guterres emphasized that the UN Security Council must be restructured to reflect current geopolitical realities, addressing the under-representation of regions like Africa, Asia-Pacific, and Latin America.
2. **Strengthening Global Financial Architecture:** He called for reforms in international financial institutions (IMF, World Bank, WTO) to better support debt-stricken developing nations in achieving Sustainable Development Goals (SDGs) and to enhance their representativeness and capability in addressing global economic challenges.
 - India, representing the G4 nations (Participating in Inter-governmental Negotiations on UNSC reform), presented a detailed model for UN Security Council reform, proposing new permanent members elected democratically by the General Assembly and showing flexibility on the veto issue.

Key Highlights of the India's Proposed Model:

Highlights	Details
Enlarged Membership	11 Permanent members, and 14/15 non-permanent members with a 2-year term to be elected based on current practice.
Equitable Regional Representation	Representation of 6 new permanent members shall come from Africa (2), Asia-Pacific (2), Latin America and Caribbean (2), Western Europe and Other Member States (1).
Working Methods of Council	An affirmative vote of 14/15 of 25/26 members will be required for a decision.
Veto	No veto rights to new permanent members until decided by a review, held fifteen years after reform came into force.
Relationship between UNSC and UNGA	The council should hold regular consultations with the President of UNGA, submit annual reports and special reports to UNGA, etc.

Conclusion:

- Looking towards the future, the 21st century presents a myriad of complex challenges, ranging from climate change to cybersecurity threats and economic inequality. Despite its imperfections, the United Nations (UN) stands uniquely positioned to address these multifaceted issues, given its convening power, diplomatic role, and extensive network of agencies.

However, realizing its full potential requires implementing reforms to enhance its effectiveness. Streamlining bureaucracy, reducing inefficiencies, and ensuring more equitable representation within the organization are crucial steps towards achieving this goal. Despite these challenges, the UN remains indispensable in global governance, humanitarian assistance, and crisis management. While the need for reform is evident, the UN's continued role in fostering cooperation, dialogue, and collective action underscores its enduring importance in tackling the world's most pressing problems.

FATF launched the Mutual Evaluation Report (MER) for India

Syllabus: Internal Security: Money laundering

Context:

- India has made significant progress in complying with FATF standards and tackling illicit finance, but it needs to continue improving as its economy grows. The
- (Mutual Evaluation Report) MER on AML (Anti-money laundering) and CFT (Countering Terror Financing) measures placed India in the “regular follow-up” category, recognizing its effective compliance with FATF standards.

Background:

- In June 2024, the FATF plenary in Singapore recognized India for achieving a “high level of technical compliance” with global anti-money laundering standards. India was placed in the “regular follow-up” category, the highest rating by FATF, making it the only major federal economy to achieve this status, alongside G-20 countries like the UK, France, and Italy.

Key Highlights of the FATF Mutual Evaluation Report on India:

Highlights	Description
Areas Requiring Improvement	India was found partially compliant in three areas:
	Non-Profit Organisations (NPOs): NPOs enjoying tax exemptions could be vulnerable to terror funding. The system needs stronger measures to address risks.
	Politically Exposed Persons (PEPs): Ambiguities exist around the source of wealth, funds, and ownership for domestic PEPs. These need to be clarified.
	Designated Non-Financial Businesses and Professions (DNFBPs): Gaps in regulation and supervision, especially in sectors like precious metals, stones, and real estate, which are vulnerable to money laundering.
Money Laundering Risks	Key sources include fraud, cyber fraud, corruption, and drug trafficking.
PMS Vulnerability	Precious metals and stones (PMS) can be used to move funds without a trace, increasing ML/TF risks due to the size of India's PMS market.
	Cross-Border Criminal Networks in PMS: Criminal networks in PMS may be under-investigated. Gold and diamond smuggling requires deeper risk analysis.
Terrorist Financing Threats	India faces terrorism risks from ISIL, Al-Qaeda-linked groups, and regional insurgencies in the Northeast and Left-Wing Extremism.
Financial Inclusion	Significant progress with increased bank account holders, digital payments, and transparency measures like GST and e-invoices.
Action Against Terror Financing	Acknowledged the effective role of NIA and Enforcement Directorate in disrupting terror financing.

Key Recommendations of FATF:

1. Expedite pending money laundering trials, including human trafficking and drug crimes.
2. Implement targeted financial sanctions to freeze assets promptly.
3. Define domestic PEPs under PMLA and apply enhanced risk measures.
4. Protect NPOs from terror abuse with risk-based measures.

About the Financial Action Task Force (FATF):

1. FATF is an inter-governmental policy-making and standard-setting body dedicated to combating money laundering and terrorist financing.
2. Objective: To establish international standards, and to develop and promote policies, both at national and international levels, to combat money laundering and the financing of terrorism.
3. Origin: It was established in 1989 during the G7 Summit in Paris to develop policies against money laundering. In 2001 its mandate expanded to include terrorism financing.
4. Headquarters: Paris, France.
5. FATF members include 39 countries, including the United States, India, China, Saudi Arabia, Britain, Germany, France, and the EU as such. India became a member of FATF in 2010.

Mutual Evaluation Report of FATF:

1. The mutual evaluation report is an assessment of a country's measures to combat money laundering, financing of terrorism and proliferation of weapons of mass destruction
2. The reports are peer reviews, where members from different countries assess another country.
3. During a mutual evaluation, the assessed country must demonstrate that it has an effective framework to protect the financial system from abuse.
4. The FATF conducts peer reviews of each member on an ongoing basis to assess levels of implementation of the FATF Recommendations, providing an in-depth description and analysis of each country's system for preventing criminal abuse of the financial system.

Mutual Evaluations have two main components:

1. **Effectiveness:** The most important part of a mutual evaluation is a country's effectiveness ratings. During this visit, the assessment team will require evidence that demonstrates that the assessed country's measures are working and delivering the right results.
2. **Compliance:** The assessed country must provide information on the laws, regulations and any other legal instruments it has in place to combat money laundering and the financing of terrorism and proliferation.

FATF has 2 types of lists:

1. **Black List:** Countries known as Non-Cooperative Countries or Territories (NCCTs) are put on the blacklist. These countries support terror funding and money laundering activities. The FATF revises the blacklist regularly, adding or deleting entries. Three countries North Korea, Iran, and Myanmar are currently on FATF's blacklist.
2. **Grey List:** Countries that are considered a safe haven for supporting terror funding and money laundering are put on the FATF grey list. This inclusion serves as a warning to the country that it may enter the blacklist.

Consequences of being on the FATF blacklist:

1. No financial aid is given to them by the International Monetary Fund (IMF), the World Bank, the Asian Development Bank (ADB) and the European Union (EU).
2. They also face a number of international economic and financial restrictions and sanctions.
3. In addition to economic consequences, Black- and Grey-Listing damages a country's reputation and reduces its international standing.

Border Management: Government to fence the Myanmar border

Syllabus: Internal security: Border Management

Context:

- The government has sanctioned 31,000 crore to fence the Myanmar border, which spans 1,643 km across Arunachal Pradesh, Nagaland, Manipur, and Mizoram.
- The Home Minister cited border issues as a root cause of Manipur's ethnic violence. So far, 30 km of fencing has been completed, with ongoing work in Manipur. The Free Movement Regime along the border has been scrapped. Efforts to restore peace between the Meitei and Kuki-Zo communities, amid ongoing violence that has displaced over 60,000 people, are underway.

What is FMR?

- FMR, implemented in 2018, the Free Movement Regime (FMR) permits residents on both sides of the 1,643 km India-Myanmar border to travel up to 16 km into each other's territory without a visa. This requires a border pass with one-year validity, allowing a two-week stay. The border spans four states: Mizoram, Manipur, Nagaland, and Arunachal Pradesh.
- The India-Myanmar border is a 1,643-kilometer international boundary running from the tripoint with China in the north to the tripoint with Bangladesh in the south. The trijunction between India, China, and Myanmar is yet to be agreed upon, with the de facto tripoint located just north of the Diphu Pass. The border traverses various geographical features, including the Mishmi Hills, Patkai, Kassom Ranges, Tiau River, and Chin Hills, before reaching the Bangladeshi tripoint through irregular lines.



The Government of India follows the principle of “One Border, One Border Guarding Force”:

1. BSF secures the borders with Bangladesh and Pakistan.

2. ITBP guards the China border.
3. SSB manages the Nepal and Bhutan borders.
4. Assam Rifles handles the Myanmar border.
5. The Indian Army protects the LoC (Indo-Pak) and LAC (Indo-China).
6. Coastal security is managed by the Indian Navy, Coast Guard, and State Marine Police.
 - India shares borders with seven countries (Bangladesh, China, Pakistan, Nepal, Myanmar, Bhutan, and Afghanistan) across diverse terrains, making it vulnerable to insurgency, illegal migration, and smuggling.

What is Border management?

- It aims to secure border areas and safeguard our nation from the risks involved in the movement of goods and people from India to other countries and vice versa. The principle of “One Border, One Border Guarding Force” is followed by the Government of India to secure the border.

Importance of Effective Border Management:

1. Counterterrorism: Effective border controls prevent the infiltration of terrorists and restrict the movement of arms and explosives.
2. Limit Organised Crime: Tight border security curtails illegal activities such as drug and human trafficking, smuggling, and illicit trade.
3. Suppress Cross-border Insurgency: A well-managed border deters insurgents from gaining a foothold, resources, or support from external sources.
4. Preserve Sovereignty: Maintaining clear and secure borders upholds national sovereignty and ensures territorial integrity.
5. Regulate Migration: Effective management facilitates legal migration while preventing illegal entries, thus ensuring demographic stability.

How poor border management affects internal security:

1. Infiltration and Illegal Activities: Example: In states like Jammu and Kashmir, poor border management has led to the infiltration of militants and terrorists, contributing to ongoing conflict and violence. Increased cross-border smuggling of arms and drugs further destabilises these regions.
2. Terrorism and Insurgency: Example: In the northeastern states such as Manipur and Mizoram, inadequate border control allows insurgent groups to cross into India from neighbouring countries like Myanmar, fuelling local insurgencies and violent activities.
3. Smuggling and Trafficking: Example: In Punjab, porous borders with Pakistan facilitate the smuggling of drugs and contraband, leading to severe drug abuse problems and organized crime within the state.
4. Cross-Border Crime: Example: In West Bengal, poor border management has allowed criminal gangs to operate with relative impunity, leading to increased cross-border trafficking of humans and goods.
5. Economic Disruption: Example: In Assam, ineffective border controls contribute to illegal immigration and land encroachments, straining local resources and creating socio-economic tensions, which further exacerbate internal security issues.

Current National Security Measures to Address Border Security Threats:

Category	Measures
Institutional Mechanisms	<ul style="list-style-type: none"> • Border Security Force (BSF): Guards India's borders with Pakistan and Bangladesh. • Assam Rifles: Operates in the northeastern states, focusing on counter-insurgency and border management.

Legislative Measures	<ul style="list-style-type: none"> Border Security Force Act, 1968: Legal framework for BSF's operations including border security and counter-insurgency. National Investigation Agency (NIA) Act, 2008: Supports investigations into terrorism-related offences, including cross-border threats.
Schemes and Programs	<ul style="list-style-type: none"> Integrated Border Management System (IBMS): Uses physical barriers, surveillance equipment, and communication networks. Smart Fencing: High-tech fencing along critical borders. Border Area Development Programme (BADP): Infrastructure development in border areas. NATGRID: Central database for intelligence sharing.
Cooperation with Local Communities	<ul style="list-style-type: none"> Community Policing Programs: Engages locals in reporting suspicious activities. Village Defense Committees (VDCs): Local committees assist in surveillance and intelligence gathering, especially in Jammu and Kashmir.
Technological Advancements	<ul style="list-style-type: none"> Drones and Surveillance Systems: Real-time monitoring using drones. Electronic Surveillance and Monitoring: Includes thermal imaging and motion detectors for advanced border surveillance.

Conclusion:

- Madhukar Gupta Committee has given its recommendations broadly on the issues of threats and border protection, assessment of force level, deployment on the border, infrastructure and technology issues for protection of border and administrative issues. A strong collaborative initiative is required with the Ministry of Home Affairs and the Defense ministry as well as involving other defense ministries from the neighboring states.

Call for Modification of the Indus Waters Treaty (IWT)

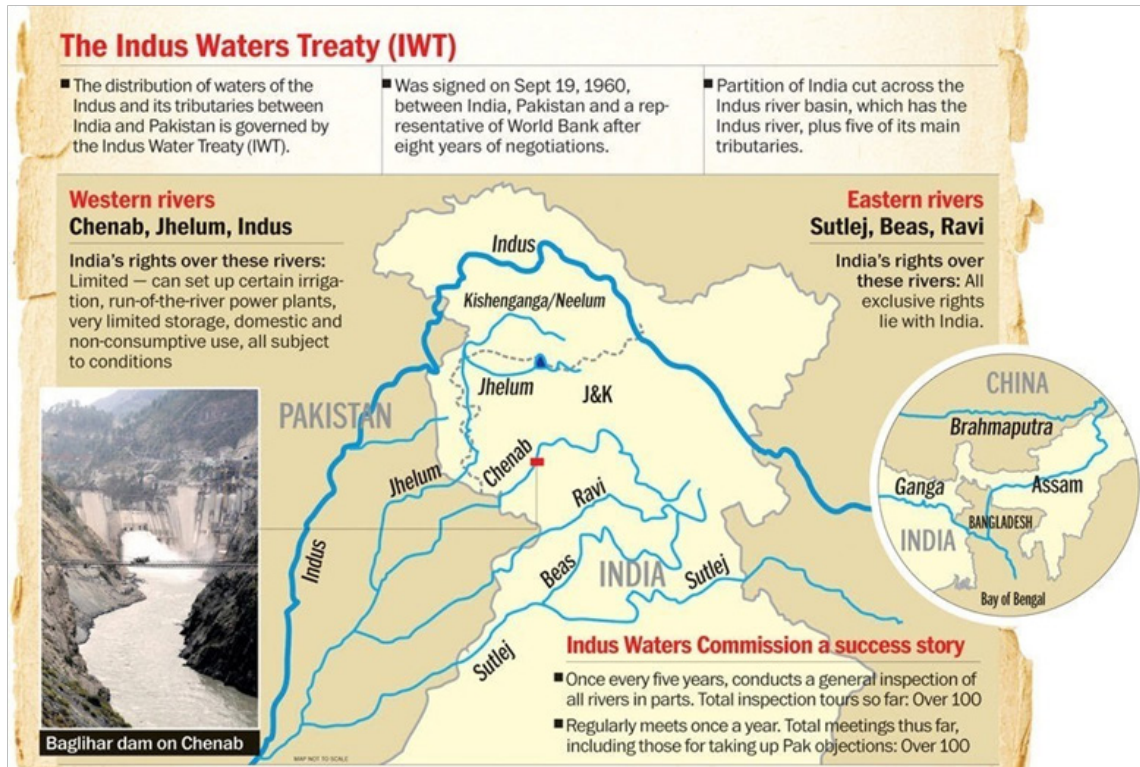
Syllabus: International Relations: India's Neighbourhood

Context:

- India issued a notice to Pakistan on August 30, 2024, seeking modification of the Indus Waters Treaty (IWT), citing "fundamental changes" in circumstances. The notice comes after Pakistan's continued objections to India's hydroelectric projects on the Kishanganga and Chenab rivers.

What is the Indus Water Treaty?

- The Indus Waters Treaty (IWT) is a water-sharing agreement signed in 1960 between India and Pakistan, mediated by the World Bank. It allocates the waters of the Indus River system between the two countries. Under the treaty:
- Pakistan receives the waters of the Western Rivers (Indus, Jhelum, Chenab)
- India receives water from the Eastern Rivers (Ravi, Beas, Sutlej).



Indus Water Treaty

- Also, India can use the Western Rivers for limited purposes like hydroelectric power generation, with certain restrictions and a dispute resolution mechanism managed by a Permanent Indus Commission and involving Neutral Experts and a Court of Arbitration if necessary.
- **Dispute Resolution Mechanism:** The treaty provides a structured mechanism for resolving disputes related to water-sharing:
 - o Step 1: The Permanent Indus Commission (PIC) is mandated to meet at least once a year to discuss and resolve issues arising from the implementation of the treaty.
 - o Step 2: If disputes remain unresolved after PIC discussions, a Neutral Expert is appointed to adjudicate on technical matters concerning the interpretation or application of the treaty's provisions.
 - o Step 3: If disputes persist beyond the Neutral Expert's determination, the matter can be referred to a Court of Arbitration, consisting of a seven-member arbitral tribunal. This tribunal is tasked with providing a binding decision on the dispute.

Current Issue:

- India and Pakistan have disagreements over the design features and operation of certain hydroelectric projects, notably the Kishenganga and Ratle Hydroelectric Projects (HEPs), which are constructed on the Jhelum and Chenab rivers respectively.

India's arguments for seeking changes in the Indus Waters Treaty (IWT) include:

1. **Pakistan's Obstruction:** Pakistan's repeated objections to India's hydroelectric projects, particularly on the Kishanganga and Chenab rivers, have stalled development and created ongoing disputes.
2. **Failure to Use Dispute Mechanisms Properly:** Pakistan's unilateral request for a Court of Arbitration, bypassing the treaty's graded dispute resolution mechanism (Neutral Expert), violates the established process.
3. **Outdated Provisions:** The treaty, signed in 1960, does not fully account for current geopolitical, environmental, and technological realities, necessitating updates to reflect modern challenges. India claims that "fundamental and unforeseen" changes in circumstances since the treaty's signing warrant a reassessment of the pact.
4. **Contradictory Legal Outcomes:** India argues that running both the Neutral Expert and Court of Arbitration processes in parallel could result in contradictory rulings, leading to legal confusion not addressed in the treaty.
5. **Security Concerns:** In light of terrorist attacks, such as the 2016 Uri attack, India has expressed that "blood and water cannot flow together," raising security concerns about continued compliance with the treaty.

Other Issues faced by the IWT:

1. Challenges for setting up new power projects: The continuing dispute creates challenges for the setting up of new power projects
2. Limits water usage: The IWT permits Jammu and Kashmir to use the waters of the rivers in a limited manner, thus affecting water availability for agricultural purposes.
3. Lack of collaboration and mutual trust between countries
4. No regular data sharing as planned in the treaty.
5. Limited to a conflict-resolution mechanism instead of strengthening the interaction, trust and cooperation
6. Dispute resolution: The most crucial reason to alter the treaty is to clarify Article IX of the treaty's dispute resolution system.
7. Though India is rightful of using the western rivers for non-consumptive purposes, each time India plans a hydroelectric project, Pakistan challenges it by calling for international arbitration. E.g., the hydroelectric power plants, Kishanganga and Ratle.
8. Climate change factor: The treaty did not consider climate change, global warming, environmental impact assessments and such issues.
9. Ineffectiveness of the Permanent Indus Commission
10. Does not cover groundwater: The Treaty is no longer fit for its purpose as it only covers surface water but not groundwater.
11. Groundwater depletion may increase by up to 75% in 2050, putting further pressure on the upstream portions of the Indus River.

Way Forward:

1. Negotiation and Dialogue: Use established mechanisms like the Permanent Indus Commission (PIC) to address and resolve disputes through direct discussions.
2. Technical Solutions: Employ technical experts to resolve disputes over the design, construction, and operation of water infrastructure, as seen in the Baglihar Dam case.
3. Mediation: Seek third-party mediation if negotiations fail, with potential assistance from the World Bank or other international organizations.
4. Legal Recourse: Utilize the treaty's arbitration panel for unresolved disputes after failed negotiations or mediation.
5. Long-term Solutions: Address larger political issues through sustained dialogue and cooperation for lasting resolution.

Conclusion

- As a document, the treaty may have certain weaknesses, but the larger problem is the fraught relationship between India and Pakistan. Experts are calling for the renegotiation of the treaty. There is a need for both countries should revive the treaty in such a way that the resources are equitably shared between both countries.

Turkey's bid to join BRICS

Syllabus: International Relations

Context:

- Turkey's bid to join BRICS could be a political move to gain leverage in its stalled EU accession process or signal frustration with the EU.

Benefits:

1. Increases Turkey's global influence.
2. Provides economic cooperation with emerging markets.
3. Strengthens Turkey's political leverage in EU negotiations.

Concerns:

1. Strains relations with the EU and NATO.
2. Undermines Turkey's credibility within Western alliances.
3. Risks diplomatic isolation from Western powers.

India's stance on expansion:

- India welcomed the consensus-based expansion of the BRICS grouping during the 15th BRICS summit in Johannesburg.
- The move strengthens BRICS as a representative of developing countries
- India has proposed creating a BRICS space consortium, investing in skill mapping, technology, and education, and emphasising cooperation for conservation efforts.
- The expansion is aimed at making BRICS future-ready by enhancing cooperation, digital solutions, and development initiatives.

Significance for India:

- The addition of new members to BRICS holds significance for India in terms of expanding partnerships and geopolitical influence, while also raising concerns about potential pro-China dominance within the alliance.

About BRICS:**Topic Information**

- BRICS (founded: 2009; HQ: Shanghai) is an acronym for the grouping of the world's leading emerging economies, namely Brazil, Russia, India, China, and South Africa (included in 2010)
- Origin The term "BRIC" was coined by the British Economist Jim O'Neill in 2001 to describe the four emerging economies of Brazil, Russia, India, and China.

Share of BRICS	BRICS brings together five of the largest developing countries, representing 41% of the global population, 24% of the global GDP, and 16% of the global trade (By 2028, BRICS is expected to make up 35 per cent of the global economy)
Chairmanship	The chairmanship of the forum is rotated annually among the members, in accordance with the acronym B-R-I-C-S. South Africa is the chair for 2023.
Initiatives of BRICS	1. New Development Bank (NDB) 2. Contingent Reserve Arrangement (CRA) 3. BRICS Payment System 4. Customs Agreements 5. Remote Sensing Satellite
New Initiative	BRICS is planning to launch its own "new currency" system, a major step towards de-dollarization (reducing dependence on the US dollar for trade)

Importance of BRICS for India:

Importance	Example
Geo-Politics	BRICS provides India with an opportunity to balance its strategic interests between the US and the Russia-China axis.
Global Economic Order	BRICS plays an important role in the G20, in shaping global economic policies and promoting financial stability.
Voice of Developing Nations	BRICS has emerged as the voice of developing countries and is playing a significant role in protecting the rights of developing countries.
Terrorism	BRICS provides a platform for India to galvanize its efforts against terrorism and has worked within the grouping to take a strong stand against terrorism.
Global Grouping	BRICS provides an opportunity for India to actively engage with China and resolve mutual disputes. It also helps in garnering support from other partner countries.

Challenges for BRICS:

Challenge	Example
Economic Divergence	Brazil and Russia have been experiencing economic recessions in recent years, while China and India have sustained high growth rates. South Africa's economy has been performing poorly, with high levels of unemployment and inequality.
Political Differences	Russia's annexation of Crimea and involvement in conflicts in Ukraine and Syria have strained its relations with other BRICS members. China's territorial claims in the South China Sea have been a source of tension with other BRICS countries that have competing claims in the region.
Institutional Constraints	The New Development Bank (NDB), established by BRICS in 2014 to provide development financing, has faced challenges in disbursing loans and identifying viable projects. The Contingent Reserve Arrangement (CRA), a pool of foreign exchange reserves, has not been tested yet.
Coordination Difficulties	Disagreements over the governance structure of the NDB and the CRA, as well as differing priorities in areas such as trade, investment, and climate change, have made it difficult for BRICS to present a unified front on many issues.
External Pressures	The rise of protectionism, nationalism, and populism in some advanced economies has posed challenges for BRICS in terms of trade, investment, and access to capital.

Way forward for BRICS:

Example

Reform of Multilateral Institutions	BRICS countries could jointly advocate for the reform of the UN Security Council, calling for the inclusion of more developing countries as permanent members.
Resolve to Combat Terrorism	BRICS countries could share best practices and intelligence to combat terrorism, as well as work together to cut off funding and resources for terrorist groups.
Promoting Technological and Digital Solutions for the SDGs	BRICS countries could share their experiences in adopting and implementing digital solutions in these sectors
Expanding People-to-People Cooperation	BRICS countries could organize joint cultural events and exhibitions, establish more student exchange programs and scholarships, and encourage more tourism and business visits to each other's countries.

Conclusion:

- While BRICS membership might strengthen Turkey's global presence, it could strain relations with the EU, which expects alignment with its values and foreign policy. Turkey's balancing act between the West and non-Western alliances could backfire, further diminishing its credibility within transatlantic circles. However, Turkey remains crucial due to its strategic location, making its foreign policy a complex balancing act.

India- UAE Relationship

Syllabus: International Relations

Context:

- New Agreements have been signed during Crown Prince of Abu Dhabi's official visit to India

India and UAE signed four key agreements in the energy sector:

1. LNG Supply Agreement: Abu Dhabi National Oil Company (ADNOC) will supply 1 million metric tonnes of LNG annually to Indian Oil Corporation Ltd.

2. **Crude Oil Storage:** ADNOC and India Strategic Petroleum Reserve Ltd (ISPRL) will explore new crude storage opportunities and renew their existing agreements.
3. **Nuclear Energy Cooperation:** Emirates Nuclear Energy Company (ENEC) and Nuclear Power Corporation of India Ltd (NPCIL) will collaborate on nuclear power plant operations and explore mutual investments.
4. **Oil Production Concession:** Urja Bharat secured a concession for Abu Dhabi Onshore Block One to boost India's energy security.
 - Additionally, the Gujarat government and Abu Dhabi Developmental Holding signed an MoU to develop food parks in India.

Various dimensions of the India-UAE relationship

Dimension	Examples
Diplomatic	Establishment of diplomatic relations in 1972; reciprocal embassies in each other's countries; a strategic partnership between the two countries in 2015
Economic & Commercial	Bilateral trade valued at US\$ 72 billion in FY 2021-22; UAE as India's third-largest trade partner and second-largest export destination; UAE comes in the Top 10 destination for FDI in India; India-UAE signed Comprehensive Economic Partnership Agreement (CEPA)
Food security	India is the world's second-largest food producer and UAE is a major importer of Indian food products.
Investment in the Food sector	E.g., Dubai Multi Commodities Centre (UAE's largest free trade zone) launched Agriota (agri-trading and commodity platform) to link Indian farmers to food companies in the UAE.

In 2022, I2U2 meeting UAE committed \$2 billion in investment towards constructing food parks in India and establishing a food security corridor

Cultural	BAPS Hindu temple is planned in UAE; Indian cinema/TV/radio channels are widely available in UAE, annual International Day of Yoga events
Technology partnerships	Collaboration between ISRO and UAESA for the Red Moon mission, digital innovation, and technology partnerships
Defence and Security	The recent I2U2 summits; Annual defence dialogues, bilateral defence interaction, UAE's role in Indian Ocean Region dialogue, joint military exercises— Exercise Desert Flag; In-UAE BILAT (bilateral naval exercise) and Desert Eagle-II (bilateral air force exercise)
Mediation	The role played by UAE in mediation between India and Pakistan, facilitating meetings between interlocutors including NSA Doval and Pakistan military officials
Indian Community	Indian expatriate community of approximately 34 lakhs, the largest ethnic community in UAE, comprising roughly about 35% of the country's population

Challenges/Issues between the two countries:

Challenge	Example
Labour Issues	There have been reports of mistreatment and exploitation of Indian migrant workers in the UAE
Trade Imbalance	India's trade deficit with the UAE has been a cause for concern (US \$18bn in 2021)
Geopolitical Issues	The UAE's growing ties with Pakistan, which has long-standing tensions with India, have been a cause for concern. The UAE has also maintained a neutral stance on the Kashmir issue, which India considers an internal matter.
Regional Competition	For instance, the UAE's recent investments in the port of Gwadar in Pakistan and the development of Chabahar port in Iran have raised concerns in India.

Conclusion:

- The relationship between India and UAE has strengthened over the years, with the UAE becoming India's closest partner in the Arab world. Despite recent challenges, the bilateral ties between the two nations have proven resilient.

Paryatan Mitra And Paryatan Didi Initiative

Context:

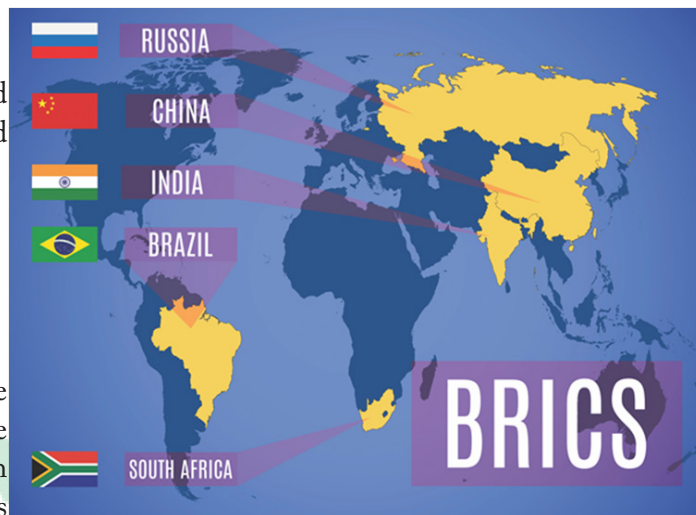
- Recently, the Ministry of Tourism has launched a national responsible tourism initiative titled Paryatan Mitra and Paryatan Didi.

Relevance:

GS II: Government Policies and Interventions

Paryatan Mitra and Paryatan Didi Initiative

- The Paryatan Mitra and Paryatan Didi Initiative is aimed at enhancing the tourist experience across India by promoting interactions with tourist-friendly locals who serve as Ambassadors and Storytellers for their region.



Vision:

- The initiative seeks to present the essence of Incredible India through the warmth and hospitality of its people, making tourism experiences more welcoming and memorable.

Pilot Locations:

- The initiative has been piloted in six destinations:
- Orchha (Madhya Pradesh)
- Gandikota (Andhra Pradesh)
- Bodh Gaya (Bihar)
- Aizawl (Mizoram)
- Jodhpur (Rajasthan)
- Sri Vijaya Puram (Andaman & Nicobar Islands)

Key Features:

Focus on Women and Youth Training:

- The initiative emphasizes training women and youth in developing innovative tourism experiences like heritage walks, food tours, craft tours, nature treks, and homestay experiences.

Inspired by “Athithi Devo Bhava” Philosophy:

- The training promotes treating tourists as honored guests, following the Indian tradition of hospitality.

Employment Opportunities:

- The program envisions locals using these skills to seek employment in tourism as homestay owners, cuisine providers, cultural guides, natural guides, adventure guides, and more.

Digital Training:

- In addition to tourism-specific training, participants receive digital literacy training to help make their tourism experiences more discoverable and accessible to tourists on a national and global scale.

BRICS

Context:

- The Indian External Affairs Minister recently met with his BRICS counterparts to affirm its role in a multipolar world.

Relevance:

GS II: International Relations

Dimensions of the Article:

1. What is BRICS?

What is BRICS?

- BRICS is the international grouping of Brazil, Russia, India, China and South Africa.
- This was set up as a move towards greater multipolarity; hence the spread across three continents and both hemispheres.
- In terms of GDP, China occupies the second position; India the fifth; Brazil the ninth; Russia the 11th; and South Africa the 35th.
- In terms of growth rates, China grew at 6%; India at 4.5%, Russia 1.7%, Brazil 1.2% and South Africa 0.1%.
- BRICS does not exist in form of organization, but it is an annual summit between the supreme leaders of five nations.
- The Chairmanship of the forum is rotated annually among the members, in accordance with the acronym B-R-I-C-S.
- The BRICS seeks to deepen, broaden and intensify cooperation within the grouping and among the individual countries for more sustainable, equitable and mutually beneficial development.
- BRICS takes into consideration each member's growth, development and poverty objectives to ensure relations are built on the respective country's economic strengths and to avoid competition where possible.
- BRICS is emerging as a new and promising political-diplomatic entity with diverse objectives, far beyond the original objective of reforming global financial institutions.

Pandit Deen Dayal Upadhyaya

Context

- Recently, Antyodaya Diwas was observed on 25th September, 2024 to commemorate the birth anniversary of Pandit Deendayal Upadhyaya.

Relevance:

GS I: Personalities in News

Dimensions of the Article:

- About Pandit Deendayal Upadhyaya Ji
- About the Ideals of Pandit Ji
- About Major Schemes in the name of Pandit Ji



About Pandit Deendayal Upadhyaya Ji

The Pandit Ji born in Mathura, UP in 1916, Pandit Deendayal Upadhyay is an Indian politician.

- He was one of the most important leaders of the Bharatiya Jana Sangh, the forerunner of the present day Bharatiya Janata Party.
- He qualified the civil services examination, where he got his nickname as Panditji for appearing in the examination hall wearing traditional dhoti-kurta and cap.
- He however did not join the service, but became in 1942, a life-time volunteer of the Rashtriya Swayamsevak Sangh (RSS).
- However, Upadhyaya is seen to have played a larger role in India's thought process and political life, transcending party lines.

About the Ideals of Pandit Ji

- The concept of Integral Humanism he propounded envisages remedies for the post-globalization maladies of the world.
- The Upadhyaya Ji conceived a classless, casteless and conflict-free social order.
- He stressed on the ancient Indian wisdom of oneness of the human kind.
- For him, the brotherhood of a shared, common heritage was central to political activism. He emphasized on coexistence and harmony with nature.
- He conceptualized an alternative approach which was free from the dialectics of competition and envy, a third way from the inertia of Capitalism and Communism.
- He was a pioneer of many political experiments. He was the architect of the first coalition phase in Indian politics.
- The Deen Dayal Upadhyaya Ji was an advocate of less government and more governance.
- He believed in self-sustaining autonomous units, more power to states and decentralized and competitive federalism, solidly cemented on the cultural mosaic of our tradition, heritage and experience of the past.

About Major Schemes in the name of Pandit Ji

- The Deendayal Antyodaya Yojana (DAY) – integrating the NULM and NRLM for alleviating poverty.
- The Deendayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) Antyodaya Diwas – to diversify the incomes of rural poor families and to cater to the career aspirations of rural youth.
- The Deendayal Upadhyaya Gram Jyoti Yojana – to provide electricity to rural homes.
- The Pandit Deendayal Upadhyaya Shramev Jayate Karyakram – to create a conducive environment for industrial development primarily through skill training.
- The Deendayal Upadhyaya Swaniyojan Yojana (DUSY) – the rural version of the Start Up India scheme.

CSIRT-Power

Context:

- Recently, the union Minister for Power inaugurated the Computer Security Incident Response Team for the power sector (CSIRT-Power) in New Delhi.

Relevance:

Facts for Prelims

Overview of CSIRT-Power:

- Initiated in collaboration with CERT-In, aligning with the National Cyber Security Policy of 2013.
- Functions as the central agency for managing and coordinating responses to cyber incidents.

Objective:

- Cybersecurity Resilience: Aims to strengthen the cybersecurity resilience of India's power sector by adopting a structured approach. This includes:
 - o Preventing and responding to cybersecurity incidents.
 - o Coordinating responses to sector-specific cyber threats.
 - o Gathering, analyzing, and sharing threat information.

Additional Functions:

- Awareness and Security: Implements cybersecurity awareness measures, improves the sector's cyber posture, and promotes best practices and security policies.
- Expertise and Cooperation: Provides cybersecurity expertise to utilities and encourages stakeholder cooperation for better security management.
- Oversight: Set up under the Central Electricity Authority.

About CERT-In:

- National Nodal Agency: CERT-In is India's national agency responsible for managing computer security incidents.

- Ministry of Information & Technology: Functions under the Ministry of Information and Electronics Technology to secure India's cyberspace.
- Operational History: Active since January 2004, dealing with cybersecurity incidents across the nation.

FATF Releases Mutual Evaluation Report on India

Context:

- The Financial Action Task Force (FATF) recently published its Mutual Evaluation Report on India, recognizing the country's substantial progress in combating illicit finance and strengthening its financial system.

Relevance:

GS II: International Relations

Dimensions of the Article:

1. Key Highlights
2. Financial Action Task Force (FATF)

Key Highlights:

- Partial Compliance: India was found partially compliant in three areas.
- Non-Profit Organisations (NPOs): Vulnerabilities related to NPOs registered as charitable organizations and benefiting from tax exemptions. These could potentially be used for terror funding.
- Politically Exposed Persons (PEPs): The report highlights ambiguities regarding the source of wealth, funds, and beneficial ownership for domestic PEPs.
- Designated Non-Financial Businesses and Professions (DNFBPs): There are gaps in regulation and supervision, especially regarding money laundering and terror financing.
- Illegal Activities: The primary sources of money laundering risks include fraud, cyber fraud, corruption, and drug trafficking.
- Precious Metals and Stones (PMS): Used for moving large amounts of funds without ownership trace, contributing to vulnerabilities.
- Terrorism Threats: Significant risks are posed by ISIL, Al-Qaeda, and regional insurgencies.

Recommendations:

- Expediting Money Laundering Trials: The report suggests expediting trials and improving the handling of crimes like human trafficking and drug-related offences.
- Improving the Freezing of Funds: Enhancements in the framework are needed to ensure timely freezing of funds and assets.
- Domestic PEPs: India needs to define domestic PEPs under its anti-money laundering laws and implement risk-based enhanced measures.

Financial Action Task Force (FATF)

- The Financial Action Task Force (on Money Laundering) (FATF) is an intergovernmental organisation founded in 1989 on the initiative of the G7 to develop policies to combat money laundering.
- In 2001, its mandate was expanded to include terrorism financing.
- FATF is a "policy-making body" that works to generate the necessary political will to bring about national legislative and regulatory reforms in these areas.
- FATF monitors progress in implementing its Recommendations through "peer reviews" ("mutual evaluations") of member countries.
- Since 2000, FATF has maintained the FATF blacklist (formally called the "Call for action") and the FATF greylist (formally called the "Other monitored jurisdictions").
- The objectives of FATF are to set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.

FATF Greylists

- FATF greylist is officially referred to as Jurisdictions Under Increased Monitoring.
- FATF grey list represent a much higher risk of money laundering and terrorism financing but have formally committed to working with the FATF to develop action plans that will address their AML/CFT deficiencies.
- The countries on the grey list are subject to increased monitoring by the FATF, which either assesses them directly or uses FATF-style regional bodies (FSRBs) to report on the progress they are making towards their AML/CFT goals.
- While grey-list classification is not as negative as the blacklist, countries on the list may still face economic sanctions from institutions like the IMF and the World Bank and experience adverse effects on trade.
- Unlike the next level “blacklist”, greylisting carries no legal sanctions, but it attracts economic strictures and restricts a country’s access to international loans

FATF Blacklists

- FATF Blacklists is Officially known as High-Risk Jurisdictions subject to a Call for Action.
- FATF blacklist sets out the countries that are considered deficient in their anti-money laundering and counter-financing of terrorism regulatory regimes.
- The list is intended to serve not only as a way of negatively highlighting these countries on the world stage, but as a warning of the high money laundering and terror financing risk that they present.
- It is extremely likely that blacklisted countries will be subject to economic sanctions and other prohibitive measures by FATF member states and other international organizations.

Food Import Rejection Alert Portal

Context:

- Recently, the Food Import Rejection Alerts (FIRA)- portal was launched during the second edition of the Global Food Regulators Summit 2024 hosted by FSSAI at Bharat Mandapam.

Relevance:

Facts for Prelims

Dimensions of the Article:

1. Food Import Rejection Alert Portal
2. Food Safety Standards Authority of India (FSSAI)

Food Import Rejection Alert Portal

Purpose: An online portal for notifying food import rejections at Indian borders.

Developer: Created by the Food Safety Standards Authority of India (FSSAI).

Objective: To inform the public and relevant food safety authorities about rejected food imports.

Key Features

Information Exchange:

- Facilitates rapid communication among global authorities regarding food safety and health risks from rejected food.

Preventive Actions:

- Enables food authorities to take immediate action to prevent and control risks before they cause harm.

Interactive Interface:

- Offers an online platform for quick information dissemination, enhancing traceability and transparency.

Database Functionality:

- Acts as a valuable resource for tracking rejected food products and strengthening risk management systems.

Food Safety Standards Authority of India (FSSAI)

Background

- Establishment: An autonomous body under the Ministry of Health and Family Welfare, Government of India, established by the Food Safety and Standards Act, 2006.
- Purpose: Consolidates food safety regulations in India.

Mission

- Standards Setting: Establish globally benchmarked food safety standards.
- Compliance Promotion: Encourage food businesses to adhere to these standards and adopt good manufacturing and hygiene practices.
- Public Health: Enable citizens to access safe and healthy food.

Functions

- Public Health Protection: Regulates and supervises food safety to protect and promote public health.
- Standards and Guidelines: Lays down standards for food articles and provides licensing, registration, and accreditation for food business operators.
- Licensing Requirement: All food sellers and importers in India must obtain a food license from FSSAI.
- Import Controls: FSSAI officers oversee food import controls to ensure safety and compliance, including the accreditation of food testing laboratories across India.

Bio-RIDE Scheme

Context:

- Recently, the Union Cabinet, chaired by the Prime Minister of India approved continuation of the two umbrella schemes of Department of Biotechnology (DBT), merged as one scheme-‘Biotechnology Research Innovation and Entrepreneurship Development (Bio- RIDE).

Relevance:

GS II: Government Policies and Interventions

Dimensions of the Article:

1. Bio-RIDE Initiative
2. Strategic Implementation Focus

Bio-RIDE Initiative:

- The Bio-RIDE scheme is crafted to catalyze innovation, bolster bio-entrepreneurship, and position India as a foremost player in the global biomanufacturing and biotechnology sector.
- The initiative seeks to expedite research, enhance the development of products, and seamlessly integrate academic research into industrial applications.

Components of the Scheme:

- Research and Development: Focus on advancing biotechnology research.
- Industrial and Entrepreneurship Development: Aimed at boosting industrial growth and entrepreneurship within the biotech sector.
- Biomanufacturing and Biofoundry: A novel addition targeting advancements in biomanufacturing.

Mission and Funding:

- Mission Alignment: Aligns with India's strategy to leverage bio-innovation for addressing key challenges in health, agriculture, environmental sustainability, and energy.
- Financial Layout: An allocation of Rs.9197 crore has been earmarked for the duration of the 15th Finance Commission cycle from 2021-2022 to 2025-2026.

Strategic Implementation Focus:

- Promoting Bio-Entrepreneurship: Fostering a vibrant startup ecosystem through seed funding, incubation support, and mentorship for bio-entrepreneurs.

- **Advancing Innovation:** Offering grants and incentives for pioneering research in fields like synthetic biology, biopharmaceuticals, bioenergy, and bioplastics.
- **Enhancing Industry-Academia Collaboration:** Strengthening partnerships between academia, research bodies, and the industry to hasten the commercialization of biotechnological innovations.
- **Supporting Sustainable Biomanufacturing:** Emphasizing environmentally friendly practices in biomanufacturing that align with India's ecological goals.
- **Extramural Research Support:** Providing significant funding to bolster scientific research and technological advancements across various biotechnological domains.
- **Human Resource Development:** Dedicated to enriching the skill set and capabilities of students, young researchers, and scientists in the biotechnology sector.

SUBHADRA Scheme

Context:

- Recently, the Prime Minister of India launched 'SUBHADRA', the flagship Scheme of Government of Odisha, in Bhubaneswar, Odisha.

Relevance:

GS II: Government Policies and Interventions

SUBHADRA Scheme:

- **Naming:** Named after Goddess Subhadra, associated with the deity Lord Jagannath of Odisha.
- **Beneficiaries:** Women aged 21-60 years, specifically those not from affluent backgrounds or receiving significant government aid, are eligible.
- **Financial Benefit:** Eligible women receive Rs. 50,000 distributed over five years (2024-2029) in semi-annual installments of Rs. 10,000 each.

Operational Mechanics:

- **Direct Deposit:** Funds are directly deposited into the beneficiaries' Aadhaar-linked and DBT-enabled bank accounts.
- **Digital Verification:** Enrollment requires mandatory e-KYC verification.
- **Incentives:** Special incentives of Rs. 500 are awarded to the top 100 digitally active beneficiaries per gram panchayat and urban area.
- **Exclusions:** Excludes women from high-income families, government employees, tax payers, and those receiving Rs. 1,500 monthly or Rs. 18,000 annually from other government programs.

Enrollment Process:

- **Continuous Registration:** No deadline for registration, allowing ongoing enrollment until all eligible women are registered.
- **Accessibility:** The inclusion of a Subhadra Debit Card to facilitate financial transactions.

Pradhan Mantri Annadata Aay SanraksHan Abhiyan

Context:

- The Union cabinet recently extended the PM-AASHA price support scheme in agriculture till 2025-26.

Relevance:

GS II: Government Policies and Interventions

PM-AASHA

- **PM-AASHA** is designed to ensure that farmers receive fair prices for their crops.
- **Components:** The program consists of three distinct parts, with states given the flexibility to implement any of them based on their preference.

Price Support Scheme (PSS)

- **Implementation:** Central Nodal Agencies are tasked with the physical procurement of pulses, oilseeds, and copra, actively supported by state governments.

- **Additional Support:** Organizations such as the National Agricultural Cooperative Marketing Federation of India (NAFED) and Food Cooperation of India (FCI) are involved in carrying out operations across various regions.
- **Funding:** The Central Government is responsible for covering all procurement expenses and losses as per established norms.

Price Deficiency Payment Scheme (PDPS)

- **Coverage:** This scheme is applicable to all oilseeds listed under the MSP.
- **Payment Process:** Farmers who sell their produce at notified markets will receive direct payments representing the difference between the MSP and the market selling price, facilitated through transparent auction processes.
- **Payment Method:** Funds are directly transferred to farmers' registered bank accounts, without any need for physical crop procurement.
- **Government Support:** The scheme receives backing from the central government according to specific guidelines.

Pilot of Private Procurement and Stockist Schemes (PPSS)

- **Scope:** Alongside PDPS, this scheme allows for a pilot implementation in selected districts or APMCs, focusing on oilseeds.
- **Participation:** Private entities are permitted to engage in the procurement process under this scheme.
- **Operational Details:** Each selected district or APMC may target one or more specified oilseed crops under the MSP for this pilot.

Operational Guidelines

- **Restriction:** Only one of the schemes, either PSS or PDPS, can be activated per state for any given commodity at a time.

Venus Orbiter Mission

Context:

- Recently, the Union Cabinet chaired by the Prime Minister of India has approved the development of Venus Orbiter Mission (VOM).

Relevance:

GS III: Science and Technology

Venus Orbiter Mission

- The mission is designed to place a scientific spacecraft in orbit around Venus.

Objectives:

- **Scientific Exploration:** To deepen understanding of Venus' surface, subsurface, atmospheric dynamics, and the Sun's influence on its atmosphere.
- **Historical Analysis:** Investigating the historical changes on Venus, which is believed to have been potentially habitable and similar to Earth, to enhance our understanding of planetary evolution.
- **Research Outcomes:** The mission aims to address significant scientific inquiries, contributing to a broad spectrum of scientific results.
- **Agency Involvement:** The Indian Space Research Organisation (ISRO) is tasked with the spacecraft's development and launch.
- **Timeline:** Targeted for realization in March 2028, leveraging various industrial contributions for the spacecraft and launch vehicle.

Funding and Resources

- **Budget:** The mission has been allocated a total of Rs. 1236 Crore, with Rs. 824 Crore specifically earmarked for the spacecraft.
- **Expenditure Breakdown:** Includes the development of the spacecraft, its specialized payloads, global ground station support for navigation and networking, and the launch vehicle costs.

Significance

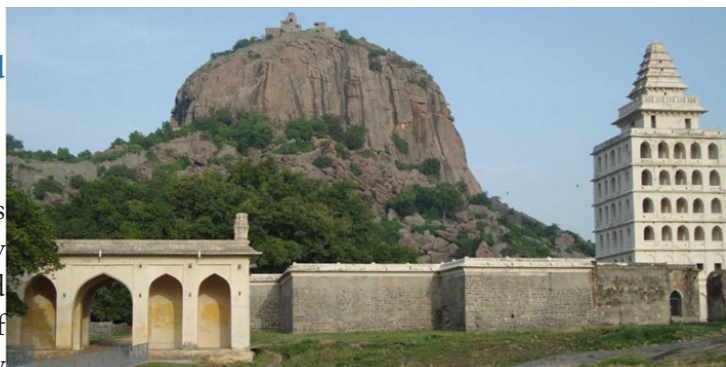
- Comparative Planetology: Venus is the nearest planet to Earth and is thought to have originated under similar conditions. This mission provides a critical opportunity to explore how planetary environments can develop distinctively.
- Gingee Fort Nominated for UNESCO World Heritage Site

SPICED Scheme

Gingee Fort Nominated for UNESCO World Heritage Site

Context:

- Gingee Fort, located in Tamil Nadu's Villupuram district, has been officially nominated for inclusion in UNESCO's World Heritage Site list. This nomination is part of a larger initiative titled the "Maratha Military Landscapes," which aims to recognize and preserve 12 significant forts that highlight the historical military architecture influenced by the Maratha Empire.



Relevance:

GS I: Culture

Dimensions of the Article:

1. Key Facts Regarding Gingee Fort
2. What are UNESCO World Heritage Sites?

Key Facts Regarding Gingee Fort:

Location:

- Gingee Fort is strategically located atop three hillocks: Rajagiri, Krishnagiri, and Chandragiri, making it a prominent fort in Tamil Nadu.

Historical Importance:

- Known as the "Troy of the East", Gingee Fort is considered one of the most impregnable fortresses in South India.
- Its strong defences, including a 60-foot-wide rampart and an 80-foot-wide moat, made it crucial during the Carnatic Wars between the French and British.

Historical Overview:

- The fort was originally constructed in 1200 CE by Ananta Kon of the Konar Dynasty and named Krishnagiri.
- Significant renovations were made under the Vijayanagar Empire.
- In 1677, the fort was captured by Chhatrapati Shivaji, and it remained under Maratha control until it was taken by the Mughals in 1698.
- The fort served as the last stronghold for the Marathas, led by Rajaram I (Shivaji's son), in their resistance against the Mughal forces.
- After briefly being ruled by Raja Desingh (Tej Singh), the fort was taken over by the Nawabs of Arcot in 1714 and stayed under their dominion until 1749.
- From 1750 to 1770, the fort was under French control, after which it passed into British hands.

Architectural Features:

- The fort complex includes multiple temples and shrines along with significant structures such as a stepped well, Kalyana Mahal, durbar hall, cannon, clock tower, armory, elephant tank, stable, granary, gymnasium, Venkataramana temple, and Sadathtulla mosque.

Water Supply Systems:

- The fort is equipped with two advanced water supply systems that ensured water availability even at the fort's highest points.

Rajagiri Hill:

- Rajagiri is the tallest hill at 800 meters, with a citadel and the temple of Ranganatha located on it.

Krishnagiri Citadel:

- The Krishnagiri Citadel is noted for its Indo-Islamic architecture, featuring an audience hall with a domed roof.

Venkataramana Swamy Temple:

- Situated in the Lower Fort complex, this temple features intricate carvings from Hindu epics.

Kalyana Mahal:

- A remarkable eight-storey structure, the Kalyana Mahal was used as the royal ladies' quarters.

What are UNESCO World Heritage Sites?

- UNESCO World Heritage Site is a place that is recognized by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as of distinctive cultural or physical importance which is considered of outstanding value to humanity.
- It may be a building, a city, a complex, a desert, a forest, an island, a lake, a monument, or a mountain.
- They have been inscribed on the World Heritage List to be protected for future generations to appreciate and enjoy as they have a special cultural or physical significance and outstanding universal value to the humanity.
- Italy is home to the greatest number of World Heritage Sites.
- At present, India has 38 World Heritage Properties. All the sites under the Ministry are conserved as per ASI's Conservation Policy and are in good shape.

More about selection and protection of World Heritage Sites

- The sites are judged to be important for the collective and preservative interests of humanity.
- To be selected, a WHS must be an already-classified landmark, unique in some respect as a geographically and historically identifiable place having special cultural or physical significance (such as an ancient ruin or historical structure, building, city, complex, desert, forest, island, lake, monument, mountain, or wilderness area).
- It may signify a remarkable accomplishment of humanity, and serve as evidence of our intellectual history on the planet.
- The sites are intended for practical conservation for posterity, which otherwise would be subject to risk from human or animal trespassing, unmonitored/uncontrolled/unrestricted access, or threat from local administrative negligence.
- The list is maintained by the international World Heritage Program administered by the UNESCO World Heritage Committee, composed of 21 "states parties" that are elected by their General Assembly.

UNESCO World Heritage Committee

- The World Heritage Committee selects the sites to be listed as UNESCO World Heritage Sites, including the World Heritage List and the List of World Heritage in Danger.
- It monitors the state of conservation of the World Heritage properties, defines the use of the World Heritage Fund and allocates financial assistance upon requests from States Parties.
- It is composed of 21 states parties that are elected by the General Assembly of States Parties for a four-year term.
- India is NOT a member of this Committee.

SPICED Scheme

Context:

- Recently, the Union Ministry of Commerce and Industry has approved a Spices Board scheme, 'Sustainability in spice sector through progressive, innovative and collaborative interventions for export development' (SPICED) scheme.

Relevance:**GS II: Government Policies and Interventions****About the SPICED Scheme:****Purpose:**

- The SPICED Scheme is focused on enhancing the export of spices and value-added spice products, improving productivity of cardamoms, and upgrading the post-harvest quality of spices across India for export.

Implementation:

- The scheme is being implemented until the end of the 15th Finance Commission term, which runs up to 2025-26.

Key Highlights of the Scheme:

- The scheme aims to promote value addition, foster innovation, and encourage sustainability in the spice sector through various initiatives:
 - o Mission Value Addition.
 - o Mission Clean and Safe Spices.
 - o Promotion of GI spices.
 - o Support for entrepreneurship through Spice Incubation Centres.

Focus Groups:

- The scheme places emphasis on farmers' groups, FPOs, farmers' clusters identified under ODOP and DEH, as well as the SC/ST community, exporters from the Northeast, and SMEs.

Eligibility:

- Exporters with a valid Certificate of Registration as Exporter of Spices (CRES) are eligible for assistance.
- Preference will be given to first-time applicants and SMEs.

Program Focus:

- Programs under the scheme aim to improve the productivity of cardamoms and upgrade the post-harvest quality of spices.
- These initiatives target farmer groups, including Farmer Producer Organizations (FPOs), Farmer Producer Companies (FPCs), and Self-Help Groups (SHGs) in key spice-growing regions.

Post-Harvest Improvement:

- The scheme prioritizes post-harvest improvements to create an exportable surplus of spices, ensuring compliance with food safety and quality standards.

Transparency:

- Scheme activities will be geo-tagged, and information regarding fund availability, application status, and list of beneficiaries will be available on the Board's website to ensure transparency.

PM E-DRIVE Scheme**Context:**

- Recently, the Union Cabinet chaired by the Prime Minister India has approved the proposal of the Ministry of Heavy Industries (MHI) for implementation of a scheme titled 'PM E-DRIVE Scheme'.

Relevance:**GS II: Government Policies and Interventions****PM E-DRIVE Scheme**

- The PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) aims to boost electric mobility across India with a financial commitment of Rs 10,900 crore spread over two years.

Key Components of the Scheme

- **Financial Allocation:** The scheme dedicates Rs 3,679 crore to encourage the purchase of various electric vehicles (EVs), including two-wheelers, three-wheelers, electric ambulances, and trucks among other emerging EV categories.
- **E-Voucher System:** EV buyers will receive Aadhaar-authenticated e-vouchers post-purchase, providing demand incentives directly to their registered mobile numbers.
- **Electric Ambulances:** An allocation of Rs 500 crore supports the deployment of electric ambulances, with standards and protocols developed in collaboration with the Ministry of Health and Family Welfare (MoHFW), Ministry of Road Transport and Highways (MoRTH), and other pertinent bodies.
- **Support for Electric Trucks:** Another Rs 500 crore is allocated for promoting e-trucks, particularly benefiting those with scrapping certificates from MoRTH-authorized Vehicle Scrapping Centres (RVSFs), addressing a significant source of air pollution.
- **Infrastructure for EVs:** To mitigate range anxiety and foster the proliferation of EVs, Rs 2,000 crore is designated for setting up public charging stations in urban areas with substantial EV usage and along critical highway routes.

Exercise VARUNA

Context:

- Recently, the 22nd edition of the India-France bilateral naval exercise VARUNA took place in the Mediterranean Sea.

Relevance:

GS III: Security Challenges

Exercise Details

- The exercise is a hallmark of the India-France strategic bilateral relationship, having been initiated in 1993 and named “Varuna” in 2001.
- It will include advanced air defense exercises, tactical maneuvers, surface firings, underway replenishment, and other maritime operations.
- The goal is for units of both navies to hone their war-fighting skills, increase interoperability, and demonstrate the ability to promote peace, security, and stability in the region.

Significance

- The exercise has grown in scope and complexity over the years, providing an opportunity for both navies to learn from each other's best practices.
- It facilitates operational level interaction between the two navies to foster mutual cooperation for good order at sea and underscores the shared commitment of both nations to security, safety, and freedom of the global maritime commons.

Mission Mausam

Context:

- Recently, the union Cabinet chaired by the Prime Minister of India has approved ‘Mission Mausam’ with an outlay of Rs.2,000 crore over two years.

Relevance:

GS: Government Policies and Interventions

Mission Mausam:

- **Purpose and Scope:** Mission Mausam aims to significantly enhance India's capabilities in meteorology and climate science. This broad and transformative initiative focuses on expanding research, development, and operational capacities in atmospheric sciences.
- **Technological Integration:** By incorporating advanced observation systems, high-performance computing, and modern technologies such as artificial intelligence (AI) and machine learning, the mission seeks to elevate weather surveillance, modeling, forecasting, and overall management of meteorological services.

- **Operational Goals:** The mission is designed to improve the accuracy and timeliness of weather and climate information, covering a wide range of applications from monsoon forecasts to real-time alerts for air quality, and severe weather conditions like cyclones, fog, hail, and rain. It also focuses on capacity building and raising public awareness about climate phenomena.
- **Infrastructure and Tools:** Mission Mausam will deploy cutting-edge radars, satellite systems with advanced sensors, high-performance supercomputers, and sophisticated Earth system models. Additionally, it will utilize a GIS-based automated Decision Support System to facilitate real-time data dissemination and improve response strategies.
- **Implementation Framework:** The initiative will be led by three key institutes under the Ministry of Earth Sciences:
 - India Meteorological Department (IMD)
 - Indian Institute of Tropical Meteorology (IITM)
 - National Centre for Medium-Range Weather Forecasting (NCMRWF)
- **Collaboration and Support:** These institutions will collaborate with other domestic and international entities, including various academic and industrial partners, to foster innovation and share knowledge within the global meteorological community.
- **Sectoral Impact:** Mission Mausam is set to benefit a myriad of sectors such as agriculture, disaster management, defense, environmental management, aviation, water resources, power generation, tourism, transportation, energy, and healthcare. The mission's comprehensive approach is also expected to enhance decision-making processes related to urban planning, transportation infrastructures, offshore operations, and environmental monitoring.

Exercise Eastern Bridge

Context:

- The 7th edition of the bilateral air exercise between Indian Air Force (IAF) and Royal Oman Air Force is scheduled to be conducted from 11th to 22nd September 2024 at Masirah, Oman.

Relevance:

GS III: Security Challenges

Exercise Eastern Bridge

- **Objective and Components:** Exercise Eastern Bridge is an aerial joint exercise involving complex aerial maneuvers, air-to-air, and air-to-ground operations along with extensive logistical coordination. This exercise showcases the collaborative capabilities between the participating air forces.
- **Inaugural Event:** The initial edition of this exercise took place in 2009, hosted at Thumrait, Oman. This marked the beginning of high-level aerial cooperation exercises between India and Oman.

Additional Military Collaborations Between India and Oman:

- **Naseem Al-Bahr:** This exercise is a naval collaboration between the Indian Navy and the Royal Navy of Oman, underscoring the maritime linkage between the two nations.
- **Al Najah:** This involves joint operations between the Indian Army and the Royal Army of Oman, enhancing ground forces interoperability and tactical training.

Strategic Importance of Oman:

- **Geopolitical Significance:** Oman's strategic geographical positioning near the Strait of Hormuz and along the Arabian Sea elevates its status as a pivotal ally for India in the West Asia and Indian Ocean regions. This location is crucial for naval and air force strategy due to its proximity to major maritime routes that are vital for international trade and oil transportation.

Swachh Vayu Survekshan Award

Improving Accessibility in India: Sugamya Bharat App's Impact

Swachh Vayu Survekshan Award

Context:

- Recently, the union Minister of Environment, Forest and Climate Change presented the Swachh Vayu Sarvekshan award 2024 on the occasion of International Day of Clean Air for Blue Skies.

Relevance:

GS II: Government Policies and Interventions

Swachh Vayu Survekshan Award:

- Initiative Origin:** Developed by the Ministry of Environment, Forest and Climate Change (MoEF&CC), this initiative ranks cities based on their adherence to the approved action plans for air quality management in 130 cities under the National Clean Air Programme (NCAP).
- Guideline Release:** In September 2022, MoEF&CC introduced the 'Swachh Vayu Sarvekshan- Ranking of Cities' guidelines under NCAP.
- Purpose:** The program aims to rank 130 Indian cities by their effectiveness in implementing City Action Plans, with the goal of reducing air pollution by up to 40% by 2025-26.

Key Objectives:

- Raise awareness across all societal segments.
- Educate the public on health risks associated with air quality.
- Compare air quality across different urban areas.
- Fulfill NCAP's objective of ensuring "Clean air for all".
- Assessment Platform:** Cities are evaluated through submissions on the PRANA portal, which tracks progress in the NCAP framework.

2024 Awards:

- The Swachh Vayu Survekshan Awards 2024 acknowledged top performers among NCAP cities, categorized by population size:
 - Category 1 (Over 10 Lakhs): Surat, Jabalpur, and Agra.
 - Category 2 (3-10 Lakhs): Firozabad, Amravati, and Jhansi.
 - Category 3 (Under 3 Lakhs): Raebareli, Nalgonda, and Nalagarh.

Improving Accessibility in India: Sugamya Bharat App's Impact

Context:

- Since its inception in 2021, the Sugamya Bharat mobile application has been instrumental in addressing accessibility issues across India, receiving over 1,400 complaints. Remarkably, about 75 percent of these complaints have been resolved, showcasing the app's effectiveness and the government's commitment to enhancing accessibility for all citizens. This initiative highlights the proactive steps taken to address the challenges faced by individuals with disabilities in accessing various services and facilities.

Relevance:

GS II: Government Policies and Interventions

Sugamya Bharat App:

- It was launched by the Department of Empowerment of Persons with Disabilities (DEPwD) under the Ministry of Social Justice and Empowerment, this app is designed to assist individuals with disabilities and the elderly by addressing accessibility challenges in public spaces.
- Purpose:** The Sugamya Bharat app enables users to report issues related to public infrastructure, transportation, and building accessibility.

Core Objectives:

- Facilitate the reporting of accessibility issues at public locations by using Google Maps to pinpoint specific locations.
- Allow users to upload geotagged photos to highlight and detail the accessibility problems encountered.
- User Interaction: Individuals experiencing accessibility barriers can submit their grievances directly through the app, focusing specifically on issues related to buildings, transportation systems, and ICT (Internet and Communication Technologies).
- Complaint Process: Users can file complaints by uploading photographic evidence, which is then reviewed and addressed by the appropriate authorities.

Future Enhancements:

- The government is set to upgrade the app with Artificial Intelligence (AI) capabilities to enhance user experience and functionality.
- The forthcoming version will feature an AI-powered chatbot and a multilingual interface.
- Collaboration with the NGO Mission Accessibility and I-STEM research institute is aimed at developing this AI-enhanced version of the app.

National Teachers Award 2024**Context:**

- Recently, the Prime Minister of India interacted with the winners of the National Teachers' Award 2024 on the eve of Teachers' Day.

Relevance:**Facts for Prelims****Dimensions of the Article:**

1. National Teachers' Award
2. Significance of Teacher's Day in India
3. About Dr. Sarvepalli Radhakrishnan

National Teachers' Award

- The National Teachers' Award is a prestigious recognition in India with the following key aspects:

Celebrating Exceptional Educators:

- The primary objective of the National Teachers' Award is to celebrate the exceptional contributions of some of the country's finest educators.
- It aims to acknowledge and honor those teachers who, through their unwavering dedication and commitment, have not only elevated the quality of education but have also positively impacted the lives of their students.

Presidential Recognition:

- These awards hold significant importance as they are conferred by the President of India.
- This recognition is a testament to the outstanding work of the teachers.

Components of the Award: The awards include several components:

- Silver Medal: A symbol of distinction and achievement.
- Certificate: Recognizing the recipient's excellence in the field of education.
- Cash Prize: A cash award of Rs. 50,000, which serves as both an appreciation and an encouragement for the recipient's continuous contributions.

Award Ceremony Date:

- The awards are presented on the 5th of September, a significant date as it coincides with Teacher's Day in India, which marks the birth anniversary of Dr. Sarvepalli Radhakrishnan, a renowned philosopher and India's second President.

Expanded Recognition:

- In recent developments, the scope of the National Teachers' Award has been expanded.
- Initially, it included teachers selected by the Department of School Education & Literacy.
- Now, it encompasses educators chosen by the Department of Higher Education and the Ministry of Skill Development.
- This expansion recognizes excellence in teaching across various educational domains, further highlighting the diverse contributions of outstanding educators.

Significance of Teacher's Day in India

Honoring Educators:

- Teacher's Day, observed annually on the 5th of September since 1962, serves as a special occasion to express gratitude and respect towards educators.
- It is a day dedicated to recognizing the significant contributions of teachers, researchers, and professors in India.

Dr. Sarvepalli Radhakrishnan:

- The idea of celebrating Teacher's Day in India is closely linked to Dr. Sarvepalli Radhakrishnan, a prominent philosopher, statesman, and scholar.
- He was serving as the President of India at that time.

Origin of the Celebration:

- The tradition of celebrating Teacher's Day on Dr. Radhakrishnan's birthday was initiated in response to the earnest requests of students.
- Dr. Radhakrishnan, being an esteemed academician himself, suggested that instead of celebrating his birthday, which falls on the 5th of September, as a special day in his honor, it should be dedicated to honoring teachers and their vital role in shaping the nation's future.

About Dr. Sarvepalli Radhakrishnan:

- Birth: Dr. Sarvepalli Radhakrishnan was born on September 5, 1888, in Tiruttani, Tamil Nadu, India.
- Academic Journey: He pursued his studies in philosophy at Christian College, Madras, and later went on to become a professor at prestigious institutions like Madras Presidency College and the University of Mysore.
- Diverse Roles: Dr. Radhakrishnan held several significant positions in his lifetime. He served as the first Vice-President of India from 1952 to 1962 and subsequently as the second President of India from 1962 to 1967. He also represented India as Ambassador to the Soviet Union from 1949 to 1952 and served as the fourth Vice-Chancellor of Banaras Hindu University from 1939 to 1948.
- Honors: In recognition of his remarkable contributions, Dr. Radhakrishnan was posthumously awarded the Bharat Ratna, India's highest civilian honor, in 1984.
- Notable Works: Dr. Radhakrishnan was a prolific author and philosopher. His notable works include "Reign of Religion in Contemporary Philosophy," "Philosophy of Rabindranath Tagore," "The Hindu View of Life," "Kalki or the Future of Civilization," "An Idealist View of Life," "The Religion We Need," "India and China," and "Gautama the Buddha."



Advancements in Consumer Rights for Electronics

Context:

- The Department of Consumer Affairs recently facilitated a National Workshop focusing on the Right to Repair Framework specifically for mobile and electronic sectors. A key outcome of this workshop was the

introduction of a “Repairability Index” for mobile phones and electronic products. This index is designed to aid consumers in making more informed purchasing decisions by assessing the ease of repairability of products. This initiative also seeks to tackle the escalating issue of e-waste and prompts manufacturers to design products that are simpler to repair, ultimately enhancing product longevity and sustainability.

Relevance:

GS III: Indian Economy

Dimensions of the Article:

1. Key Insights from the Repairability Workshop
2. Details of the Repairability Index
3. Right to Repair
4. Global and National Initiatives to Support the Right to Repair
5. Challenges Involved in Implementing the Right to Repair
6. Strategic Directions to Support the Right to Repair

Key Insights from the Repairability Workshop

Objective of the Workshop:

- The workshop aimed to build agreement among industry leaders to develop a repairability index, promote product longevity, and make repair information widely accessible, enhancing the use of mobile and electronic devices longer.

Mitigating New Purchases:

- The initiative seeks to reduce the necessity for consumers to purchase new devices by providing better repair options or reducing repair costs.

Addressing Planned Obsolescence:

- The discussions targeted the practice where manufacturers limit access to crucial repair resources like manuals and spare parts, a strategy known as “planned obsolescence.”

Consumer Impact:

- A lack of repair resources pushes consumers either to discard their devices for new ones or to use unreliable counterfeit parts from unofficial markets.

Global Best Practices:

- The workshop included lessons from international standards set by France, the European Union, and the United Kingdom, focusing on designing durable products to improve repairability.

Sustainable Practices:

- Emphasis was placed on the necessity for sustainable product design, addressing ecological concerns, and transitioning from a disposable to a circular economy, which encourages mindful use of products over wasteful consumption.

Details of the Repairability Index

Function of the Index:

- The repairability index will serve as a compulsory label on electronics to inform users about the product’s repairability features.

Rating Criteria:

- Technical Document Availability: Measures the accessibility of manuals and guides for repairing the device.
- Ease of Disassembly: Evaluates how simply a product can be disassembled to access and repair its components.
- Spare Parts Availability and Cost: Assesses the availability and affordability of spare parts for consumers.

Index Scoring:

- Products are rated on a scale from 1 to 5, where 1 indicates a product is challenging to repair with a high risk of damage, and 5 signifies a product is easy to repair, with straightforward access to crucial parts like batteries or displays without needing to dismantle the device extensively.

Right to Repair

Concept and Importance:

- The right to repair empowers end-users, both consumers and businesses, to fix their devices independently of manufacturers, without facing restrictions on technical resources.
- It challenges manufacturer-imposed repair restrictions that limit access to necessary tools, parts, and documentation, fostering a more competitive repair market.

Core Principles of the Right to Repair:

- **Information Accessibility:** Ensuring consumers have access to essential repair manuals, schematics, and software updates.
- **Parts and Tools Availability:** Enabling third parties and individuals to procure necessary repair parts and tools.
- **Legal Freedom:** Permitting consumers to unlock or customize their devices, such as by installing custom software.
- **Design for Repairability:** Advocating for devices designed with ease of repair in mind to simplify maintenance efforts.

Necessity of the Right to Repair:

- **E-waste Reduction:** Tackling the growing issue of electronic waste exacerbated by difficult-to-repair devices.
- **Combating Monopoly:** Breaking down barriers created by manufacturers that limit third-party repairs, enhancing consumer choice and reducing costs.
- **Addressing Planned Obsolescence:** Countering product designs intended for short lifespans, which compel frequent replacements.
- **Promoting Sustainability:** Aiding in achieving circular economy objectives by extending the lifespan of appliances through improved maintenance, reuse, and recyclability.

Global and National Initiatives to Support the Right to Repair

Efforts in India:

- A committee led by Nidhi Khare initiated the Right to Repair Portal India, which consolidates all essential repair information for various sectors including farming equipment, mobiles, electronics, and automobiles.
- The portal currently includes 63 companies, enhancing transparency and access to repair services and parts.

International Perspectives:

- **United States:** The Fair Repair Act of 2022 mandates that companies provide necessary tools and lift software restrictions that inhibit DIY repairs.
- **European Union:** The Right to Repair Rules of 2019 aim to cultivate a circular digital product economy, offering consumers repair resources for their appliances.
- **United Kingdom:** Regulations from 2021 ensure the availability of spare parts for up to ten years post-product release, supporting long-term product maintenance.
- **Australia:** Features community-driven initiatives like Repair Cafes, where volunteers assist locals with repairs, sharing knowledge and tools.

Challenges Involved in Implementing the Right to Repair

- **Resistance from Technology Companies:** Major firms like Apple, Microsoft, and Tesla assert that enabling broad repair rights could undermine intellectual property security and diminish product quality.

- **Miniaturization of Technology:** As devices become increasingly compact, their internal components become more complex, making DIY repairs less feasible for the average user.
- **Specialized Tools Requirement:** Modern devices often require specialized tools for repairs, which are not readily available to the general public and may need licensing to use.
- **Lack of Incentive for Innovation:** There is concern that the emphasis on repairability could stifle innovation, with Original Equipment Manufacturers (OEMs) worried that extensive repair rights might deter consumers from purchasing newer models.
- **Efficiency Concerns:** There is a belief that making devices more repairable could compromise their designed efficiency, as current designs prioritize compact and efficient use of space.
- **Security and Privacy Risks:** Opening up devices to third-party repairs can potentially expose sensitive user data to security risks.

Strategic Directions to Support the Right to Repair

- **Improving Access to Repair Resources:** Advocating for manufacturers to provide independent repair shops with the necessary tools, manuals, and diagnostic resources to facilitate repairs.
- **Encouraging Design for Repairability:** Pushing for the design of modular components that simplify the repair process without impacting device performance significantly.
- **Incentives for Innovative Practices:** Proposing that governments offer incentives like tax relief, grants, or subsidies to encourage companies to focus on developing repair-friendly product designs while continuing to innovate.



Chapter- 8

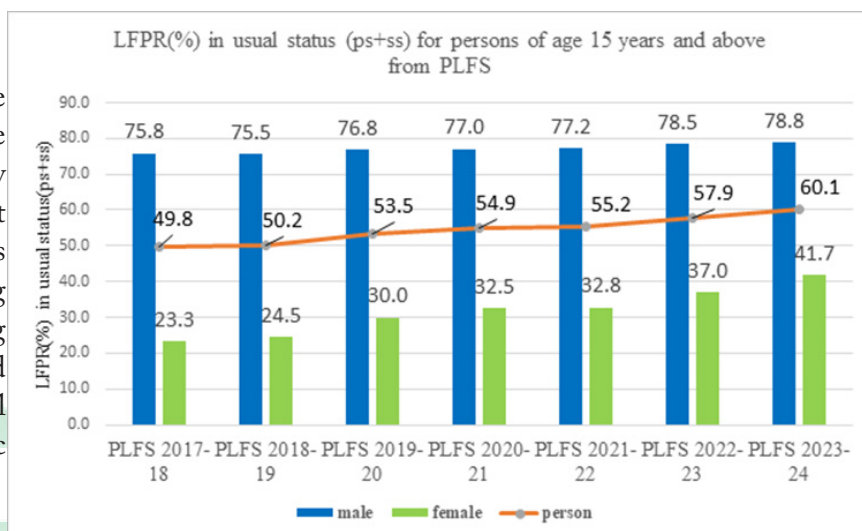
ECONOMY

1.PLFS Report, 2023-24

Syllabus: Economics, Employment

Context:

- The National Statistical Office (NSO) recently released the Periodic Labour Force Survey (PLFS) report for 2023-24. It highlights key employment trends in India, including stagnating unemployment rates, increasing labor force participation, and the challenges of creating formal jobs despite significant economic growth.



Key Data Points:

- Unemployment rate: 3.2% in 2023-24, unchanged from 2022-23, the first time no year-on-year decline has been observed since the survey began in 2017-18.
- Labour force participation Rate (LFPR): Increased to 60.1% in 2023-24 (from 57.9% in 2022-23). Rural LFPR rose to 63.7%, and urban LFPR increased to 52%.
- Worker population ratio (WPR): WPR stood at 58.2%, with 76.3% for males and 40.3% for females.
- Unemployment by gender: Female unemployment increased to 3.2% (from 2.9%), while male unemployment slightly declined to 3.2% (from 3.3%).
- Urban-rural divergence: Rural unemployment increased slightly to 2.5% from 2.4%, while urban unemployment improved, falling to 5.1% from 5.4%.
- Increase in self-employment: The share of self-employed individuals rose to 58.4%, from 57.3% in 2022-23.

Positives and Negatives:

Positives	Negatives
Increase in Labour Force Participation Rate (LFPR)	Stagnant unemployment rate at 3.2%, raising concerns about job creation
Marginal improvement in job quality with salaried workers rising to 21.7%	High youth unemployment rate (10.2%), especially for females (11%)
Worker Population Ratio (WPR) increased to 58.2%	Increase in self-employment, much of it informal or unpaid work
Urban unemployment rate fell to 5.1%	Gender disparity: Female unemployment rose to 3.2% from 2.9%
Rising participation in the workforce post-pandemic	Challenges in creating formal jobs, pushing people into informal roles

Way ahead:

- Sectoral diversification: Investment in manufacturing, renewable energy, and tech innovation to generate productive and higher-wage jobs.

2. Strengthening MSMEs: Provide targeted financial support and regulatory ease to help MSMEs recover and boost employment.
3. Human-centric tech adaptation: Focus on labor-intensive sectors like healthcare and sustainable manufacturing, which are less prone to automation.
4. Industry-aligned skilling: Align skilling programs with emerging sectors like AI, green jobs, cybersecurity, and data analytics.
5. Encouraging high-potential services: Focus on sectors like e-commerce, logistics, and online education to create employment opportunities across skill levels.

Conclusion:

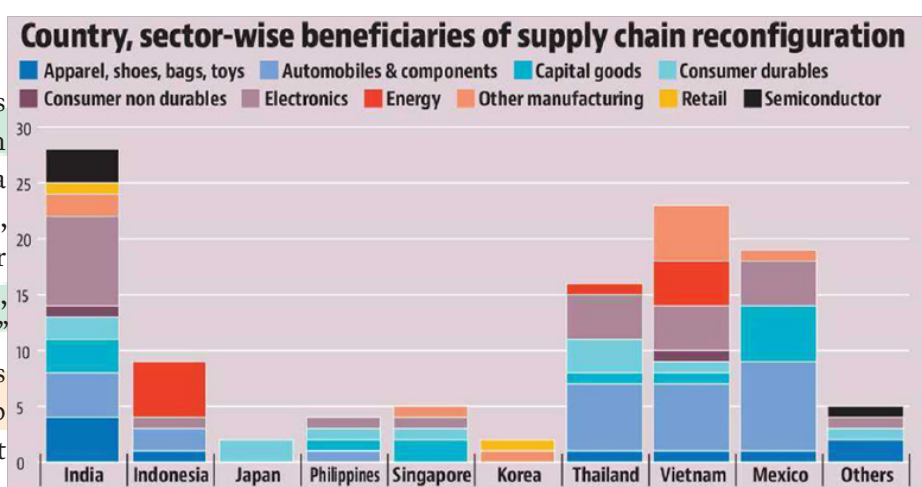
- The PLFS 2023-24 report presents a mixed picture, with positive indicators like rising labor participation and declining urban unemployment. A focused, sector-specific approach and industry-aligned skilling are crucial to ensuring sustainable job creation and economic growth in the future.

China Shock 2.0

Syllabus: Economics

Context:

- The United States has imposed steep tariffs on Chinese imports, including a 100% duty on electric vehicles, as part of an effort to counter the influx of Chinese goods, dubbed “China Shock 2.0.” India and other countries are also taking steps to curb Chinese imports to protect domestic industries.



China Shock 2.0:

- Definition: Refers to China's rapid export growth in high-tech sectors such as solar equipment, electric vehicles, and semiconductors amid domestic demand slumps.
- Trigger: China's economic slowdown due to a property crisis and weak consumer demand.
- Global Response: Countries, including India, fear job losses in manufacturing and increased economic dependence on China.

Impact on India:

- Growing Imports: Despite restrictions, India's imports from China surged from \$70 billion in FY19 to \$101 billion in FY24, impacting sectors like steel, solar equipment, and electronics.
- Solar Sector Dominance: India remains heavily reliant on China for 80% of its solar cells and modules, impacting its renewable energy goals.
- Steel Industry Pressure: Rising imports of Chinese steel are eroding profits for Indian steelmakers, calling for government intervention.
- Electronics: Though mobile phone manufacturing has increased, India's dependency on China for electronics remains largely unchanged.

Measures to Counter China Shock 2.0:

- Anti-Dumping Duties: India has launched over 30 anti-dumping investigations against China in 2024 to protect domestic industries.
- Renewable Energy Push: India is investing \$4.5 billion in clean energy manufacturing to reduce dependency on Chinese solar imports.
- Strengthening Local Supply Chains: Focus on boosting domestic production in key sectors like steel, electronics, and renewable energy.

Conclusion:

- To counter China Shock 2.0 and secure economic independence, India must advance its Atmanirbhar Bharat (self-reliant India) initiative by building resilient domestic industries and reducing dependency on Chinese imports across critical sectors.

US Fed Cut Interest Rates and Its Impact on India**Syllabus: Economy****Context:**

- The US Federal Reserve cut the benchmark interest rate by 50 basis points to stimulate economic activity and job creation. Lower rates encourage borrowing and spending, while higher rates can hinder growth.

What is the US Federal Reserve (Fed)?

- The US Federal Reserve, commonly known as the Fed, is the central banking system of the United States.

Established in 1913, its primary functions include:

- Monetary Policy:** Managing the nation's money supply and interest rates to promote economic stability and growth.
 - Banking Supervision:** Regulating and supervising banks and financial institutions to ensure safety and soundness.
 - Financial Services:** Providing banking services to the government and financial institutions.
- The Fed aims to achieve maximum employment, stable prices, and moderate long-term interest rates.

What is a Fed Rate Cut?

- A Fed rate cut refers to a decision by the Federal Reserve to lower the Federal Funds Rate, the interest rate at which banks lend money to each other overnight.

Key points about the rate cut include:

- Purpose:** Rate cuts are intended to stimulate economic activity by making borrowing cheaper, and encouraging consumer spending and business investment.
- Impact:** Lower interest rates can lead to increased lending, higher consumer spending, and job creation, while also helping to combat deflation.

Why Did the US Federal Reserve Cut Interest Rates?

- Post-Pandemic Recovery:** Initially cut rates to stimulate the economy after COVID-19, then raised them to combat rising inflation.
- Moderation of Inflation:** By mid-2023, inflation stabilized near the 2% target.
- Employment Concerns:** Rising unemployment (4.2% in August 2024) indicated high rates were harming job growth, prompting a focus on job creation.
- Dual Mandate:** The Fed aims to maintain stable prices and maximum employment; a rate cut helps balance these goals.
- Implications:** Lower rates make loans cheaper, encouraging business expansion and hiring while maintaining inflation control.

Impact on India from US Fed Rate Cut

- Increased Foreign Investment:** Lower US rates may attract global investors to India.
- Currency Exchange Rates:** Potential strengthening of the Indian rupee against the US dollar.
- Exports and Imports:** Exporters may face challenges, while importers benefit from a stronger rupee.
- Pressure on RBI:** The Reserve Bank of India may feel compelled to adjust its own rates.
- Economic Growth:** Lower borrowing costs could stimulate investment and economic activity in India.
- Carry Trade Appeal:** Investors might borrow in the US at low rates to profit from higher Indian rates.

Cabinet approves the continuation of the Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA)

Context:

- The Union Cabinet has approved the continuation of the Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA) schemes to ensure farmers get fair prices and stabilize consumer prices of essential goods.
- The initiative, with a financial outlay of Rs. 35,000 crore until 2025-26, integrates schemes like the Price Support Scheme (PSS) and Price Stabilization Fund (PSF). It includes 100% procurement of certain crops, increased state procurement limits, and support for pulses, oilseeds, and perishable crops, aiming to reduce imports and protect consumers from price volatility.

About PM AASHA:

Scheme Component	Description
Objective	Ensure remunerative prices for farmers through Minimum Support Price (MSP) assurance. Announced in 2018 budget.
Aim	Strengthen the procurement mechanism to improve farmers' income.
Components	1. Price Support Scheme (PSS) 2. Price Deficiency Payment Scheme (PDPS) 3. Private Procurement & Stockist Scheme (PPPS)
Price Support Scheme (PSS)	Central nodal agencies (NAFED, FCI) will procure pulses, oilseeds, and copra. 25% of marketable surplus will be procured. Government covers procurement costs and losses.
Price Deficiency Payment Scheme (PDPS)	State pays the difference between mandi prices and MSP for oilseeds. No physical procurement involved. Modeled on schemes from Madhya Pradesh and Haryana.
Private Procurement & Stockist Scheme (PPPS)	Piloted in select districts. Private agencies procure oilseeds at MSP in coordination with the government when prices fall below MSP.

Issues with the Scheme:

- Limited procurement infrastructure benefits mainly wheat and rice.
- Only 6% of farmers sell produce at MSP (NSSO, 2013).
- Low MSP awareness: 24% of households are aware of MSP for their crops (2017 study).
- MSP operations focus on a few states, leaving most crops under-procured.
- 79% of farmers dissatisfied with MSP due to payment delays, lack of infrastructure, long distances to centres, and delayed MSP announcements (NITI Aayog, 2016).

What is MSP?

- The Minimum Support Price (MSP) is a minimum price for any crop at which the government purchases it from farmers, and is based on a calculation of at least one-and-a-half times the cost of production incurred by the farmers.

Decline in Jute Production India

Context:

- Jute production is projected to decline by 20% this year due to floods in West Bengal and Assam.

CROPS COVERED UNDER MSP

KHARIF CROPS (14)		RABI CROPS (7)		CALENDAR YEAR CROPS (4)	
1.	Paddy	1.	Wheat	1.	Copra
2.	Jawar	2.	Barley	2.	De-husked Coconut
3.	Bajara	3.	Gram	3.	Jute
4.	Ragi	4.	Masur	4.	Sugar Cane (FRP)
5.	Maize	5.	Rapeseed& Mustard		
6.	Arhar	6.	Safflower		
7.	Moong	7.	Torai		
8.	Urad				
9.	Cotton				
10.	Ground Nuts				
11.	Sunflower				
12.	Soyabean				
13.	Sesamum				
14.	Nigerseed				

<

- CACP recommends MSP for 22 crops before the sowing period each year
- MSP derived for Toria based on MSP for Rapeseeds and Mustard and for De-husked Coconut on the Basis of MSP of Copra.
- Fair and Remunerative prices for Sugar is also declared

Jute Industry in India

1. India produces about 70% of the world's jute goods.
2. West Bengal contributes about 73% of this production.
3. 90% of jute production is consumed locally.

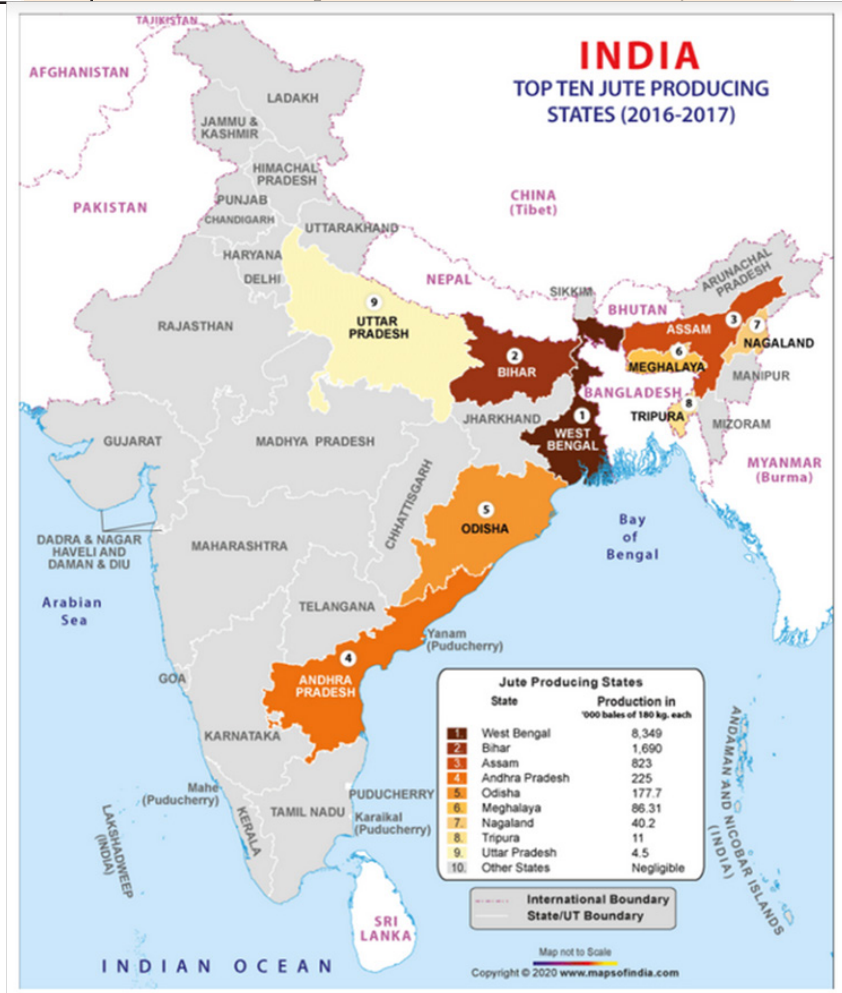
Opportunities

1. Directly employs 0.37 million workers.
2. Jute exports could reach 4,500 crore annually (3,000 crore in 2023-24).

About the Jute crop in India:

About Jute Crop

Temperature	Between 25-35°C
Rainfall	Around 150-250 cm
Soil Type	Well-drained alluvial soil
Production	India is the Largest producer of jute followed by Bangladesh and China.
Acreage and Trade	Bangladesh leads in acreage and trade, accounting for three-fourths of global jute exports.
Concentration	Mainly in eastern India due to the rich alluvial soil of the Ganga-Brahmaputra delta
Major Producing States	West Bengal, Bihar, Odisha, Assam, Andhra Pradesh, Meghalaya, Tripura
	Approximately 73% of the country's jute industries are concentrated in West Bengal.
Uses	Known as the golden fibre, used in making gunny bags, mats, ropes, yarn, carpets, and other artefacts
Production Share	India accounts for 70% of the world's jute production. It employs over 3 lakh workers. 90% of production is consumed locally



Challenges in the Jute Industry:

1. Declining cultivation area, down by 1.7 lakh hectares between 2013-14 and 2021-22.
2. Competition from low-cost synthetic alternatives and higher quality jute products from Bangladesh and China.
3. Over 80% of raw jute is of poor quality.
4. Lack of modernization and outdated mills needing technological upgrades.
5. Insufficient raw material supply despite government efforts.
6. Decrease in demand due to the availability of alternative fibres like Mesta.
7. Frequent strikes and labour issues, especially in West Bengal.
8. Infrastructure issues like power supply and transportation hinder sustainability.

Existing Initiatives:

1. National Jute Board (NJB) and National Jute Development Programme for Jute Development.
2. Production Linked Incentive (PLI) scheme and Jute Corporation of India (JCI) for jute promotion.
3. Jute Packaging Materials Act for mandatory jute use.
4. Additional initiatives include the Jute Mark Logo and Jute ICARE Scheme.
5. Drafting Jute Technology Mission 2.0
6. Golden Fibre Revolution and Technology Mission: It aims to enhance jute production in India.
7. Jute Packaging Materials Act, 1987: Despite competition from synthetic fibres, the Jute Packaging Materials Act, 1987, mandates the use of jute packaging material to support workers and farm families.
8. Jute Geo-Textiles (JGT) is promoted under the Technical Textiles Mission, offering diverse applications in civil engineering and erosion control.
9. Jute SMART, an e-government initiative, enhances transparency in the jute sector by providing a platform for government procurement of sacking.
10. Jute Mark Logo was launched (2022) for branding and positioning of Indian Jute globally.

Measures Needed:

1. Upgrade machinery urgently to benefit both mill owners and consumers.
2. Facilitate easy loan availability for industry upgrades and address sick mills.
3. Ensure a consistent supply of raw materials, power, and labour; improve labour laws and skills.
4. Promote foreign investment to boost competitiveness.
5. Implement automation to enhance productivity and reduce costs.
6. Encourage large-scale production for economies of scale and lower costs.
7. Support research and development.
8. Reassess fibre neutrality and explore trade agreement opportunities.

Conclusion

- Atmanirbharta' will not be possible if the government fails those sectors that are already self-sufficient and capable of dominating the global market. With focused interventions in this sector, we might enhance its performance in terms of more investment, employment generation and export earnings.
- Initiatives of government like the Amended Technology Upgradation Fund Scheme (ATUFS), Scheme for Integrated Textile Parks (SITP) etc. are timely interventions in this sense.

MSP does not have any legal basis but has been implemented since the 1960s with the following objectives:

1. Ensuring food security in the country.

HOW ARE MSPs DETERMINED?

The Centre fixes MSPs for every kharif and rabi cropping season based on recommendations of the Commission for Agricultural Costs and Prices (CACP)

● When a farmer grows a crop, he incurs costs, some of it explicit and some implicit or unpaid. The CACP considers the following costs:

1	2	3
A2	A2+FL	C2
Covers all cash and in kind expenses incurred by farmers on seeds, fertilisers, chemicals, hired labour, fuel, irrigation, etc	Actual costs plus an imputed value of unpaid family labour	Includes 'A2+FL' along with revenues forgone on owned land (rent) and fixed capital assets (interest)

#QUIXPLAINED

2. Protection from price drop for farmers
3. Incentivise desirable crop production

Importance of MSP:

- **Safeguard against Price volatility:** The system of MSP acts as a tool for the government to control sharp falls and rises in the prices of any crops
- **Surety of minimum prices:** The MSP is announced before the sowing season so that farmers can make an informed decision. Hence, supporting farmers from distress sales.
- **Control crops short in supply:** by offering more price support for these crops so that more and more farmers are tempted to grow these crops.
- **Crop Diversification:** MSP for crops promotes their diversification and curbs import-dependence and food inflation (e.g., there was a notable increase in the MSP of pulses and oilseeds in 2021 in order to incentivise its domestic production)
- **Food security:** The government can use these crops to be sold at government fair price shops at a price lower than the market rate to the below poverty line people at a lower price.
- **Developmental schemes** like PM-POSHAN, ICDS, Anganwadi Services Scheme, and TPDS rely on grains procured by FCI at MSP.

Nidhi companies

Context:

- The Ministry of Corporate Affairs (MCA) has penalized over two dozen Nidhi companies in a crackdown for violations of the Companies Act, primarily concerning delayed financial filings and issues with share allotment.
- Most violations occurred in Tamil Nadu, with companies failing to submit financial statements and annual returns on time.
- The Registrar of Companies (RoC) emphasized the importance of compliance to protect small investors, as Nidhi companies hold money in trust for their members.

About Nidhi Companies:

- Nidhi companies are non-banking financial entities in India, primarily involved in borrowing and lending money among their members.
- These companies are governed by Section 406 of the Companies Act, 2013, and are intended to promote savings and financial inclusion within communities.
- Nidhi companies are relatively easy to form, requiring a minimum capital of 10 lakh and at least seven members, of which three must be directors.

Viability of Universal Basic Income in India

Syllabus: Indian Economy

Context:

- With automation and AI reducing job growth, the idea of UBI is gaining momentum globally, including in India. While some argue that UBI can address the lack of demand and rising inequality, others suggest that India's focus should be on expanding social safety nets rather than a full UBI.

What is Universal Basic Income (UBI)?

- It is a social welfare scheme that provides a fixed, unconditional cash transfer to all eligible individuals or households, irrespective of their income or employment status. The concept of Universal Basic Income (UBI) appealing in the 2016-17 Economic Survey, however, the current CEA, V Anantha Nageswaran, has dismissed it, asserting that it is unnecessary for the country.

The potential of Universal Basic Income (UBI) in combating poverty:

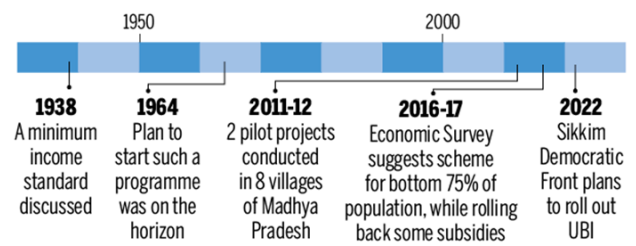
1. **Direct financial support:** UBI provides direct financial support to individuals and families, helping them meet basic needs, such as food, healthcare, and education.

2. Financial inclusion: UBI can encourage financial inclusion by promoting bank account usage and formal financial transactions.
3. Elimination of targeting errors: UBI eliminates targeting errors, as it is provided universally, reducing administrative costs and ensuring coverage of all eligible individuals.
4. More autonomy: A study by SEWA Bharat found that women in rural India who received cash transfers had greater autonomy in decision-making.
5. UBI empowers recipients by giving them the flexibility to spend the cash according to their priorities, including investments in livelihoods and education.
6. Social Inclusion: UBI fosters social inclusion by providing financial support to marginalized populations, helping them participate more fully in society.
7. Counter-Cyclical Effect: UBI's unconditional nature makes it counter-cyclical, automatically expanding during economic downturns, providing a safety net for those facing job loss or economic hardship.
8. Human dignity: UBI recognizes the intrinsic value of every individual by providing them with the means to lead a life of dignity and self-determination. It empowers recipients to make choices that align with their aspirations and needs.

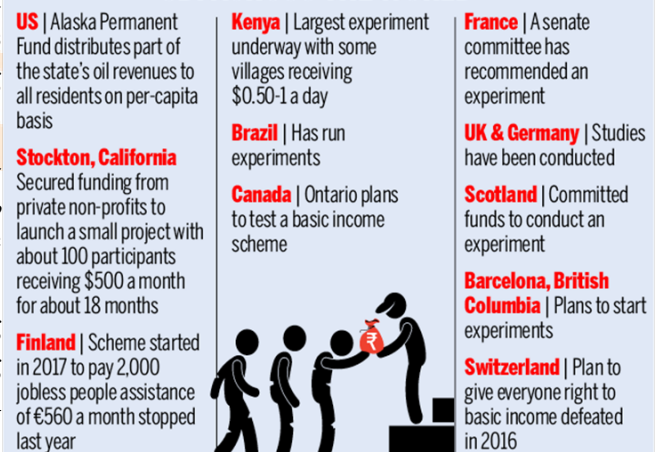
Economic impact and challenges of implementing UBI in India:

1. Cost and fiscal sustainability: Implementing UBI is costly and requires significant financial resources, potentially necessitating higher taxes, spending cuts, or increased debt. It can also lead to inflation and hinder economic growth.
2. Economic Survey of 2016-17 estimated that a UBI of 7,620 per year for every Indian would cost about 4.9% of GDP.
3. Perverse incentives: UBI may reduce work motivation and productivity, creating a culture of dependency. It could discourage skill development and training, as some may opt for a basic income without pursuing income-generating opportunities.
4. Inflationary pressures: The widespread distribution of a fixed income may drive up prices for goods and services, as businesses adjust pricing strategies to capture the additional income in the market.
5. Potential for dependency: UBI carries the risk of fostering dependency on government support, potentially leading to complacency and reduced motivation for personal and professional growth.
6. Implementation Challenges: India faces issues in public service delivery, including identification, targeting, monitoring, and accountability. UBI requires reliable data, technology, and strong institutions to prevent corruption, leaks, and exclusion errors.
7. Incomplete Universal Aadhar enrollment complicates beneficiary identification and targeted service delivery.

INDIA'S TRYST WITH INCOME SUPPORT



UBI ACROSS THE WORLD



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Alternatives to Universal Basic Income (UBI) as approaches to poverty alleviation:

Alternatives	Description
1. Targeted Cash Transfer Programs	Focus on specific vulnerable groups, such as LPG subsidies under Direct Benefit Transfer (DBT).
2. Expand Employment Guarantee Schemes	Improve schemes like MGNREGA, which provide rural households with guaranteed employment and increased income.

3. Strengthen the Public Distribution System (PDS)	Improve distribution of subsidized food grains and essential commodities to ensure food security for low-income families.
4. Invest in Skill Development	Enhance the employability of the underprivileged through skill development and vocational training programs.
5. Promote Microfinance and Microcredit	Support small businesses through microloans, particularly targeting women, to generate income (e.g., SHGs like Kudumbshree, and Jeevika).

Conclusion

- Each of these alternatives can be tailored to address specific poverty challenges in India. A combination of these approaches, depending on the region and population in question, can lead to a more comprehensive and effective strategy for poverty alleviation.

Government Promoting Nano-Fertilizer

Syllabus: Agriculture

Context:

- The Government of India is promoting nano DAP as a cost-effective, indigenous alternative to the imported granular form of di-ammonium phosphate (DAP), especially for Punjab's Rabi season crops.

What is Nano DAP?

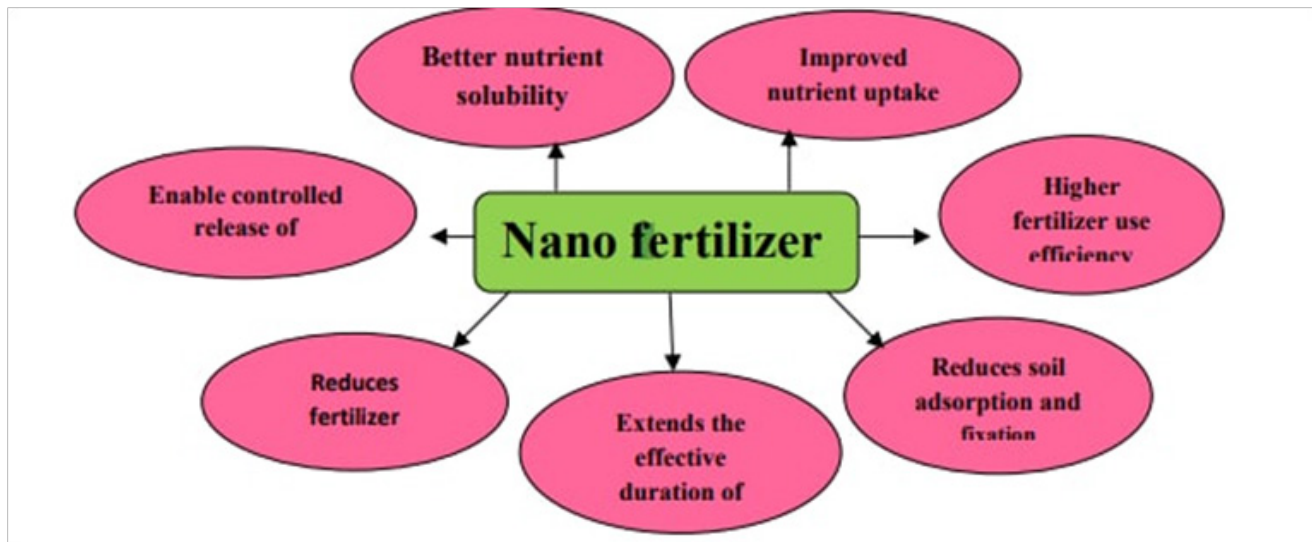
- It is cheaper and easier to transport, with a 500 ml bottle costing Rs 600 covering one acre, compared to granular DAP's Rs 1,350 per 50 kg bag. However, Punjab Agricultural University (PAU) scientists have raised concerns, reporting lower wheat yields when using nano DAP. IFFCO, which developed nano DAP (in liquid form), recommends using it alongside granular DAP for optimal results.

What are Nano-fertilizers?

- Nano-fertilizers are advanced fertilizers engineered using nanotechnology to improve nutrient delivery to plants. They contain nutrients in nano-sized particles, which allows for better absorption, efficient use, and reduced environmental impact compared to conventional fertilizers.
 - Examples: Some examples of nano-fertilizers include nanoparticles of nitrogen, phosphorus, and potassium, as well as combinations of these nutrients with other elements such as iron or zinc.

Benefits of Nano-Fertilizers:

Category	Benefits of Nano-Fertilizers
To Farmers	Reduction in Input Costs: A 500 ML bottle of Nano DAP costs around Rs 600, half the price of a 50-kg DAP bag (Rs 1,350-1,400). Higher Crop Yields: Nano fertilizers increase yields by 8%, improving crop quality through better nutrition (IFFCO). Increase in Farmer Income: Reduced costs and higher yields lead to better income.
To Environment	Better Nutrient Use Efficiency (NUE): Over 85% efficiency, with plants absorbing nitrogen better due to nano-sized particles. Less Environmental Fallout: Reduces soil, water, and air pollution, cutting fertilizer use by 50% and minimizing nutrient waste.
To Government	Lower Subsidies: Promotes cost savings by cutting subsidies on non-urea fertilizers. Decreasing Imports: Nano urea production aims to reduce dependence on urea imports, with planned production equivalent to 20 million tonnes of urea by FY25.



Current limitations and challenges associated with the implementation of nano fertilizers:

1. Not a complete replacement: Nano urea only replaces top dressing, not basal application, limiting efficiency benefits.
2. True yield concerns: The predicted yield increase is 3-16%, but lower actual gains could reduce income benefits.
3. Costing issues: Nano urea lacks subsidy support, raising questions about its pricing compared to conventional urea.
4. Potential toxicity: Nanoparticles may harm soil organisms and pose risks to human health.
5. Uncertain long-term effects: Impacts on soil health, microbial activity, and potential water contamination remain unclear.
 - Farmers may need to make significant changes to their practices in order to incorporate nano-fertilizers, which could result in additional costs and learning curves.

Conclusion:

- While nano-fertilizers offer exciting possibilities for improving the sustainability and productivity of agriculture, their implementation is still faced with several limitations and challenges that must be addressed in order to fully realize their potential.

Chapter- 9

INTERNAL SECURITY

Responsible Use of Artificial Intelligence in the Military Domain (REAIM): Responsible Use of AI in War

Syllabus: Internal Security

Context:

- The second summit (1st was conducted in 2023) on Responsible Use of Artificial Intelligence in the Military Domain (REAIM) begins in Seoul, focusing on setting global norms for military AI use.
- India has been observing but not actively participating, while the US and China are more engaged.
- Aim: The summit aims to address the implications of AI in warfare, with discussions evolving from autonomous weapons to broader military applications. The US has promoted responsible AI use through national guidelines and a UN resolution, while China has been proactive in shaping regulations.
- India faces pressure to move beyond a passive stance and actively shape global AI norms.

What is REAIM?

- REAIM (Responsible Use of Artificial Intelligence in the Military Domain) is a global summit focused on establishing norms and guidelines for the ethical and responsible use of AI in military settings. It involves discussions among governments, international organizations, technology firms, and civil society to address the implications of AI in warfare and to promote standards that ensure its safe and ethical application. The summit aims to shape international regulations and practices to manage the military use of AI effectively.

Principles of Responsible Use of AI in War:

1. Human Oversight: Ensure human control over critical decisions, particularly those involving life and death.
2. Accountability: Hold entities accountable for the outcomes of AI-driven actions and decisions.
3. Transparency: Maintain transparency in AI systems to understand their decision-making processes.
4. Safety and Security: Prioritize safety to prevent unintended consequences and safeguard against misuse.
5. Ethical Standards: Adhere to ethical norms and humanitarian laws in AI applications.
6. Accuracy and Reliability: Ensure AI systems are accurate and reliable in their functioning.
7. Data Privacy: Protect data privacy and ensure responsible handling of information used by AI systems.

How different countries are using AI in warfare, with examples:

Country	Use of AI in Warfare	Examples
USA	Surveillance and Reconnaissance	AI-powered drones for intelligence gathering and monitoring.
China	Intelligised Warfare	AI in cyber operations and predictive analysis for military strategies.
Russia	Autonomous Weapons	Development of robotic systems and AI-driven combat vehicles.
Israel	Missile Defense Systems	AI in Iron Dome for intercepting and neutralizing incoming threats.
UK	Data Analysis and Cyber Defense	AI for analyzing large volumes of data for threat detection and response.
India	Border Surveillance and Security	AI in surveillance systems for monitoring and securing borders.

Responsible AI aligns with ethical principles:

Strategy	Description
Ethical Guidelines	Ensure developers follow shared ethical standards and consider ethics in AI design.
Accountability Mechanisms	Establish clear responsibility, liability, and reporting systems for AI impacts.
Transparency	Make AI decision-making processes and data usage clear to prevent bias and ensure fairness.
Privacy Protection	Use anonymized data, obtain consent, and enforce data protection policies to safeguard individual privacy.
Diverse Stakeholders	Involve individuals from varied backgrounds to address diverse needs and concerns in AI development.
Regular Ethical Audits	Perform ongoing audits to ensure AI systems adhere to ethical principles and identify improvement areas.



Chapter-10

SOCIETY

West Bengal's Aparajita Women and Child Bill 2024

Context:

- The West Bengal Assembly has passed the 'Aparajita' Bill, introducing the death penalty for rape.

Salient provisions of the Aparajita Bill:

Category	Provisions
Provisions of BNS Amended	<ul style="list-style-type: none"> Maximum Punishment: Adds "or with death" for aggravated rape circumstances. Death Penalty: Mandatory for rape cases resulting in death or permanent vegetative state. Gang Rape: Introduces death penalty for gang rape of women above age 18. Repeat Offenders: Replaces simple imprisonment for life with rigorous imprisonment for life. Victim Identity Disclosure: Increases jail terms for disclosing the identity of rape victims and publishing court proceedings. Acid Attacks: Removes lighter punishments, mandates rigorous imprisonment for life.
Provisions of the POCSO Act Amended	<ul style="list-style-type: none"> Penetrative Sexual Assault: Introduces death penalty where the highest punishment was previously life imprisonment.
Provisions of BNSS Amended	<ul style="list-style-type: none"> Investigation Time: Reduces investigation time from two months to 21 days (extendable by 15 days if needed). Trial Time: Reduces time to complete the trial after the chargesheet from two months to 30 days.
Task Forces, Special Courts	<ul style="list-style-type: none"> Special Task Forces: Establishes a special Aparajita Task Force in each district for rape case investigations. Special Courts: Creates Special Courts in every district for expedited rape case trials and appoints Special Public Prosecutors.

Comparison of State Rape Laws: West Bengal, Andhra Pradesh, and Maharashtra

1. West Bengal – Aparajita Bill:

- Introduces mandatory death penalty for rape resulting in death or permanent vegetative state.
- Amends existing laws for stricter punishments and establishes Special Task Forces and Courts for expedited trials.

2. Andhra Pradesh – Disha Bills:

- Mandates the death penalty for rape, including gang rape and repeat offenders.
- Creates Special Police Teams and Exclusive Special Courts with shortened investigation and trial timelines.

3. Maharashtra – Shakti Bill:

- Implements the death penalty for severe cases, including heinous acid attacks.
- Sets up stringent data-sharing requirements for web platforms in criminal investigations.

Difficulties in Introducing State Laws to Curb Sexual Assaults on Women:

- The Aparajita Bill, after being passed by the West Bengal Assembly, awaits the Governor's approval and the President's assent to become law.

Why is Presidential Assent Crucial?

- The Supreme Court in *Mithu vs. State of Punjab* (1983) ruled that a mandatory death sentence violates fundamental rights under Article 14 (equality before the law) and Article 21 (right to life), and constitutes an “unfair, unjust, and unreasonable procedure” that can deprive individuals of their life unjustly.

Why is Rape Pervasive in India?

Reason	Description
Gender Inequality	Deep-rooted gender inequality and patriarchal attitudes objectify and subjugate women, fostering an environment where sexual violence can thrive.
Societal Norms and Attitudes	Regressive norms and attitudes, such as victim-blaming and the concept of “women’s honour,” perpetuate a culture of silence and stigmatization, deterring victims from reporting and seeking justice.
Lack of Awareness	Limited awareness about gender equality, consent, and sexual rights, especially in rural areas, impedes efforts to prevent and address sexual violence. Comprehensive sex education and awareness campaigns are needed.
Inadequate Law Enforcement	Corruption, negligence, and insensitivity in law enforcement and the criminal justice system obstruct effective investigation, prosecution, and conviction of rape cases.
Slow Judicial Processes	Lengthy and complex legal procedures, coupled with a backlog of cases, result in delayed justice and discourage victims from pursuing legal action. Fast-track courts can help address this issue.
Social Stigma and Victim Blaming	Survivors face societal stigma, blame, and discrimination, which can further traumatize them and dissuade reporting. Addressing these attitudes and providing support services are crucial.

Conclusion

- The Aparajita Women and Child Bill marks a significant shift in West Bengal’s approach to crimes against women and children, introducing stringent penalties. While supporters view it as a crucial step for justice and safety, critics question its necessity given existing laws. The bill has also sparked wider debates on crime reporting, law enforcement, and political accountability.

Chapter- 11

PRELIMS SPECIAL

Pillbox

Context:

- The monsoon season in Visakhapatnam has caused beach erosion, revealing historical World War II pillboxes that had long been buried under sand. These structures offer a glimpse into the city's strategic maritime defense legacy during the war.



What is a Pillbox?

- Definition:** Pillboxes are small, concrete defense structures used during World War II, equipped with loopholes for firing weapons.
- Design:** Named after early 20th-century medicine containers ("pillboxes") due to their compact, circular design.

Formation:

- Built during WWII:** Constructed by the British in Visakhapatnam to protect the city's naval base and deep harbor.
- Strategic placement:** Positioned along the coastline to defend against potential invasions by Axis forces, especially threats from Japanese submarines and aircraft.

Uses:

- Defense:** Enabled soldiers to fire weapons while being protected from enemy attacks.
- Coastal Protection:** Served as part of a larger defense network guarding Visakhapatnam's shores and port.
- Legacy:** These pillboxes are relics of Visakhapatnam's role as a crucial naval base during WWII.

Pusa-2090

Context:

- Pusa-44, a high-yield rice variety from the IARI, has been widely grown in Punjab and Haryana for decades. However, its long maturation period has contributed to stubble burning, causing severe air pollution in northern India. To mitigate this, IARI introduced Pusa-2090, a new variety with similar yields but a shorter maturation time, aiming to reduce environmental and logistical issues linked to Pusa-44.

Pusa Variety 2090:

- Developed by:** Indian Agricultural Research Institute (IARI), New Delhi
- Genetic Features:** A crossbreed between Pusa-44 and CB-501, an early-maturing Japonica rice line. It combines the high yields of Pusa-44 with CB-501's shorter duration.

Comparison of Pusa-2090 and Pusa-44:

Feature	Pusa-2090	Pusa-44
Maturity Time	120-125 days	155-160 days
Yield	34-35 quintals per acre	35-36 quintals per acre

Stubble Burning	Less likely due to shorter growing period	Common due to late harvesting and time pressure for wheat sowing
Water Requirement	Requires 5-6 fewer irrigations	Requires 29-30 irrigations
Suitability for Crop Rotation	Highly suitable due to early harvesting	Limited suitability, as late harvesting delays subsequent crops

Significance of Pusa-2090:

1. Environmental impact: Reduces the need for stubble burning, which is a major contributor to air pollution in northern India.
2. Efficient water use: Requires fewer irrigations, making it a more water-efficient crop in water-scarce regions like Punjab and Haryana.
3. Higher productivity: Farmers can clear fields earlier for timely wheat sowing or other crops, thus maintaining the agricultural cycle efficiently.
4. Sustainability: Pusa-2090 promotes environmentally friendly farming practices by addressing key issues related to pollution, water use, and crop rotation.

Neutrino Fog

Context:

- The LUX-ZEPLIN (LZ) experiment, one of the many dark matter detection efforts globally, recently reported its findings, which placed the tightest restrictions yet on the possible identity of dark matter particles.

About Neutrino Fog:

- “Neutrino fog” refers to the interference caused by neutrinos—ghostly particles produced by the Sun and cosmic events—in detecting dark matter. Since neutrinos rarely interact with matter, they pass through almost everything, including dark matter detectors.

Why it matters:

- Dark matter detection experiments, like LUX-ZEPLIN, are becoming increasingly sensitive, but they also detect neutrinos. This creates “fog,” or background noise, making it harder to distinguish between neutrinos and dark matter signals.

Significance:

1. Challenge in detection: Neutrinos mimic the weak signals expected from dark matter, confusing results.
2. Limits on sensitivity: Neutrino fog sets a boundary on how sensitive future dark matter experiments can be.
3. Scientific implication: Developing methods to differentiate neutrino signals from dark matter is a key challenge for advancing research.

BrahMos Aerospace

Context:

- BrahMos Aerospace, an Indo-Russian joint venture producing supersonic cruise missiles, has announced a reservation of at least 15% of vacancies for former Agniveers in technical, administrative, and security roles.

Key Points:

1. BrahMos aerospace initiative: 15% of vacancies in technical and administrative roles and 50% in administrative and security roles reserved for Agniveers.
2. Encouraging industry partners: BrahMos is motivating over 200 industry partners to reserve 15% of their workforce for Agniveers.
3. Agnipath scheme: Launched in June 2022 to recruit youths into the armed forces for four years, with 25% retained for 15 more years.

Relevance in UPSC Syllabus:

- GS2: Governance – Skill development initiatives, Government Policies – Agnipath scheme, and Public Service – Employment opportunities for ex-servicemen.
- GS3: Defence and Security – Role of defence industries and integration of former soldiers into the workforce, Industrial Policy – Support for domestic defence manufacturing.

Production Linked Incentive

Context:

- India's Production Linked Incentive (PLI) scheme is set to boost the textile sector, with disbursements starting this fiscal year. The initiative aims to address stagnation in India's textile exports, enhance competitiveness, and promote job creation in the sector.

Summary:

- PLI for textiles: About a dozen companies will receive incentives under the scheme for man-made fibers (MMF) and technical textiles this year.
- Export stagnation: India's textile exports remain stagnant at \$35 billion, while competitors like Vietnam and Bangladesh gain market share through trade agreements.
- Job creation target: The government aims to create 4.5 to 6 crore jobs in the textile sector by 2030, while increasing the sector's market size to \$350 billion.

About the PLI scheme:

- Origin: Launched in 2021 to boost domestic manufacturing, reduce imports, and enhance exports.
- How it works: Provides performance-linked incentives based on incremental sales of domestically manufactured products.
- Sectors covered: Includes 13 sectors such as electronics, textiles, automotive, pharmaceuticals, telecom, and renewable energy. Budget: Rs 1.97 lakh crore (\$28 billion).

DRDO Deep Technology Initiative

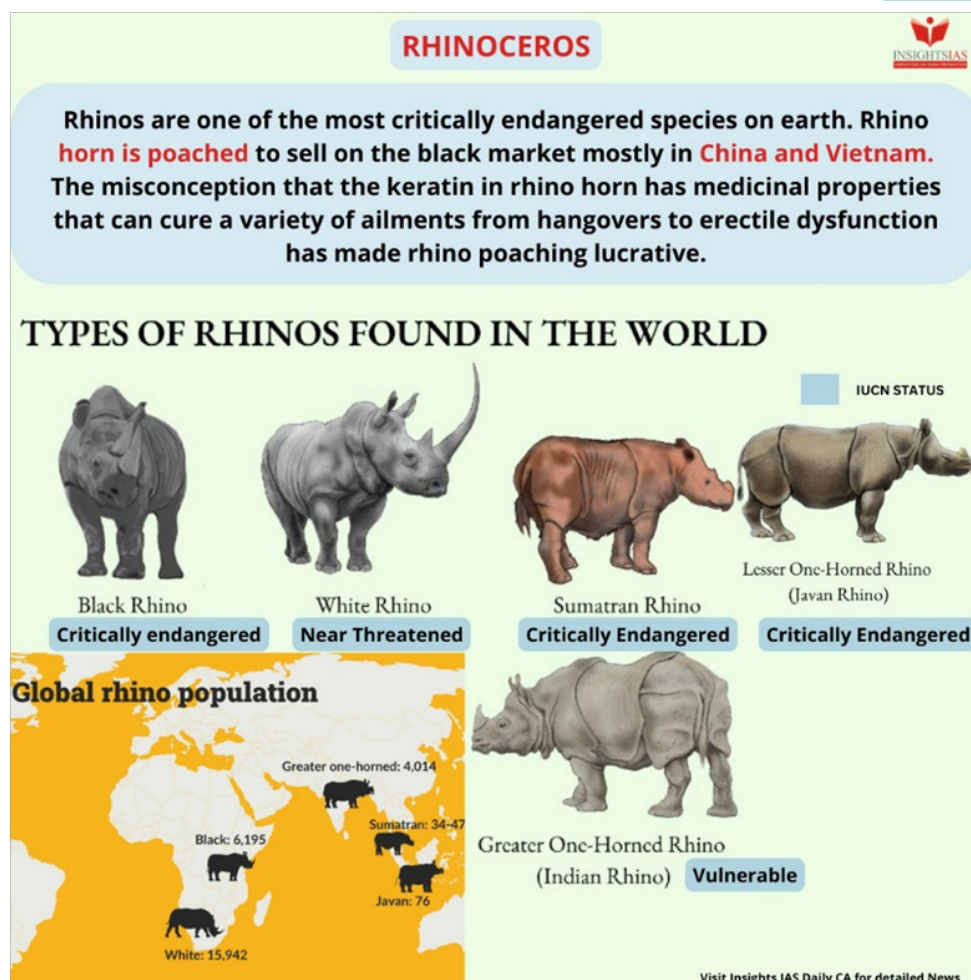
Context:

- Backed by the 1-lakh crore corpus for promoting transformative potential research, announced in the interim Budget, DRDO is set to launch a first-of-its-kind initiative that will remodel its research programme towards emerging technologies for military usage.
- Significance: DRDO is funding five high-value deep tech projects, with up to 50 crore allocated per project, focusing on indigenisation and reducing dependency on imports. These projects are intended to drive research in emerging technologies like quantum, blockchain, and artificial intelligence with a long-term impact on national security.
- Global Inspiration: The programme is modeled on similar global initiatives like the U.S. DARPA, with the aim of revolutionising defence capabilities through futuristic and disruptive technologies.
- Project Funding and Collaboration: The Technology Development Fund (TDF) engages MSMEs and start-ups for R&D in military hardware and software. Funding will be rolled out in five tranches, with the first installment capped at 20%, based on project appraisals by an integrated expert team.

Rhinos

Context:

- On World Rhino Day 2024, the status of the world's five rhino species presents a mixed outlook.
- In Africa, the rhino population, comprising both black and white rhinos, increased to approximately 23,885 by the end of 2023, despite continued poaching.
- However, the critically endangered black rhino population slightly declined by 1%, primarily due to poaching in Namibia and South Africa.
- In Asia, the situation is more dire. The Javan rhino population plummeted by 33%, leaving only 76 individuals after poachers targeted breeding males.
- The Sumatran rhino population remains precariously low, with only 34-47 individuals left.



Bio-RIDE scheme

Context:

- The Union Cabinet approved the Biotechnology Research Innovation and Entrepreneurship Development (Bio-RIDE) scheme, merging two existing Department of Biotechnology schemes.
- Bio-RIDE aims to foster innovation, bio-entrepreneurship, and sustainable biomanufacturing.

Key components of Bio-RIDE:

- Biotechnology Research & Development (R&D) – Supports cutting-edge research in fields like synthetic biology and bioenergy.
 - Industrial & Entrepreneurship Development (I&ED) – Promotes bio-entrepreneurship through funding, incubation, and mentorship.
 - Biomanufacturing and Biofoundry – Focuses on sustainable practices and circular bioeconomy to address healthcare, agriculture, and climate challenges.
- The scheme encourages industry-academia collaboration, supports extramural funding for research, and aims to make India a global leader in biotechnology, contributing to the goal of a \$300 billion bioeconomy by 2030.

CABINET APPROVED

Bio-RIDE Scheme

Budget:
Rs 9197 crore
(2021-22 to 2025-26)

Purpose: Support advanced biotech R&D

COMPONENTS

- Biotechnology Research and Development (R&D)
- Industrial & Entrepreneurship Development (I&ED)
- Biomanufacturing and Biofoundry

Objectives: Promote bio-entrepreneurship, innovation, industry-academia collaboration, sustainable biomanufacturing, research funding, and human resource development

Source: GoI

Bharatiya Antariksh Station

Context:

- The Union Cabinet has approved the development of the Bharatiya Antariksh Station (BAS-1) as part of an expanded Gaganyaan programme, marking a significant leap in India's space ambitions.
- The plan involves completing eight missions, including uncrewed ones, by December 2028, with BAS-1 expected to be operational by 2035.
- Additionally, the decision sets the groundwork for a crewed lunar mission by 2040.

Key highlights:

- Gaganyaan programme now includes eight missions.
- BAS-1 will focus on microgravity-based scientific research and technology development, generating opportunities in high-tech sectors.
- ISRO will lead the efforts, collaborating with industry and academia, to develop critical technologies for long-duration human space missions.
- The Cabinet also approved the Chandrayaan-4 mission and a Venus Orbiter mission.

Battle of Saragarhi

Context:

- Saragarhi Day, observed on September 12, commemorates the 1897 Battle of Saragarhi, one of the most remarkable last stands in military history.
- Saragarhi was a key communication post between Fort Lockhart and Fort Gulistan in the North-West Frontier Province (now in Pakistan).

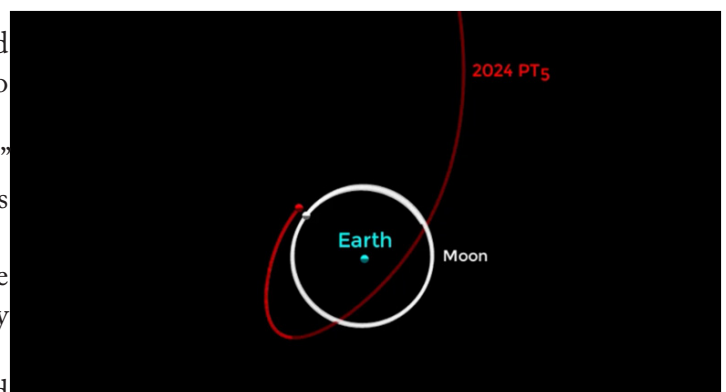
About Battle of Saragarhi:

- On this day, 21 soldiers of the 36th Sikhs regiment, led by Havildar Ishar Singh, defended the fort against over 8,000 Afridi and Orakzai tribal militants for seven hours.
- The bravery of the soldiers was recognized with posthumous honors, including the Indian Order of Merit, awarded by Queen Victoria.
- In 2017, the Punjab government declared Saragarhi Day a holiday.
- The battle has since been immortalized in various ways, including memorials, a film (Kesari), and remembrance events in both India and Pakistan.

Mini-moon

Context:

- Earth will temporarily capture a small asteroid named 2024 PT5, which will stay for two months before moving back into space.
- This phenomenon, known as a "mini-moon," occurs when asteroids get caught in Earth's gravity and orbit the planet for a short time.
- Although rare, such occurrences provide scientists with valuable opportunities to study near-Earth objects.
- 2024 PT5, discovered by NASA's Asteroid Terrestrial-impact Last Alert System (ATLAS), is about 33 feet long and came from the Arjuna asteroid belt.
- However, it may not fully qualify as a mini-moon since it won't complete a full orbit around Earth but will follow a horseshoe-shaped path.
- This event is significant because studying asteroids like 2024 PT5 helps researchers understand the nature of asteroids that pass close to Earth, potentially informing future space exploration and resource extraction efforts.



BHASKAR

Context:

- The Department for Promotion of Industry and Internal Trade (DPIIT) is set to launch BHASKAR (Bharat Startup Knowledge Access Registry), a digital platform designed to support and enhance India's startup ecosystem.
- Under the Startup India program, BHASKAR will centralize resources and streamline collaboration among startups, investors, mentors, service providers, and government bodies.
- Key features include personalized IDs for stakeholders, networking and collaboration opportunities, centralized access to resources, and improved discoverability of opportunities.
- The platform aims to position India as a global hub for innovation by promoting cross-border collaborations and supporting the growth of the entrepreneurial ecosystem.
- BHASKAR is expected to drive innovation, job creation, and economic growth, solidifying India's reputation as a leader in global entrepreneurship.

Integrated Ocean Energy Atlas

Context:

- The Indian National Centre for Ocean Information Services (INCOIS) has launched the "Integrated Ocean Energy Atlas" for India's Exclusive Economic Zone (EEZ), revealing the vast potential of marine energy resources.
- Unveiled by the Ministry of Earth Sciences, the atlas identifies areas rich in renewable energy sources like solar, wind, waves, tides, ocean currents, and thermal gradients.
- It provides annual, monthly, and daily energy estimates via a WebGIS interface.

PM E-Drive scheme

Context:

- The Union Cabinet has approved the PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-Drive) Scheme.
- The scheme focuses on promoting the adoption of electric vehicles (EVs).
- The heavy industries ministry will implement the scheme, offering subsidies through a dedicated portal to both buyers and manufacturers.
- Additional fund will be provided to public transport agencies for procuring 14,028 e-buses, with demand aggregation managed by Convergence Energy Services Limited (CESL) in nine major cities.
- The scheme also includes funding for fast chargers, electric trucks, and the modernization of EV testing agencies.

Cabinet Decision: 11th September, 2024

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

Cabinet approves PM E-DRIVE Scheme' for promotion of electric mobility in the country with outlay of Rs 10,900 crore for 2 years

Components of the scheme:

- Subsidies/Demand incentives worth Rs.3,679 crore to incentivize e-2Ws, e-3Ws, e-ambulances, e-trucks and other emerging EVs
- E-vouchers for EV buyers to avail demand incentives under the scheme
- Allocation of Rs.500 crore for the deployment of e-ambulances
- Provision of Rs.4,391 crore for procurement of 14,028 e-buses by STUs/public transport agencies

V2

Mission Mausam

Context:

- Mission Mausam, a 2,000 crore initiative approved by the Union Cabinet, aims to enhance India's weather and climate forecasting capabilities by 2026.
- Spearheaded by the Ministry of Earth Sciences (MoES), the mission seeks to make India "Weather Ready" and "Climate Smart," improving resilience against climate change and extreme weather events.

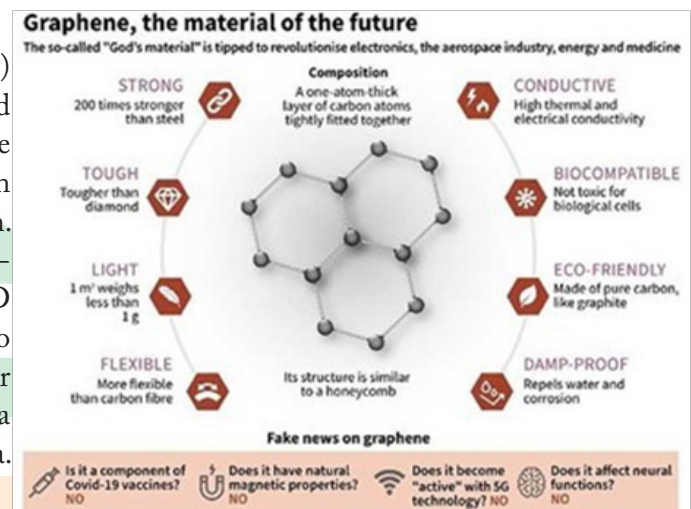
About Mission Mausam:

- Key objectives include developing advanced weather surveillance technologies, improving atmospheric observations, and enhancing prediction capabilities using high-performance computers and AI/ML methods.
- The mission will establish a network of 50 Doppler Weather Radars, additional observation stations, and research facilities.
- It also focuses on last-mile data dissemination and capacity building to benefit citizens and sectors.
- Three institutes under MoES—IMD, NCMRWF, and the Indian Institute of Tropical Meteorology—will lead the mission, with support from other MoES bodies and international collaborations.
- The initiative promises significant advancements in weather forecasting and air quality data, ensuring more accurate and timely services.

India Graphene Engineering and Innovation Centre (IGEIC) Launched

Context:

- The Ministry of Electronics and IT (MeitY) launched the India Graphene Engineering and Innovation Centre (IGEIC) under the Graphene Aurora Program (GAP), which was initiated in 2023 to foster the graphene technology ecosystem.
- Located in Trivandrum, Kerala, IGEIC is a non-profit that aims to bridge the gap between R&D and commercialization, providing support to startups and industry. This follows the earlier launch of India's first graphene centre, the India Innovation Centre for Graphene (IICG) in Kerala.



Dispute Resolution Scheme (e-DRS)

Context:

- The Central Board of Direct Taxes (CBDT) has introduced the e-Dispute Resolution Scheme (e-DRS) 2022 to reduce litigation and provide relief to eligible taxpayers.
- Under this scheme, taxpayers can file applications electronically for dispute resolution with Dispute Resolution Committees (DRCs) across 18 regional jurisdictions.
- Eligibility: Taxpayers can use e-DRS for disputes involving specified orders where the aggregate variations are under 10 lakh and the returned income is under 50 lakh, excluding cases based on searches or certain agreements.
- DRC Procedures: The DRCs can modify orders, reduce or waive penalties, and must issue decisions within six months from the end of the month in which the application is admitted.
- Filing Process: Applications are to be submitted online through the Income Tax Department's portal using Form No. 34BC.

Project NAMAN

Context:

- The Indian Army launched Project NAMAN to support Defence Pensioners, Veterans, and their families, centred around the SPARSH digital pension system.
- The project aims to streamline pension processes and provide essential services through Common Service Centres (CSCs) across India.
- These centres, supported by HDFC Bank and managed by veterans or their families, offer SPARSH-enabled pension services, e-Governance, and banking solutions, reflecting the Army's commitment to veteran welfare and community empowerment.

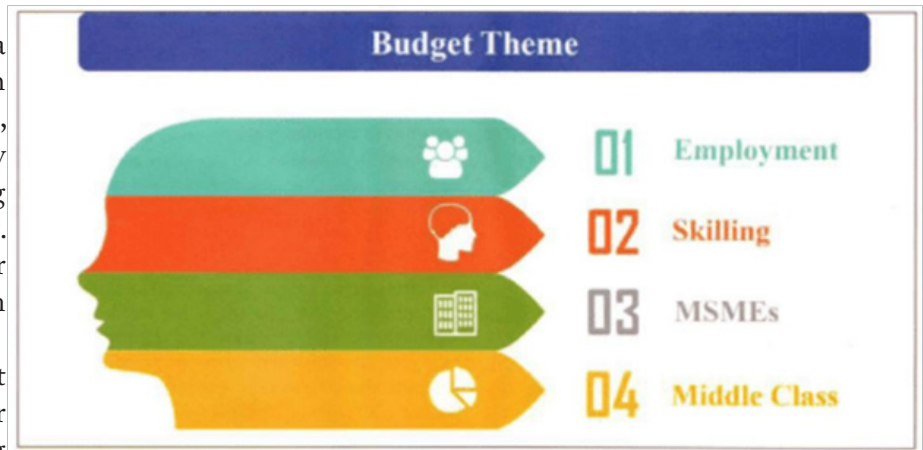


Chapter-12

Yojana October 2024

Union Budget 2024-25

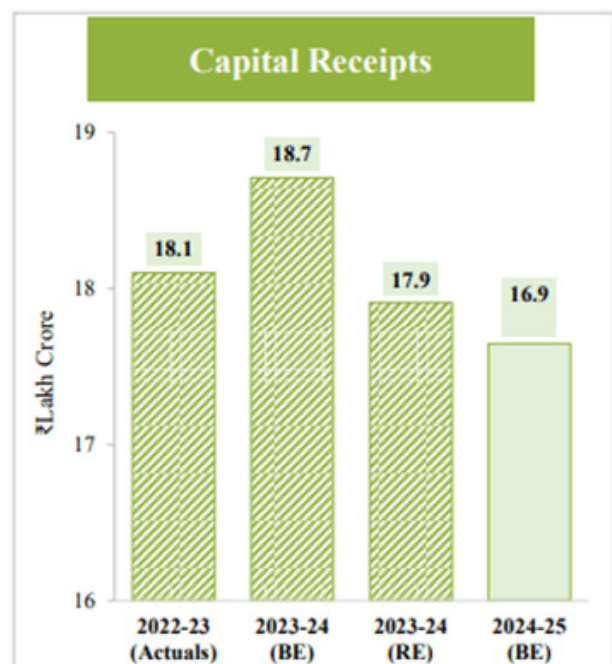
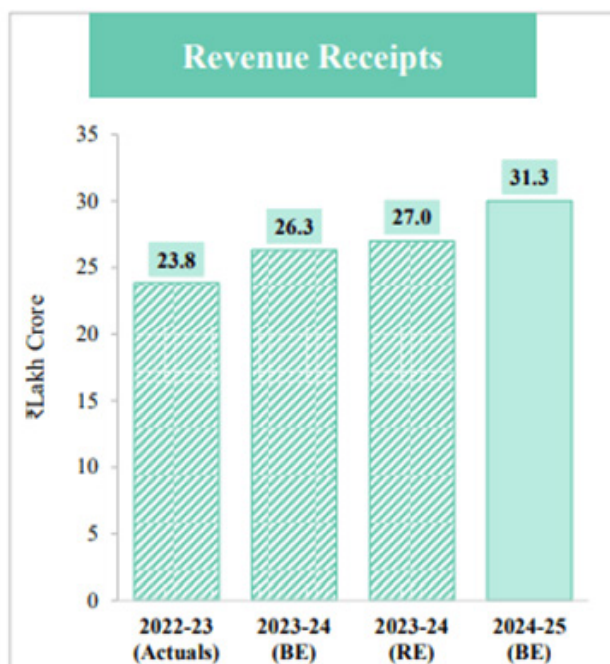
The Union Budget 2024-25 lays out a comprehensive roadmap for the growth and development of the agriculture, manufacturing and services sectors, by recognising their pivotal role in driving economic growth and employment. The budget is focused on four major groups: Garib (poor), Mahilayein (women), Yuva (youth) and Annadata (farmers). The Union Budget 2024-25 charts a promising course for India's economic growth, emphasising manufacturing, services, and digital technologies.



What are the Macro-economic highlights of the Budget 2024-25?

- The total receipts other than borrowings for the year 2024-25, is estimated to be at Rs. 32.07 lakh crore.
- The gross and net market borrowings through dated securities during 2024-25 are estimated at Rs.14.01 lakh crore and Rs. 11.63 lakh crore respectively. Both will be less than that in 2023-24.
- The net tax receipts are estimated at Rs. 25.83 lakh crore.

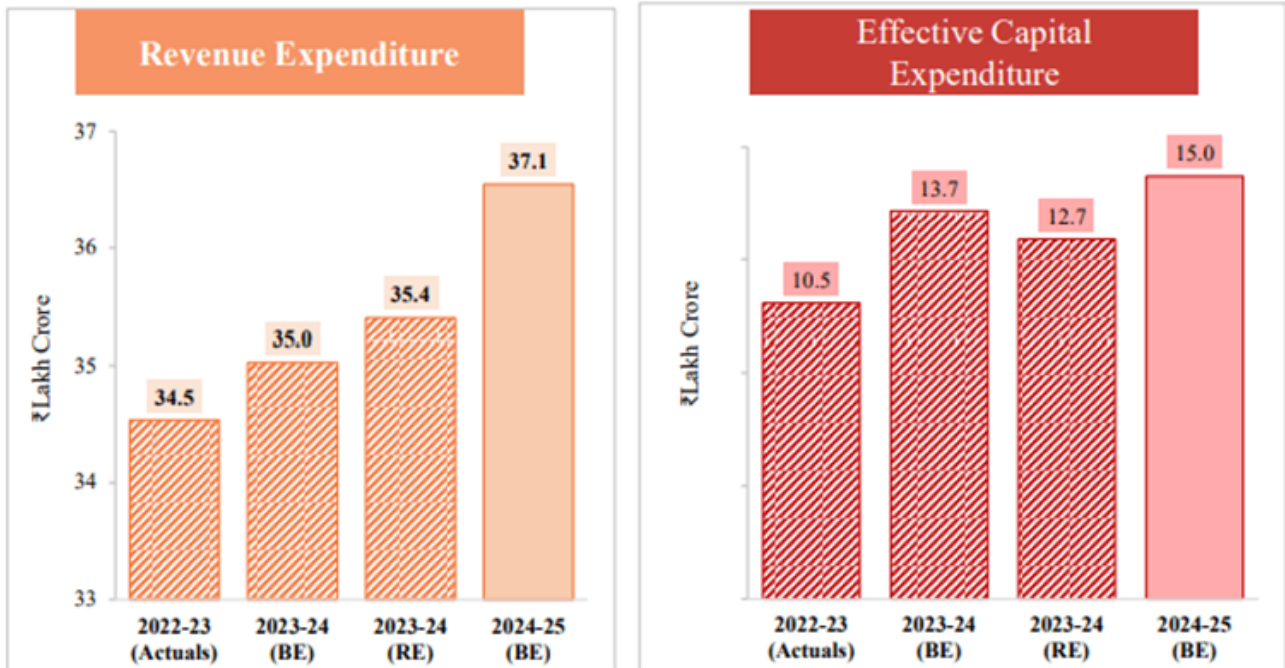
Receipts



Source- Yojana

- Total Expenditure for FY 2024-25- The total expenditure is estimated at Rs. 48.21 lakh crore.

Expenditure



Source- Yojana

- Fiscal Deficit- The fiscal deficit is estimated at 4.9 per cent of GDP.
- Inflation Target- India's inflation continues to be low, stable and moving towards the 4 per cent target. Core inflation (nonfood, non-fuel) currently is 3.1 per cent.

India's Growth on a robust path

- India's economic growth continues to be the shining exception and will remain so in the years ahead.

What are the 9 priority areas and Related Policy Announcements for the achievement of Viksit Bharat in the Budget 2024-25?

Priority 1: Productivity and resilience in Agriculture

- Transformation of agriculture research- Focus on raising productivity and developing climate resilient varieties. Provision for funding for agricultural research in challenge mode, including the private sector.
- Release of new varieties- Release of new 109 high-yielding and climate-resilient varieties of 32 field and horticulture crops for cultivation by farmers.
- Natural Farming- Initiation of 1 crore farmers across the country into natural farming supported by certification and branding, in the next two years.
- Missions for pulses and oilseeds- Launch of a mission for achieving 'atmanirbharta' for oil seeds such as mustard, groundnut, sesame, soybean, and sunflower.
- Digital Public Infrastructure (DPI) for Agriculture- The use of DPI in agriculture for coverage of farmers and their lands in 3 years. Details of 6 crore farmers and their lands to be brought into the farmer and land registries. Enabling the 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. Facilitation of finance for shrimp farming, processing and export through NABARD.
- National Cooperation Policy- Formulation of a National Cooperation Policy for systematic, orderly and all-round development of the cooperative sector.

Priority 2- Employment & Skilling

- a. Employment Linked Incentive- 3 schemes for 'Employment Linked Incentive', to be launched as part of the Prime Minister's package.
 - Scheme A: First Timers- This scheme is to be launched to provide one-month wage to all persons newly entering the workforce in all formal sectors. The direct benefit transfer of one-month salary in 3 installments to first-time employees, as registered in the EPFO. The support will be upto Rs. 15,000. The eligibility limit will be a salary of Rs. 1 lakh per month. The scheme is expected to benefit 210 lakh youth.
 - Scheme B: Job Creation in manufacturing- An incentive to be provided at specified scale directly both to the employee and the employer, with respect to their EPFO contribution in the first 4 years of employment. The scheme is expected to benefit 30 lakh youth entering employment, and their employers.
 - Scheme C: Support to employers- This employer-focused scheme will cover additional employment in all sectors. All additional employment within a salary of Rs.1 lakh per month will be counted. The government will reimburse to employers up to Rs. 3,000 per month for 2 years towards their EPFO contribution for each additional employee. The scheme is expected to incentivize additional employment of 50 lakh persons.
- b. Participation of women in the workforce- Facilitation of higher participation of women in the workforce through setting up of working women hostels in collaboration with industry, and establishment of creches.
- c. Skilling programme- A new centrally sponsored scheme to be launched to skill 20 lakh youth over a 5-year period. 1,000 Industrial Training Institutes to be upgraded in hub and spoke arrangements with outcome orientation.
- d. Skilling Loans- The Model Skill Loan Scheme to be revised to facilitate loans up to Rs. 7.5 lakh with a guarantee from a government promoted Fund. This measure is expected to help 25,000 students every year.
- e. Education Loans- Financial support for loans upto Rs. 10 lakh for higher education in domestic institutions. E-vouchers for this purpose to be given directly to 1 lakh students every year for annual interest subvention of 3 percent of the loan amount.

Priority 3: Inclusive Human Resource Development and Social Justice

- a. Saturation approach- Saturation approach to be employed for covering all eligible people through various programmes.
- b. Purvodaya- A plan, Purvodaya, for the all-round development of the eastern region of the country covering Bihar, Jharkhand, West Bengal, Odisha and Andhra Pradesh to be launched. This will cover human resource development, infrastructure, and generation of economic opportunities to make the region an engine to attain Viksit Bharat.
- c. The announcements related to Bihar- Industrial node at Gaya, connectivity projects, such as (1) Patna-Purnea Expressway, (2) Buxar-Bhagalpur Expressway, (3) Bodhgaya, Rajgir, Vaishali and Darbhanga spurs, and (4) additional 2-lane bridge over river Ganga at Buxar at a total cost of Rs. 26,000 crore.
- d. The announcements Related to Andhra Pradesh- Reiteration of the firm commitment to Andhra Pradesh Reorganization Act provisions. Rs. 15,000 crores to be arranged in the current financial year, with additional amounts in future years. Financing and early completion of the Polavaram Irrigation Project and Grants for backward regions of Rayalaseema, Prakasam and North Coastal Andhra.
- e. PM Awas Yojana- Three crore additional houses under the PM Awas Yojana in rural and urban areas in the country.
- f. Women-led development- An allocation of more than Rs. 3 lakh crores for schemes benefitting women and girls and promoting women-led development
- g. Pradhan Mantri Janjatiya Unnat Gram Abhiyan- The abhiyan aims to improve the socio-economic condition of tribal communities, by adopting saturation coverage for tribal families in tribal-majority villages and aspirational districts. This will cover 63,000 villages benefitting 5 crore tribal people.
- h. Bank branches in North-Eastern Region- More than 100 branches of India Post Payment Bank to be set up in the North East region to expand the banking services.

Priority 4: Manufacturing & Services

- a. Support for promotion of MSMEs– The following initiatives have been announced as part of the Budget-Credit Guarantee Scheme for MSMEs in the Manufacturing Sector without collateral or third-party guarantee
- b. Public sector banks to build their in-house loan assessment model MSMEs for credit
- c. Credit Support to MSMEs during Stress Period through a guarantee from a government promoted fund.
- d. Enhanced Mudra Loan limits, from 10 lakhs to 20 lakhs, for MSME entrepreneurs who have repaid loans under Tarun category
- e. Turnover threshold of buyers for mandatory onboarding on the TReDS platform reduced to Rs. 250 crores from Rs. 500 crores
- f. Establishment of SIDBI branches in MSME clusters
- g. Establishment of 50 MSME Units for Food Irradiation, Quality & Safety Testing.
- a. Internship in Top Companies- A comprehensive scheme for providing internship opportunities in 500 top companies to 1 crore youth in 5 years. An internship allowance of Rs. 5,000 per month along with one-time assistance of Rs. 6,000 to be provided. Companies bear the training cost and 10 percent of the internship cost from their CSR funds.
- b. Industrial Parks- Development of investment-ready “plug and play” industrial parks with complete infrastructure in or near 100 cities. Sanctioning of twelve industrial parks under the National Industrial Corridor Development Programme.
- c. Rental Housing- Rental housing with dormitory type accommodation for industrial workers to be facilitated in PPP mode with VGF support and commitment from anchor industries.
- d. Critical Mineral Mission- Launch of Critical Mineral Mission for domestic production, recycling of critical minerals, and overseas acquisition of critical mineral assets.
- e. Digital Public Infrastructure Applications- Use of DPI applications at population scale for productivity gains, business opportunities, and innovation by the private sector. These are planned in credit, e-commerce, education, health, law and justice, logistics, MSME, services delivery, and urban governance.
- f. Debt recovery and IBC- Steps for reforming and strengthening debt recovery tribunals to be taken. Additional tribunals to be established. Out of those, some will be notified to decide cases exclusively under the Companies Act.
- g. Voluntary closure of LLPs- The services of the Centre for Processing Accelerated Corporate Exit (C-PACE) to be extended for voluntary closure of LLPs to reduce the closure time.

Priority 5- Urban Development

- a. Cities as Growth Hubs and Creative redevelopment of cities- Policies to be formulated for the achievement of both these initiatives.
- b. Transit Oriented Development- Transit Oriented Development plans for 14 large cities with a population above 30 lakhs to be formulated.
- c. Urban Housing- Housing needs of 1 crore urban poor and middle-class families to be addressed with an investment of 10 lakh crore, under the PM Awas Yojana Urban 2.0. Central assistance of 2.2 lakh crore to be provided in the next 5 years.
- d. Water Supply and Sanitation- Promotion of water supply, sewage treatment and solid waste management projects and services for 100 large cities through bankable projects in partnership with the State Governments and Multilateral Development Banks.
- e. Street Markets- The development of 100 weekly ‘haats’ or street food hubs in select cities.
- f. Stamp Duty- The states to be encouraged to consider further lowering duties for properties purchased by women.

Priority 6- Energy Security

- a. Launch of Initiatives with private sector Collaboration in Nuclear Energy- Setting up Bharat Small Reactors and R&D of Bharat Small Modular Reactor and newer technologies for nuclear energy.

- b. PM Surya Ghar Muft Bijli Yojana- Steps to be taken for encouragement of PM Surya Ghar Muft Bijli Yojana to install rooftop solar plants to enable 1 crore households obtain free electricity up to 300 units every month.
- c. Pumped Storage Policy- A policy for promotion of pumped storage projects to be brought out for electricity storage.
- d. Advanced Ultra Super Critical Thermal Power Plants- A joint venture between NTPC and BHEL to set up a full scale 800 MW commercial plant using Advanced Ultra Super Critical Thermal Power Plants (AUSC) technology.
- e. Roadmap for 'hard to abate' industries- Appropriate regulations for transition of these industries from the current 'Perform, Achieve and Trade' mode to 'Indian Carbon Market' mode to be put in place.
- f. Support to traditional micro and small industries- An investment-grade energy audit of traditional micro and small industries in 60 clusters, including brass and ceramic, to be facilitated. The scheme to be replicated in another 100 clusters in the next phase.

Priority 7- Infrastructure

- a. Infrastructure provisions- Provision of 11,11,111 crore for infrastructure (3.4% of GDP) for capital expenditure. Provision of 1.5 lakh crore to states as long-term interest free loans to support resource allocation.
- b. Pradhan Mantri Gram Sadak Yojana (PMGSY)- Phase IV of PMGSY to be launched to provide all-weather connectivity to 25,000 rural habitations, which have become eligible in view of their population increase.
- c. Irrigation and Flood Mitigation- Financial support of 11,500 crore for projects such as the Kosi-Mechi intra-state link and 20 other ongoing and new schemes.
- d. Tourism- Support for the comprehensive development of Vishnupad Temple Corridor and Mahabodhi Temple Corridor modelled on the successful Kashi Vishwanath Temple Corridor.

Priority 8- Innovation, Research & Development

- a. Anusandhan National Research Fund- Operationalization of the Anusandhan National Research Fund for basic research and prototype development.
- b. Private Sector Driven Research- Private sector-driven research and innovation at commercial scale with a financing pool of 1 lakh crore.
- c. Space Economy- A venture capital fund of 1,000 crore to be set up for the development of space economy.

Priority 9- Next Generation Reforms

- a. Economic Policy Framework- Formulation of an Economic Policy Framework for Improving productivity of factors of production. Facilitating markets and sectors to become more efficient.
- b. Rural & Urban land related actions- Efforts will be taken for Rural and Urban Land mapping, such as
 - Assignment of Unique Land Parcel Identification Number or Bhu-Aadhaar for all lands, Digitization of cadastral maps and GIS mapping of Urban lands, Establishment of land registry and linkage to the farmers registry.
- c. NPS Vatsalya- It is an investment plan for contribution by parents and guardians, for minors. On attaining the age of majority, the plan can be converted seamlessly into a normal NPS account.
- d. Ease of Doing Business- Drafting of Jan Vishwas Bill 2.0 for enhancement of 'Ease of Doing Business'. States to be incentivized for implementation of their Business Reforms Action Plans and digitalization.
- e. Taxonomy for climate finance- Enhancement of the availability of capital for climate adaptation and mitigation related investments.
- f. New Pension Scheme (NPS)- A solution to be evolved to address the relevant issues in the New Pension Scheme (NPS) while maintaining fiscal prudence to protect the common citizens.

What have been the Tax Related Announcements in Budget 2024-25?

Indirect Tax Proposals

- Rationalisation of GST Tax Structure- The GST Tax structure to be further simplified and rationalized to multiply the benefits of GST.
- Sector Specific Customs Duty Proposals- Comprehensive review of the custom duty rate structure undertaken for ease of trade, removal of duty inversion and reduction of disputes.

Changes in Custom Duty	Beneficiaries/Benefits
Full exemption to 3 more cancer medicines from custom duties	Affordable medicines
Reduction of Basic Custom Duty (BCD) on Mobile phone, Mobile PCBA and charger to 15%	Mobile industry
Reduction of custom duty on gold and silver to 6% and platinum to 6.4%	Domestic value addition
Reduction of BCD on shrimp and fish feed to 5%	Marine exports
Exemption of more capital goods for manufacturing of solar cells & panels	Energy transition
Full exemption to custom duties on 25 critical minerals	Boost to strategic sectors

Direct Tax Proposals

- Review of the Income Tax Act 1961- Simplification of Charities, TDS. This will reduce the compliance burden, promote entrepreneurial spirit and provide tax relief to citizens.
- Rationalisation of Capital Tax-**
 - Short Term Capital Gains Tax- Short term gains of financial assets to attract 20% tax rate.
 - Long Term Capital Gains Tax- Long term gains on all financial non-financial assets to attract a tax rate of 12.5%.
 - Exemptions limit increase- Increase in exemption limits in capital gains on financial assets to 1.25 lakh per year.

Abolition of Angel Tax- ANGEL tax abolished for all classes of investors

- Reduction in corporate Tax for foreign companies- Corporate tax rate on foreign companies reduced from 40% to 35%.

Personal Income tax

- Standard Deduction for salaried employees increased from 50,000 to 75,000
- Deduction on family pension for pensioners increased from 15,000 to 25,000

Revision of Tax rate Structure in New Tax Regime

0-3 lakh rupees	Nil
3-7 lakh rupees	5 per cent
7-10 lakh rupees	10 per cent
10-12 lakh rupees	15 per cent
12-15 lakh rupees	20 per cent
Above 15 lakh rupees	30 per cent

What are the positives of the Budget 2024-25?

- Delivering on the rising aspirations of the Youth- The incentives have been provided to first time employees and employers with an outlay of 10,000 crore. Further there has been incentivization of internships with an outlay of 2,000 crore and emphasis on Skill development with state government's cooperation (Model Skill Loan Scheme). These steps taken in the Budget 2024-25, deliver on the the rising aspirations of the Youth as recommended by the Economic Survey 2024-25.
- Concerted Bid to address the Challenges Faced By MSMEs- The steps taken in the Budget 2024-25 like Credit Guarantee Scheme, New assessment model, Credit Support during Stress Period, are attempts to address the financial and working capital challenges faced by the MSMEs.

3. **Tax relief for the salaried class-** The standard deduction has been raised and the tax slabs with their relevant tax rates have been revised in the Budget 2024-25. This will leave a little more money in the hands of the salaried class, post taxes. Pensioners are also set to benefit by a marginal increase of 10,000 in the deduction allowed on family pensions.
4. **Sticking to the Fiscal Consolidation Plan-** Budget for 2024-25 sticks to the government's fiscal consolidation path, with the Fiscal Deficit proposed to be pared to 4.9% of GDP.
 - This increases the possibility of a sovereign rating upgrade of domestic bonds have embarked on a maiden journey of getting included in global bond indices. The Budget unveils the unequivocal focus on fiscal stability and continuity of sustainable growth impulses.
5. **Support to the Annadata (Farmers)-** The promotion of Atmanirbharta in pulses and oilseeds, focus on agriculture research (bearing in mind the realities of climate change), large-scale clusters for vegetable production, and Digital Public Infrastructure (DPI) in agriculture for coverage of farmers and their lands, are all likely measures to support the Annadata (i.e., farmer).
 - A thriving agriculture sector will allow the government to deliver on its promise of food grains under the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY), which has now been extended for five years.
6. **Push towards Housing for all-** The outlay for Pradhan Mantri Awas Yojana (PMAY)- Urban and Rural has seen a massive jump of 37% and 70% respectively. The Budget reaffirms that housing for all remains a key hallmark of the government.
7. **Boost to PLI Scheme for Atmanirbhar Bharat-** The outlay on Production Linked Incentive (PLI) was increased by 75% in the Budget for FY25. This increase accompanied by tweaks to sectoral custom duties is a bid to support domestic manufacturing and deepen local value addition.

What are the concerns with the Budget 2024-25?

1. **Cuts in the Social Sector Schemes-** The Budget has cut the share of Social sector schemes outlays which includes school and higher education. The outlay for the rural job guarantee scheme- MGNREGA is at a nine-year low share of 1.78% of overall outlay.
2. **Reduction in schemes for Minorities-** The Budget has seen a reduction in the budget for education schemes for Madrasas and Minorities from 10 crore to 2 crore in 2024-25.
3. **Removal of Indexation-** The removal of indexation for calculating the value of the Long term asset (Real estate), is being viewed as an additional tax burden for the real estate property dealers.
4. **No announcement on Indian Railways-** The country's largest employer, the Indian Railways, was a glaring absence in the Budget speech of the Finance Minister. There were no announcements on the Railway sector which continues to suffer from low freight and passenger capacity, low staff and manpower and safety issues.
5. **No announcement regarding the indirect tax system of MSMEs-** The budget has failed to address the demands of MSMEs for simplification and rationalization of the GST regime.
6. **Obsession with fiscal consolidation-** Some critics hold that government's obsession with fiscal consolidation, which is visible in its bid to reduce the fiscal deficit to 4.9% of GDP in 2024-25 from 5.1% in the interim budget, may constrain government spending.
7. **Lack of a clear economic strategy or vision to tackle the economic slowdown-** Critics have also pointed out that the budget lacks the clear economic strategy and vision to tackle the slowdown in aggregate demand, private investment, exports and the resulting jobs crisis. The measures announced, like employment-linked incentives, seem too small to have a meaningful impact.

Chapter-13

Kurukshetra October 2024

1- State Of Rural Economy

- In 2024-25, the Ministry of Rural Development has been allocated Rs 1,80,233 crore. Of this, Rs 1,77,566 crore is for the Department of Rural Development, marking a 4% increase from the revised estimates of 2023-24.
- The Department of Land Resources has been allocated Rs 2,667 crore, a 41% increase compared to the revised estimates of the previous year.
- As of 2021, 65% of India's population lives in rural areas, with 47% depending on agriculture.
- In 2023-24, rural areas experienced higher inflation than urban areas, driven primarily by food prices. In July 2023, rural inflation was 7.63%, while urban inflation was 7.2%. By April 2024, rural inflation remained higher at 5.42% compared to 4.11% in urban areas.
- Elevated inflation led to negative growth in real rural wages, and between 2013-14 and 2023-24, the agriculture sector grew at an annual rate of 4%, lower than the overall economy's 6%.
- From 2017-18 to 2022-23, the Female Labour Force Participation Rate (FLFPR) in rural areas rose from 25% to 42%, driven mainly by self-employment.
- By 2022-23, 71% of rural working women were self-employed, with 43% working as unpaid helpers in family enterprises.
- The unemployment rate for women in rural areas dropped from 4% in 2017-18 to 2% in 2022-23, while for men, it decreased from 6% to 3%. Despite these improvements, a significant gender gap in labour force participation and earnings persists, especially among self-employed rural workers.
- The Department of Rural Development runs key programs to promote employment, economic development, and social security in rural areas.
- Major schemes run by the Department include Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Pradhan Mantri Gram Sadak Yojana (PMGSY), National Rural Livelihoods Mission (NRLM), and Pradhan Mantri Awaas Yojana-Gramin (PMAY-G).
- From 2014-15 to 2024-25, its budget grew at an annual average rate of 9%. During the pandemic (2020-21 to 2022-23), funding was significantly increased, particularly for MGNREGS and welfare schemes like direct benefit transfers under the Pradhan Mantri Jan Dhan Yojana.

Figure 1: Rural and urban CPI inflation rate between March 2023 and April 2024

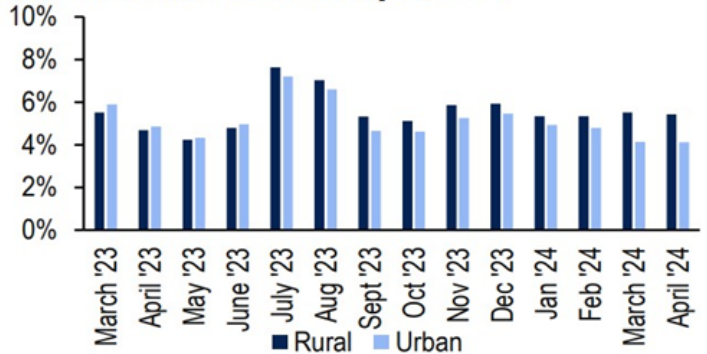


Figure 2: Growth in agriculture relative to overall economic growth (growth rate year-on-year)

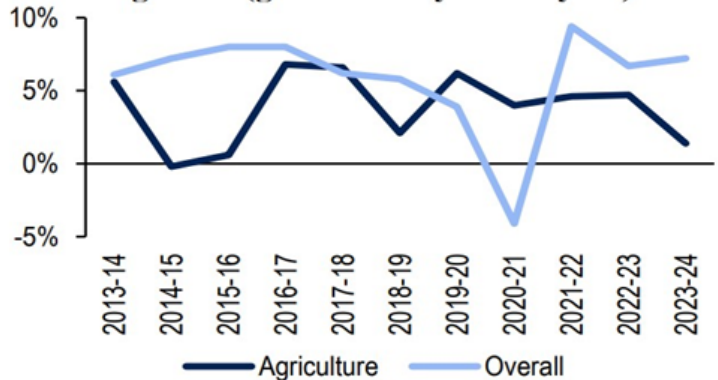
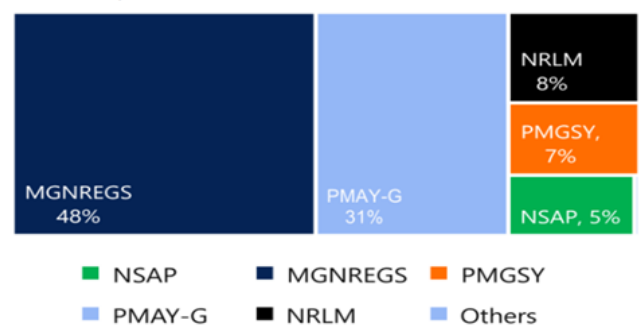


Figure 5: Top expenditure heads (as a % of total allocation)



- Total allocation to the department, MGNREGS (48%) and PMAY-G (31%) together account for almost 80% of the budgetary allocation.
- This is followed by National Rural Livelihoods Mission (8%) and PMGSY (7%), and the National Social Assistance Programme (NSAP, 5%).

2- Schemes For Rural Development

Pradhan Mantri Gram Sadak Yojana (PMGSY)

- Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched on 25th December 2000 that aims to provide all-weather road connectivity to unconnected rural habitations.

Eligibility Criteria:

- Habitations with a population of 500+ in plain areas and 250+ in North-Eastern, Himalayan, Desert, and Tribal Areas (as per the 2001 census).
- “Unconnected habitation” refers to any village located at least 500 metres (or 1.5 km in hilly areas) from an all-weather road.
- Core Network: A defined set of essential roads needed to ensure access to social and economic services through at least one all-weather road.
 - o Funding Pattern: The Union Government finances 90% of the project cost for North-Eastern and Himalayan states, and 60% for other states, with allocations determined based on approved project values.
 - o Construction Standards: Rural roads under PMGSY are built following the guidelines of the Indian Roads Congress (IRC), a premier body of highway engineers established in 1934.

PMGSY Phases:

- Phase I (2000): A fully centrally sponsored scheme targeting road connectivity to 1,35,436 habitations and upgrading 3.68 lakh km of existing rural roads for better farm-to-market connectivity.
- Phase II (2013): Focused on upgrading 50,000 km of the rural road network to improve efficiency. The cost was shared between the Centre and the States/UTs.
- The Road Connectivity Project for Left-Wing Extremism Affected Areas (RCPLWEA) was also launched in 2016 to construct roads in these areas.
- Phase III (2019): Approved in July 2019, this phase prioritizes infrastructure development around Gramin Agricultural Markets (GrAMs), higher secondary schools, and hospitals. It aims to consolidate 1,25,000 km of road length from 2019- 20 to 2024-25.
 - o Indian Roads Congress (IRC): Established in 1934, IRC sets the standards for road construction in India, influences national road policies, and advocates sustainable road development. It engages with government bodies, private stakeholders, and academia to improve the country's road infrastructure.
 - o Scheme Progress: As of now, over 7 lakh km of roads have been completed out of a sanctioned 8.25 lakh km, with a total investment of Rs. 2,70,000 crore. All-weather connectivity has been provided to 1,61,561 habitations.
 - o Phase IV (2024-25): Announced in the Union Budget 2024-25, Phase IV will connect 25,000 additional villages, with a budget allocation of Rs. 19,000 crore.

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

- The budget allocation for the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) for 2024-25 remains unchanged at Rs 86,000 crore, the same as in 2023.
- Experts warn that the allocated funds may be depleted by October 2024, given the current spending trends.
- Actual expenditure on MGNREGS is reported at Rs 37,761 crore, with pending dues bringing the total to Rs 41,519 crore as of July 23, 2024.
- Nearly 44% of the budget has already been spent within a few months of the fiscal year.

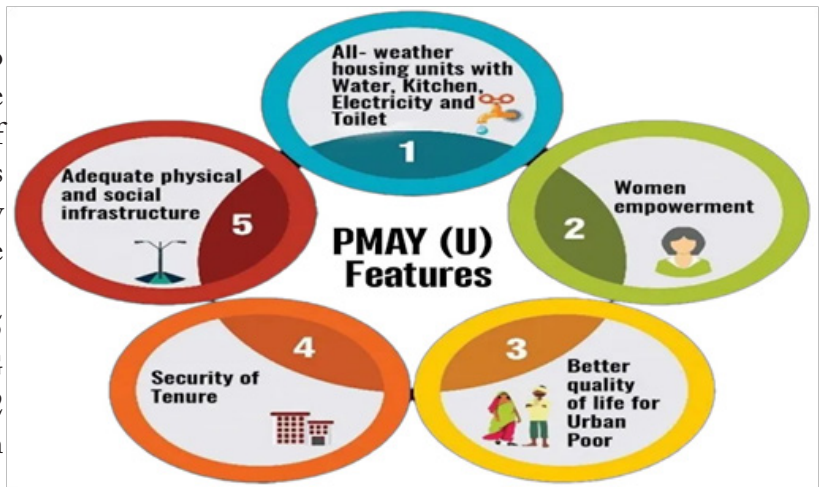
State Utilization:

- Tamil Nadu, with less than 1% of the country's poor, accounted for about 15% of total MGNREGS funds.
- Kerala, with only 0.1% of the poor population, utilized approximately 4% of the funds.
- Uttar Pradesh and Bihar, which have 45% of the poor population, used only 11% of the funds.

- **Correlation Coefficient:** The correlation coefficient between the multidimensional poverty index and person-days generated through MGNREGS is only 0.3, suggesting weak alignment between poverty levels and employment generation.

Pradhan Mantri Awas Yojana (PMAY):

- **Objective of PMAY-G:** To provide affordable housing to the underprivileged, with a target of constructing 2.95 crore rural houses since its launch in 2016. As of July 2024, almost 2.94 crore houses have been sanctioned.
- **Unit Cost Increase:** From 2024-25 onward, the unit cost under PMAY-G will be raised from Rs 1.2 lakh to Rs 2 lakh in plain areas, and from Rs 1.3 lakh to Rs 2.2 lakh in hilly, difficult areas, and Integrated Action Plan (IAP) districts.
- **Target and Allocation:** The scheme aims to build an additional 3 crore houses in rural and urban areas, with 2 crore of these to be constructed in villages under PMAY-Gramin (PMAY-G), and an allocation of Rs 54,500 crore.



Jal Jeevan Mission (JJM) - Rural:

- **Objective:** To ensure safe and adequate drinking water supply to all rural households, improving public health and sanitation.
 - **Allocation:** Rs 69,926.65 crore.
- **About JJM:** Launched in 2019, the mission targets providing 55 litres of water per person per day through Functional Household Tap Connections (FHTC) to every rural household by 2024.
- **Achievements:** As of 2024, JJM has delivered tap water connections to 15 crore rural households, increasing coverage from 3 crore in 2019 to 15 crore. Eight states and three Union Territories have achieved 100% coverage, with significant progress in states like Bihar, Uttarakhand, Ladakh, and Nagaland.



Rural Land Reforms:

- **Objective:** To enhance agricultural productivity by improving land management and facilitating credit flow through various reforms.

Reforms:

- Introduction of Unique Land Parcel Identification Numbers (Bhu-Aadhaar).
- Digitization of cadastral maps.
- Surveying of map subdivisions based on current ownership
- Creation of a land registry.
- Linking land records to a farmers' registry.

3- Schemes For Tribal Development

- The Union Budget 2024 has outlined several key initiatives aimed at promoting tribal development, with a focus on improving living standards, education, and economic opportunities for tribal communities.

Launch of Pradhan Mantri Janjatiya Unnat Gram Abhiyan (PM JUGA):

- A new scheme aimed at improving the living standards of tribal families in 63,000 villages, focusing on saturation coverage in tribal-majority areas and aspirational districts.
- The scheme is expected to benefit around 5 crore tribal individuals by enhancing access to essential services and socio-economic opportunities.

Budget Allocation for Tribal Schemes:

- Eklavya Model Residential Schools (EMRS): Allocation: Rs 6,399 crore, an increase of Rs 456 crore from FY 2023-24.
- Aim: To provide quality education to Scheduled Tribe (ST) students, with schools built on par with Jawahar Navodaya Vidyalayas and Kendriya Vidyalayas. The curriculum also focuses on local art, culture, sports, and skill development.



Post-Matric Scholarship for ST Students:

- Allocation: Rs 2,432.68 crore, an increase from Rs 1,970.77 crore.
- Aim: To support higher education for ST students.
- Prime Minister's Janjati Vikas Mission (PMJVM):
- The budget for this initiative, which promotes tribal entrepreneurship, livelihood opportunities, and sustainable use of natural resources, has been reduced by Rs 136.17 crore.

PM DAKSH Scheme:

- Allocation: Increased from Rs 92.47 crore to Rs 130 crore.
- Aim: To provide skills training to individuals from SC and ST communities for better livelihood opportunities.

National Overseas Scholarship Scheme for SC Students:

- Allocation: Rs 95 crore, up from Rs 50 crore.
- Aim: To enhance financial support for SC students pursuing higher education in foreign universities.

NAMASTE Scheme:

- Allocation: Rs 116.94 crore, up from Rs 97.41 crore in FY23.
- Aim: Launched in 2022, this scheme replaces the Self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS) and focuses on the safety, dignity, and mechanized cleaning for sanitation workers in urban areas.

Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN):

- Continued with an allocation of Rs 25 crore in FY 2024.
- Aim: To provide basic amenities such as housing, clean water, sanitation, and improved education and healthcare access to Particularly Vulnerable Tribal Groups (PVTGs).

4- Schemes For Women Development In Budget 2024-25

- The Union Budget 2024-25 has marked a significant milestone in the Indian government's commitment to women's empowerment and social justice.
 - With an allocation exceeding Rs 3 lakh crore for schemes benefiting women and girls, the budget aims to foster women-led development across various sectors.

Increased Budget Allocation

- The budget for the Ministry of Women and Child Development has increased by 3%, from Rs 25,449 crore in FY 23-24 to Rs 26,092 crore in FY 24-25.

- This increment reflects the government's recognition of the critical role women play in the nation's development. Additionally, the budget for the Department of Social Justice and Empowerment has seen a substantial 32% increase, rising from Rs 9,853 crore to Rs 13,000 crore. These allocations are pivotal in ensuring the effective implementation of various women-centric schemes.

Mission Shakti: A Flagship Initiative

- Mission Shakti is a comprehensive initiative aimed at the empowerment of women, comprising two key components: Sambal and Samarthya.
- Sambal:** This component focuses on the safety and security of women. The budget allocation for Sambal has increased from Rs 462 crore in FY 23-24 to Rs 629 crore in FY 24-25. The enhanced funding will bolster efforts to protect women from violence and ensure their safety in both public and private spaces.
- Samarthya:** Focused on women's empowerment, this component has seen its allocation rise from Rs 1,864 crore to Rs 2,517 crore. The increased funding will support initiatives aimed at empowering women through education, skill development, and economic opportunities, thereby facilitating their active participation in the workforce.



Working Women Hostels and Creches

- To address the challenges faced by working women, the government has proposed the establishment of working women hostels in collaboration with industry partners. These hostels will provide safe and convenient living arrangements, enabling women to pursue their careers without compromising their safety.
- Additionally, the creation of creches aims to support working mothers by offering reliable childcare services. This initiative will facilitate higher participation of women in the workforce, making it easier for them to balance professional and personal responsibilities.

Skilling Programs and Market Access

- The government plans to partner with industries to organize women-specific skilling programs. These programs are designed to equip women with the necessary skills to thrive in various sectors and support their entrepreneurial ventures.
- Also, the budget emphasizes promoting market access for women-led Self-Help Group (SHG) enterprises. By providing women with the tools and resources needed to succeed in business, the government aims to drive economic growth and development while empowering women financially.

Namo Drone Didi:

- Rs 500 crore has been allocated to provide drones to 15,000 self-help groups (SHGs) for rental services to farmers, promoting entrepreneurship among women.
 - Stamp Duty Reform: Encouragement for state governments to reduce stamp duty charges on properties purchased by women, to be integrated into urban development schemes.
 - Nirbhaya Fund: Budgetary allocation for the Nirbhaya Fund doubled from Rs 100 crore to Rs 200 crore to enhance women's safety and security. Total allocation for women's safety schemes stands at Rs 1,105 crore.

Comprehensive Social Justice Approach

- To achieve social justice comprehensively, the government will adopt a saturation approach, ensuring that all eligible individuals are covered by various programs, particularly those focused on education and health. This strategy aims to empower marginalized communities, improving their capabilities and providing them with the necessary tools to succeed.

Scholarships for Higher Education

- The budget also includes provisions for scholarships aimed at marginalized communities, such as the Scholarships for Higher Education for Young Achievers Scheme for Scheduled Castes. These initiatives are crucial for providing educational opportunities and support to underprivileged communities, enabling them to break the cycle of poverty.

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