



UMANG 360°

Monthly Current Affairs Summary Capsule

March 2025



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International Relation	Space & Technology
Environment	Sports
Polity	Defense
Art & Culture	Science & Tech
Awards	History
National	State
Geography	Events

Our offerings

SSC/ UGC NET/ IIT JEE/NEET Exam/ School Pre Foundation/Rajasthan State Exams

Innovations (STEAM)/ Olympiad/ Railways/ Study Abroad



About The Author

BHUNESH SHARMA



- ❖ **Founder & CEO of Class24** (India's one of the most affordable Ed-tech platforms with a robust presence across various categories like School Pre Foundation, Foundation, IIT – JEE, NEET – UG, CUET, SSC, Study Abroad, UGC NET etc.).
- ❖ Class24 is working with 200+ schools in the country.
- ❖ **Co-founded Wifistudy** (Asia Pacific's giant Youtube educational Channel with 15 million subscribers)
- ❖ **Made 10,000 plus Youtube videos** related to Current affairs & Gk, helped millions of aspirants to achieve their life goals like UPSC & different exams, IIM interviews, Group discussion, KBC etc
- ❖ Bhunesh sir's current affairs videos on youtube **ranked #1 trending in 2018 by Youtube India**
- ❖ Only Teacher of the country whose videos of current affairs are **continuously trended for two years in the top 10 List of YouTube trending**
- ❖ **Founder & CEO of Smile for all** (For- purpose org. working for underprivileged kids' education in 24 states and two countries) known as Netflix for a philanthropist.

With the help of Smile for all, Bhunesh sir is **educating more than 2000 underprivileged kids** via this subscription-based model.

- ❖ Smile for all got the **Global Icon award 2022** for the best, not-for-profit organisation
- ❖ Fox Story India ranked Bhunesh sir in the **100 most influential people list of 2022**.
- ❖ This current affairs magazine has been designed to foster an **environment of critical thinking** so that the students can gauge what is going on around them and become more aware of the world we live in. In addition to this magazine, the students must inculcate a **habit of researching the topics** they come across in their daily life, which will not only enrich their minds but also give them new topics over which they can connect with like-minded people.

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Index

Chapter	Topic	Page No.
Chapter 1	International Relation	1-24
Chapter 2	Environment	25-38
Chapter 3	Polity	39-48
Chapter 4	Art & Culture	49-59
Chapter 5	Awards	60-62
Chapter 6	National	63-91
Chapter 7	Geography	92-109
Chapter 8	Space & Technolony	110-124
Chapter 9	Sports	125-127
Chapter 10	Defense	128-138
Chapter 11	Science & Tech	139-147
Chapter 12	History	148-156
Chapter 13	State	157-163
Chapter 14	Events	164-166



International

CHAPTER-1



What is Operation Brahma?

- After a devastating earthquake ravaged Myanmar recently, India initiated its relief and rescue efforts in the country under the banner 'Operation Brahma'.



About Operation Brahma:

- It is **India's humanitarian mission** launched in response to the devastating 7.7-magnitude **earthquake that struck Myanmar** on March 28, 2025.
- The massive earthquake that **devastated Myanmar and neighbouring Thailand** killed over 1,600 people and caused widespread destruction.
- The large-scale humanitarian mission includes **rescue teams, medical aid, and relief supplies**.
- The **National Disaster Response Force (NDRF)** deployed an **80-member team** equipped with concrete cutters, drill machines, plasma cutters, and other rescue tools.
- The **Indian Army** has mobilised a **specialised medical task force** to provide urgent humanitarian assistance.
- The Indian Army dispatched a specialized 118-member medical team from the elite Shatrुjeet Brigade Medical Responders.
- As part of the mission, the **Indian Army will set up a 60-bed Medical Treatment Centre** to provide immediate care to those injured in the disaster.
- The facility will be equipped to handle trauma cases, emergency surgeries, and essential medical services to support Myanmar's strained healthcare system.
- Two Indian naval ships, **INS Satpura and INS Savitri**, were dispatched carrying 40 tonnes of humanitarian aid to the port of Yangon.

Strait of Hormuz

- Amid tensions with the US, Iran on Saturday flexed its military muscle by installing its missile systems on the three disputed islands (Greater Tunb, Lesser Tunb, and Abu Musa) near the Strait of Hormuz.

Key Facts about Strait of Hormuz:

- It is a narrow waterway between Iran and the Arabian Peninsula, specifically the United Arab Emirates, and Musandam (Oman).
- It connects the Persian Gulf to the Gulf of Oman.



- Iran is located on the north coast, while the UAE is on the south coast.
- The Gulf of Oman is on the Strait's east, while the Persian Gulf is on the west.
- The strait is 167 kilometers long, with its width varying from 39 kilometers to 95 kilometers.
- Its width narrows towards the north but still allows for the passage of large vessels.
- Some of the islands located in the Strait of Hormuz are Hengam, Hormuz, and Qishm.
- The Strait of Hormuz is considered one of the world's most economically important choke points.
- About 30% of the world's liquefied gas and 25% of oil pass through the Strait of Hormuz.

Association of Southeast Asian Nations (ASEAN)

- The 14th ASEAN Defence Ministers' Meeting-Plus (ADMM-Plus) Experts' Working Group on Counter-Terrorism (EWG on CT) was recently held in New Delhi.

What is ASEAN?

- The **Association of Southeast Asian Nations (ASEAN)** is a regional intergovernmental organisation aimed at political, economic, and security cooperation.
- It was established on **August 8, 1967**, in **Bangkok, Thailand** with the signing of the **ASEAN Declaration (Bangkok Declaration)** by **Indonesia, Malaysia, the Philippines, Singapore, and Thailand**.
- **Motto:** "One Vision, One Identity, One Community."
- **Headquarters:** Jakarta, Indonesia.



Member States (10 Nations):

- **Founding Members (1967):** Indonesia, Malaysia, the Philippines, Singapore and Thailand.
- **Later Additions:** Brunei (1984), Vietnam (1995), Laos & Myanmar (1997), and Cambodia (1999).

Economic & Demographic Strength:

- **Total Population:** 662 million (2022).
- **Combined GDP:** \$3.2 trillion (2022).

Institutional Mechanism of ASEAN:

- **ASEAN Summit:** Meets **annually** to discuss **regional issues** and set **policy directions**. Chaired by a **rotating presidency**.
- **ASEAN Coordinating Council (ACC):** Oversees **implementation of ASEAN agreements and decisions**.

- **ASEAN Secretariat:** Supports and facilitates **ASEAN's activities and initiatives**.
- **ASEAN Regional Forum (ARF):** Platform for **dialogue on political and security issues** among ASEAN members and their dialogue partners. **India joined in 1996**.
- **Decision-Making Process:** Based on **consultation and consensus**.

- **ASEAN-India Relations:**

- India became a **Sectoral Dialogue Partner of ASEAN in 1992** and a **Full Dialogue Partner in 1996**.
- India joined the **ASEAN Regional Forum (ARF) in 1996**.
- **India-ASEAN Free Trade Agreement (FTA)** was signed in **2009** (Goods) and **2014** (Services & Investments).
- **ASEAN-India Strategic Partnership** was established in **2012**.
- **India actively participates in ADMM-Plus** (ASEAN Defence Ministers' Meeting-Plus).

- **ASEAN Future Forum:**

- Proposed by **Vietnam** in 2023 (**43rd ASEAN Summit**).
- It is a common platform for **ASEAN member states and partners** to **share ideas and policy recommendations**.
- **India is a founding member**.

- **About the Meeting:**

- **Table-top counter-terrorism exercise** is to be held in **Malaysia (2026)** and a **field training exercise** in **India (2027)** under the **ASEAN Defence Ministers' Meeting-Plus (ADMM-Plus) Experts' Working Group on Counter-Terrorism (EWG on CT)**.
- **India and Malaysia** have assumed **co-chairmanship of EWG on CT (2024-2027)**.

International Atomic Energy Agency (IAEA)

- International Atomic Energy Agency (IAEA) Director recently lauded India's expanding nuclear sector, calling it one of the 'most dynamic' in Asia and the world.

- **About International Atomic Energy Agency (IAEA):**

- It is the world's foremost **intergovernmental forum** for scientific and technical **cooperation in the nuclear field**.
- It works for the safe, **secure, and peaceful uses of nuclear science** and technology.



- An **autonomous organization within the United Nations** system, the IAEA carries out programmes to maximize the contribution of nuclear technology to society while verifying its peaceful use.
- It is widely **known as** the world's "**Atoms for Peace and Development**" organization within the United Nations family.
- IAEA reports to both the United Nations General Assembly and Security Council.
- **Statute:**
 - The Statute of the IAEA was approved on 23 October 1956 by the Conference on the Statute of the International Atomic Energy Agency, which was held at the Headquarters of the United Nations.
 - It **came into force on 29 July 1957**.
- **Headquarters: Vienna,**
 - Membership: Currently, it has 178 member states.
- **Structure:**
 - The **General Conference**, consisting of all members, **meets annually** to approve the budget and programs and to debate the IAEA's general policies.
 - The **Board of Governors**, which consists of **35 members** who meet about five times per year, is charged with **carrying out the agency's statutory functions, approving safeguards agreements, and appointing the director general**.
 - The day-to-day affairs of the IAEA are run by the **Secretariat**, which is **headed by the director general**.
- **Functions of IAEA:**
 - It works with its member states and multiple partners worldwide to promote the safe, secure, and peaceful use of nuclear technologies.
 - It **applies nuclear safeguards** – consisting of monitoring, inspection, information analysis, and other activities – to **verify that nuclear activities remain peaceful and detect and deter their diversion**, including to weapons-related purposes.
 - In particular, the IAEA **implements comprehensive safeguards agreements mandated by the Nuclear Non-Proliferation Treaty (NPT)**, which serve as a first line of defense against nuclear weapons proliferation.
 - IAEA assists its member states and **promotes the exchange of scientific and technical information** between them.
 - IAEA **enhances** national, regional, and international **capacities to respond to nuclear and radiological incidents**, which is essential to minimizing their impact.

Key Facts about Raisina Dialogue

- The Prime Minister of New Zealand, Foreign Ministers of at least 18 countries, top executives of several global firms and foreign policy experts will converge in the national capital for the annual Raisina Dialogue.



About Raisina Dialogue:

- It is **India's flagship conference on geopolitics and geo-economics**, committed to addressing the most challenging issues facing the international community.
- It is modeled on the lines of the Munich Security Conference and Singapore's Shangri-La Dialogue.
- It is **held annually since 2016 in New Delhi**.
- It is structured as a multi-stakeholder, cross-sectoral discussion, involving **heads of State, Cabinet Ministers**, and local government officials, who are joined by thought **leaders from the private sector, media**, and academia.
- The conference is **hosted by the Observer Research Foundation (ORF) in partnership with the Ministry of External Affairs**, Government of India.
- This effort is supported by a number of institutions, organisations, and individuals, who are committed to the mission of the conference.
- The **theme of Raisina Dialogue 2025 is Kalachakra: People. Peace. Planet.**

India-EU Strategic Partnership: Advancing Trade, Security, and Economic Cooperation

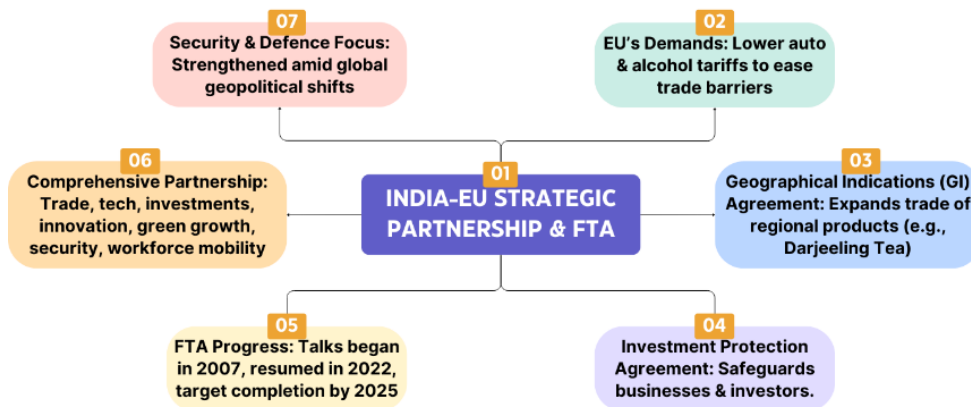
• Overview

- PM Narendra Modi & EU Chief Ursula von der Leyen met to advance India-EU ties.
- Goal: Finalize **Free Trade Agreement (FTA) & Security-Defence Pact** by 2025.



• Key Developments

- **Trade & Investment:** Focus on FTA, tech, green growth, security, and workforce mobility.
- **Investment Protection Agreement:** Safeguards businesses from economic risks.
- **Geographical Indications Agreement:** Boosts trade in region-specific products (e.g., Darjeeling Tea, Champagne).



- **Challenges:** EU demands lower tariffs on automobiles & alcohol; India prioritizes domestic industry.
- **Geopolitical Context**
 - **EU's China Risk Reduction:** Strengthening India ties for trade & tech growth.
 - **US-EU Trade Uncertainty:** Trump's policies push Europe to diversify partnerships.
 - **India-Russia Relations:** India's Russian oil imports create friction with the EU.
- **Future Prospects**
 - A successful **India-EU FTA** could be the **largest global trade agreement**.
 - Expands **European investment in India** & boosts **Indian exports to Europe**.
 - Strengthens India-EU cooperation against **Chinese market dominance**.
- **Conclusion**
 - India-EU FTA & security pact hold **major economic & strategic value**.
 - Resolution of key issues can **enhance India's global trade & security role**.

India- Belgium's Defence Cooperation in Indo-Pacific region



INDIA & BELGIUM STRENGTHEN DEFENCE TIES

- **Strategic Cooperation**

- **Defense & Security:** Focus on Indo-Pacific maritime security via naval cooperation.
- **"Make in India":** Enables Belgian defense firms to join Indian supply chains.
- **Belgium's NATO Role:** Strengthens European presence in the Indo-Pacific to counter Chinese influence.

• Bilateral Trade Relations

- Belgium: A Key EU Partner for India
 - **14th largest export destination, 16th largest importer.**
 - **7th largest export destination & 6th largest trade partner outside the EU.**
- 2022 Bilateral Trade: €15.1 billion (Exports: €8.1B, Imports: €7B).

• Foreign Direct Investment (FDI) & Business Engagement

- Belgium: 15th largest investor in India (€2.76B FDI inflows since 2000).
- Key Belgian Companies in India: Solvay (Chemicals), Bekaert (Steel), Barco (Tech).
- Key Indian Companies in Belgium: TCS, Infosys, Tech Mahindra, HCL.

India-Belgium Trade Trends (Past 5 Years, in €B)

Year	India's Exports to Belgium (€ billion)	India's Imports from Belgium (€ billion)	Total Bilateral Trade (€ billion)
2020	3.86	4.45	8.31
2021	4.50	5.00	9.50
2022	8.10	7.00	15.10
2023	6.30	4.86	11.16

Key Trade Sectors: India-Belgium Trade Relations

S. No	Sectors of Trade	Highlights
1.	Precious Metals and Stones (Specially Diamonds)	• Diamond trade is the largest component of bilateral trade. • Belgium's diamond exports to India fell 30.3% in 2023 due to a market slowdown. • Antwerp is a key hub for raw diamond trade, while India leads in diamond cutting
2.	Chemicals and Pharmaceuticals	• India exports organic chemicals, dyes, and pharmaceutical ingredients to Belgium. • Belgium exports specialty chemicals, fertilizers, and industrial solvents to India

3.	Machinery and Equipment	Belgium exports precision machinery for Indian industries, especially in automotive and heavy engineering
4.	Artificial Jewelry & Textiles	- India exported 2,681 batches of artificial jewelry to Belgium (March 2023–Feb 2024), a 12% increase from the previous year. - Textiles trade includes traditional fabrics and garments.
5.	Renewable Energy & Technology	India-Belgium MoU (2015) for renewable energy cooperation. 3rd Joint Working Group Meeting (2021) on Renewable Energy. - Belgium leads in clean energy and digital tech, offering collaboration potential.

➤ Future Outlook & Challenges

• Opportunities

- Stronger ties in **maritime security, renewable energy, digital tech, & pharma**.
- Belgium can leverage India's **IT & digital transformation** for EU expansion.

• Challenges

- Diamond trade fluctuations** impact overall trade volume.
- EU-China tensions** may affect India-Belgium cooperation.
- Regulatory & trade policy variations** pose business expansion hurdles.
- European recession risks** may slow investment growth.

➤ Conclusion

- India-Belgium ties are expanding beyond trade to defense, technology & clean energy.**
- Stronger Indo-Pacific cooperation** will enhance strategic engagement.
- Cautious navigation of trade shifts & geopolitical challenges is crucial for future growth.**

India's Growing Economic Footprint in Dubai: A New Era of Bilateral Ties

➤ India's Role in Dubai's FDI Growth

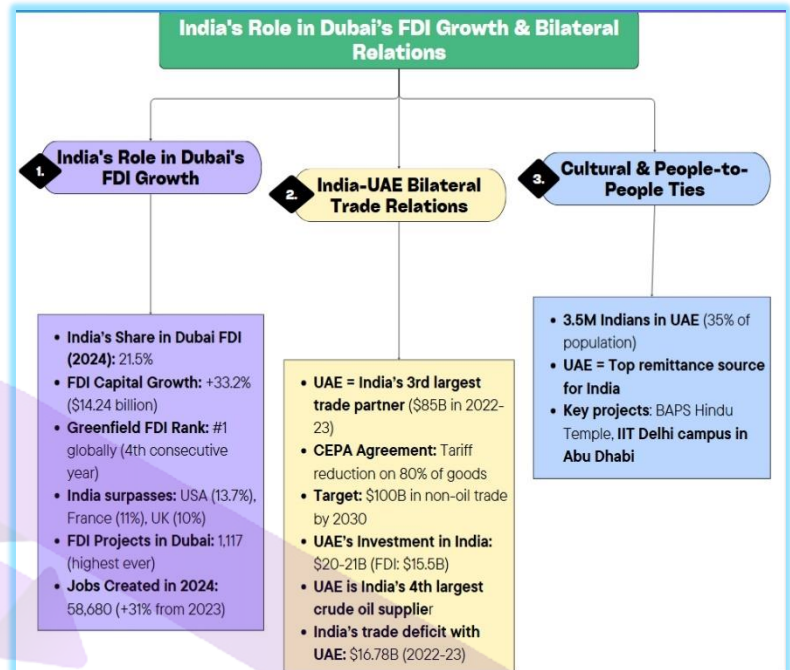
- India leads in FDI to Dubai (21.5% of total in 2024), surpassing the US, UK, and France.
- Dubai's FDI surged 33.2% to \$14.24 billion in 2024.
- Greenfield FDI dominance continues for the fourth consecutive year.



- 1,117 new Greenfield projects—Dubai's highest-ever record.
- 58,680 jobs created through FDI, marking a 31 percent growth.

➤ Why Dubai Attracts Indian Investment

- Zero percent corporate tax on most businesses.
- Robust infrastructure and global connectivity.
- Pro-investment policies and ease of business.
- Strategic hub for trade and logistics.
- Booming IT, finance, and logistics sectors.
- Strengthening India-UAE Bilateral Relations



➤ Trade Partnership

- Trade volume reached \$85 billion in 2022-23, making UAE India's third-largest trade partner.
- CEPA pact eliminated tariffs on 80 percent of goods.
- Target set at \$100 billion in non-oil trade by 2030.

➤ Investment and Energy Cooperation

- UAE FDI in India stands at \$15.5 billion, with total investments of \$20-21 billion.
- Strategic energy ties include LNG supply, nuclear energy, and petroleum reserves.
- ADIA invests in Indian renewable energy and infrastructure.

➤ Defense and Security

- India gains military refueling access at UAE's Al Dhafra Air Base.
- Joint military exercises include Desert Cyclone (Army), Zayed Talwar (Navy), and Desert Eagle (Air Force).
- Counterterrorism cooperation includes intelligence sharing and maritime security.

➤ Cultural and People-to-People Ties

- Over 3.5 million Indian expatriates reside in the UAE, accounting for 35 percent of its population.
- UAE is a major source of financial remittances to India.
- Upcoming developments include the BAPS Hindu Temple and IIT Delhi Abu Dhabi campus.

➤ Significance for India

- Economic growth and job creation as Dubai's FDI benefits Indian businesses and professionals.

- Energy and trade security, with UAE ranking fourth in crude oil and second in LNG and LPG supply to India.
- Diplomatic leverage as UAE supports India's UN Security Council bid and strengthens India's influence in the Gulf.

➤ **Challenges and Concerns**

- Trade imbalance with a \$16.78 billion India-UAE trade deficit in 2022-23.
- China's growing influence in UAE trade and investment challenges India's position.
- Regional conflicts including Israel-Palestine and Iran-UAE tensions threaten Indian trade routes.
- Labor rights concerns under the Kafala system pose risks to Indian workers.
- Pakistan-UAE financial ties raise security concerns for India.

➤ **Conclusion and the Way Forward**

- Negotiate non-tariff barriers for fair trade practices.
- Launch a 2+2 Strategic Dialogue for stronger defense ties.
- Expand cooperation in artificial intelligence, fintech, and renewable energy.
- Advocate for labor reforms to protect Indian workers in the UAE.
- Strengthen partnerships within I2U2, BRICS, and IMEC for regional influence.

India-Mauritius Joint Vision for an Enhanced Strategic Partnership

- During March 11–12, 2025, Prime Ministers Navinchandra Ramgoolam of Mauritius and Narendra Modi of India engaged in bilateral talks during Modi's Mauritian state visit. Both leaders committed to strengthening India-Mauritius ties, focusing on political, economic, defense, digital, and cultural cooperation.

Political Exchanges:

- High-level trust and mutual understanding.
- Strengthening parliamentary collaboration and diplomatic training.
- Mauritius' continued engagement in India's G20 initiatives.

Historical and Cultural Ties:

- 70% of Mauritius' population has Indian ancestry, rooted in colonial-era migration.
- Mahatma Gandhi's 1901 visit had lasting cultural influence.
- Indian-supported institutions: Mahatma Gandhi Institute, Rabindranath Tagore Institute.
- The World Hindi Secretariat promotes the Hindi language globally.

Diplomatic Relations:

- India established ties with Mauritius in 1948, prior to its 1968 independence.
- The alliance has evolved into a Comprehensive Strategic Partnership.
- Mauritius attended India's G20 Presidency as a guest country.

- Enhanced cooperation in parliamentary exchanges and diplomatic training.

Economic and Trade Relations:

- India is Mauritius' top trading partner, with \$851.13 million in trade (2023-24).
- Key exports: petroleum, pharmaceuticals, textiles, seafood.
- Post-2016 FDI from Mauritius to India declined due to DTAC amendments.
- Strengthening trade via CECPA and local currency transactions (INR-MUR).

Development Partnership & Indian-Assisted Projects:

- India funded \$353 million for infrastructure, including Metro Express, Supreme Court, and social housing.
- \$500 million Line of Credit facilitated major projects, including electric buses and water system upgrades.
- Ongoing technical assistance and expert consultancy from India.

Humanitarian & Crisis Support:

- India provided medical aid during COVID-19 and the Wakashio oil spill.
- Mauritius reciprocated with oxygen concentrators during India's COVID-19 crisis.
- Cyclone Chido relief efforts relied on Indian assistance.

Space & Climate Change Cooperation:

- India-Mauritius space satellite project under development.
- ISRO-MRIC collaboration in space research, climate forecasting, and disaster management.

Health & Education Cooperation:

- Mauritius to establish Jan Aushadhi Kendras for affordable medicines.
- AYUSH Centre of Excellence to promote traditional medicine collaboration.
- Enhanced digital health infrastructure with Indian support.
- Educational partnerships with NCERT for curriculum development.

Tourism & People-to-People Connect:

- Visa-free travel boosts tourism and cultural exchange.
- Over 22,000 Indians reside in Mauritius; 13,000 hold OCI cards.
- Promotion of Char Dham and Ramayana Trail for religious tourism.

Defense & Maritime Security Cooperation:

- Commitment to a safe and stable Indian Ocean Region.
- Joint military operations, hydrographic surveys, and coastal security initiatives.
- India to provide maritime assets, including revitalized Coast Guard ships.
- Agalega runway and jetty to support security and emergency operations.
- Establishment of a National Maritime Information Sharing Centre.

Digital & Cybersecurity Cooperation:

- Implementation of e-judiciary systems and digital archives.
- Strengthening cybersecurity and public digital infrastructure.
- Exploring Indian platforms like PM Gati Shakti for Mauritius' development.

Regional & Multilateral Cooperation:

- India supports Mauritius in the Chagos Archipelago sovereignty dispute.
- Joint participation in IORA and Colombo Security Conclave.
- Collaboration under Global Biofuels Alliance, International Solar Alliance, and CDRI.

India-Mauritius Trade (2018-2023)

1. Trade Trends & Decline in Exports

- **India's exports to Mauritius have decreased** at an annualized rate of **9.28%** over the past five years, falling from **\$1.05 billion in 2018 to \$646 million in 2023**.
- **Mauritius' exports to India have also declined** at an annualized rate of **1.43%**, reducing from **\$68.9 million in 2018 to \$64.1 million in 2023**.

Major Exported Goods	
India's top exports to Mauritius (2023)	Mauritius' top exports to India (2023)
1. Refined Petroleum	1. Scrap Iron
2. Packaged Medicaments	2. Medical Instruments
3. Cars	3. Scrap Aluminium
Note: In 2023, no services were exported between India and Mauritius, indicating a potential area for growth and diversification in trade relations.	

Economic Comparison

- **India**
 - Ranked **12th in total exports** (\$441B in 2023).
 - Ranked **39th in Economic Complexity Index (ECI: 0.65)**, reflecting a diverse and sophisticated economy.
- **Mauritius**
 - Ranked **140th in total exports** (\$2.74B in 2023).
 - Lacks data on Economic Complexity Index, indicating a relatively small and less complex economy.

India-Mauritius Trade Data (2018-2023)

Year	India's Exports to Mauritius (USD Million)	Annual Decline (%)	Mauritius' Exports to India (USD Million)	Annual Decline (%)
2018	1,050	-	68.9	-

2019	920	-12.38%	67.5	-2.03%
2020	800	-13.04%	66.3	-1.78%
2021	750	-6.25%	65.7	-0.91%
2022	710	-5.33%	65.0	-1.07%
2023	646	-9.01%	64.1	-1.43%

Future Prospects

- Reduced petroleum exports have caused India's exports to Mauritius to drop considerably.
- The export volume of Mauritius toward India has been stable during the period with slight fluctuations.
- Service trade shows no significant presence thus creating new opportunities for IT, financial services together with tourism market collaborations.
- Trade agreements such as CECPA together with diversification strategies will aid in the revival of trade between India and other countries where it remains a primary partner.
- Business collaborations between foreign direct investment partners can reduce the effects of reduced trade volumes.

Conclusion:

- India together with Mauritius demonstrate a robust and purposeful bilateral relationship through their continuous partnership. The relations between both nations extend across various sectors that involve trade together with security aspects and development projects as well as cultural exchange programs. The special bond between both nations thrives through trust-based bonds along with their shared historical heritage along with operational coordination in the Indian Ocean Region. The nations plan to strengthen their bond to serve their development requirements and regional defense needs as well as international cooperation.

India – New Zealand Announce Launch of FTA Negotiations

Key Highlights:

- Official talks began on March 16, 2025, in New Delhi.
- Aimed at strengthening supply chains, expanding business opportunities, and boosting economic resilience.
- Resumption of negotiations after a decade-long suspension.
- **Bilateral Trade Overview:**
 - Trade volume reached **\$1.75B** in 2023.
 - India's exports grew **5% annually** (\$682M in 2023), while New Zealand's exports declined (\$369M).



- Trade surplus decreased from **\$203M to \$33M (2024-25)** due to increased Indian imports.

- Key Trade Sectors:**

- India's Exports:** Pharmaceuticals, machinery, textiles, pearls, precious stones.
- India's Imports:** Wool, iron & steel, fruits & nuts, aluminum.
- Indian Business Presence in New Zealand:**
- IT & Tech:** HCL, Infosys, Tech Mahindra.
- Banking:** Bank of India, Bank of Baroda.

- FTA Objectives:**

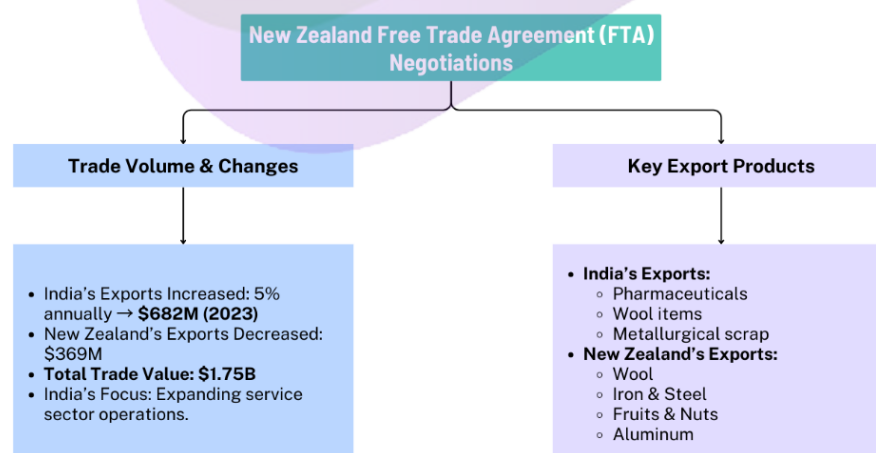
- Balanced trade and stronger supply chains.
- Greater market access for New Zealand businesses.
- Economic stability and mutual growth.

- Bilateral Relations & Cooperation:**

- Diplomatic Ties:** Established in 1952, growing trade, education, and cultural links.
- Agreements:** MoUs in trade, taxation, aviation, education, and research.
- Education & Research:** India-New Zealand Education Council, joint studies in food, dairy, ocean, and polar science.
- Cultural Integration:** Strong Indian diaspora presence in New Zealand business and society.

- Official Announcement**

- The announcement took place on March 16, 2025 when Piyush Goyal, the Indian Commerce Minister met with New Zealand Trade Minister Todd McClay in New Delhi.
- The negotiation for this Free Trade Agreement took place shortly before New Zealand PM Christopher Luxon led his official visit to India.



- Bilateral Trade Overview:**

- Trade volume reached **\$1B (April 2024 – Jan 2025)**.
- Trade surplus declined from **\$203M to \$33M (2024-25)** due to rising Indian imports.

- **Key Trade Sectors:**

- **India's Exports:** Pharma, machinery, textiles, pearls, precious stones.
- **India's Imports:** Wool, iron & steel, fruits & nuts, aluminum.
- Indian Business Presence in New Zealand:
- **IT & Tech:** HCL, Infosys, Tech Mahindra.
- **Banking:** Bank of India, Bank of Baroda.

- **FTA Objectives:**

- Strengthen supply chains and create balanced trade.
- Expand business opportunities for New Zealand.
- Promote economic stability and mutual growth.

- **Bilateral Relations & Cooperation:**

- **Diplomatic Ties:** Established in **1952**, growing trade, education, cultural exchanges.
- **Agreements:** MoUs in trade, taxation, aviation, education, and research.
- **Education & Research:** India-New Zealand Education Council, joint studies in food, dairy, ocean, and polar science.
- **Cultural Influence:** Strong Indian diaspora presence in New Zealand business and society.

- **Trade Growth & Market Share:**

- India's exports to New Zealand grew **5% annually (2018-2023)**.
- Total trade value at **\$1.75B** (India: \$0.91B, NZ: \$0.84B).
- **2023 Trade Surplus: \$-78.26M** (favoring India).
- FTA talks resumed after a **decade-long pause** to boost trade and investment

Last Five Year Trade between India and New Zealand

Year	India's Exports to NZ (US\$M)	New Zealand's Exports to India (US\$M)	Total Trade (US\$B)	Trade Balance (US\$M)
2018	534	693	1.23	-159
2019	-	-	-	-
2020	-	-	-	-
2021	-	-	-	-
2022	-	-	-	-
2023	682	369	1.75	+313
2024	Slight Decline	Growth	-	-78.26

Key Exports Between India and New Zealand (2023)

India's Exports to New Zealand	New Zealand's Exports to India
1. Pharmaceuticals (Packaged Medicaments)	1. Wool
2. Refined Petroleum	2. Scrap Iron
3. House Linen	3. Scrap Aluminium
Note: Services Trade (2018): NZ exported \$3.46B in services to India, mainly Travel (\$3.34B).	

• Strategic Importance:

- **Agriculture & Dairy:** Key trade sectors, crucial for food security.
- **IT & Services:** Expanding opportunities for digital collaboration.
- **Education & Research:** Boosts academic and technological innovation.
- **Sports & Tourism:** Rugby, cricket, and tourism strengthen cultural ties.
- **Climate & Sustainability:** Joint efforts in global environmental forums.

• Conclusion:

- India-New Zealand FTA talks mark a milestone in bilateral relations, fostering **trade, investment, and cultural ties**. Moving forward, both nations must focus on:
- **Investment promotion & trade expansion.**
- **Enhanced educational and research exchanges.**
- **Tourism development & global cooperation on challenges.**

NASA Astronauts Sunita Williams and Butch Wilmore Return to Earth

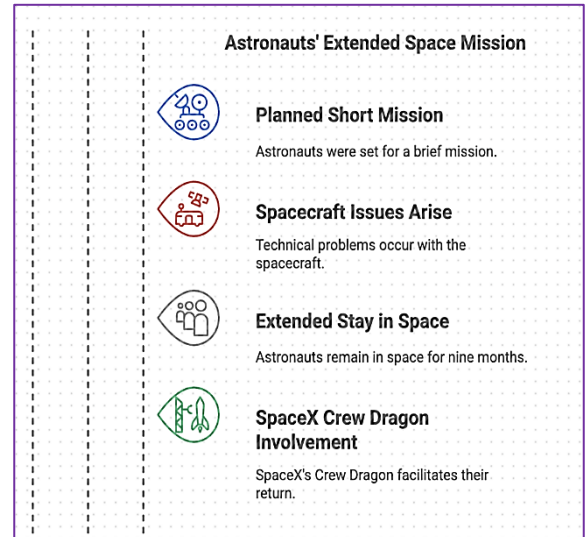
Overview:

- Astronauts Sunita Williams and Butch Wilmore returned to Earth after an unexpected 286-day stay at the ISS. Originally planned as a short Boeing Starliner test, their mission was extended due to thruster malfunctions.
- SpaceX Crew Dragon successfully brought them back, landing off Florida's coast. Their prolonged stay highlighted challenges in spacecraft durability and astronaut health during extended missions.
- NASA remains committed to private partnerships and advancing spaceflight technology for future Mars exploration.



Mission Overview

- **Astronauts:** Sunita Williams, Butch Wilmore, Nick Hague (USA), Aleksandr Gorbunov (Russia)
- **Original Plan:** One-week stay at ISS
- **Actual Duration:** 286 days (due to Boeing Starliner failure)
- **Return Vehicle:** SpaceX Crew Dragon
- **Splashdown:** Florida coast, 5:57 p.m. ET



Causes of the Delay

- **Technical Malfunction:** The Boeing Starliner spacecraft encountered different technical problems that included thruster defects alongside Helium leaks occurring in these thrusters.
- **Alternative Return vehicle:** NASA chose SpaceX's Crew Dragon as the alternative return vehicle after Starliner failed to resolve its unresolved issues for the flight scheduled in February 2025.
- **Crew Dragon Reliability:** Crew Dragon continues as the sole American spacecraft able to transport humans to orbital space (for personnel missions to orbital space).
- **Boeing Starlink Background:** At the beginning of its development Boeing established CST-100 or Starliner as the commercial spacecraft through NASA's Commercial Crew Development initiative for SpaceX's rival vehicle Crew Dragon.
- **Mission Impact:**
 - **Physical:** Muscle loss, bone density reduction.
 - **Psychological:** Extended isolation, uncertainty.
- **The Return & Recovery:**
 - **Re-entry:** Endured 2,000°C heat, parachute-assisted water landing.
 - **Post-landing:** Transported to Houston for medical rehab & psychological assessments.
- **Key Takeaways for Future Missions:**
 - Starliner needs upgrades for reliability.
 - Crew Dragon remains NASA's most dependable human spaceflight vehicle.
 - Prolonged missions highlight risks for Mars travel.
 - Private sector partnerships are vital for deep-space exploration

Kirsty Coventry Will Lead Olympics as I.O.C.'s First Female and First African President

Overview:

- **New President:** Kirsty Coventry from Zimbabwe becomes the **first female** and **first African** IOC President.
- **Tenure:** 8 years, starting June 23, 2025, after President Thomas Bach's handover.



Background:

- 7-time Olympic medalist in swimming (2 gold, 4 silver, 1 bronze).
- Zimbabwe's Minister of Sport since 2018.
- Former Chair of IOC's Athlete Commission.

Key Highlights:

- **Historic Appointment:** Coventry will replace Thomas Bach, who served since 2013.
- **First Tasks:**
 - Preparing for the **Milano Cortina 2026** Winter Games.
 - Promoting inclusivity and diversity within the Olympic Movement.

The Olympic Games:

- **Origins:** Began in 776 BC in Greece, honoring Zeus with athletic contests.
- **Modern Revival:** Pierre de Coubertin revived the Olympics in 1896, creating the International Olympic Committee (IOC).
- **Olympic Symbols:** The Olympic Rings represent solidarity among five continents.
- **Challenges:**
 - **Political conflicts:** Boycotts during the Cold War.
 - **Doping issues** and **corruption scandals**.
 - **Financial burden** of hosting the games, exemplified by the 2004 Athens and 2014 Sochi Olympics.
- **Latest Olympics - Paris 2024:**
 - **Date:** July 24 to August 11, 2024.
 - **Highlights:**
 - 10,714 athletes from 206 nations.
 - Breaking added as a new event.

Kirsty Coventry's Election



Historic Milestone

First African and woman to lead the IOC.

Elected at the 144th IOC Session in Greece.

Election Details



Assumption of Office

Will assume office on 23 June 2024.

Succeeds Thomas Bach.

Successor

The Evolution of the Olympic Games



- **Top Performers:** USA and China each with 40 golds; India ranked 71st.
- **India's Olympic Challenges & Solutions:**
- **Challenges:**
 - **Management issues** with athlete conduct (e.g., Vinesh Phogat's disqualification).
 - **Infrastructure deficiencies** and **lack of professional sports federations**.
 - **Performance pressure** and **celebrity-driven funding**.
- **Government Initiatives:**
 - **Target Olympic Podium Scheme (TOPS)** for financial backing and exposure.
 - **Mission Olympic Cell** for direct athlete support.
 - **Khelo India Scheme** to boost grassroots sports.
- **Future Path:**
 - **Broader participation** in swimming and athletics.
 - **Ending bureaucratic dominance** and **mental conditioning** for athletes.
 - **Promoting sports culture** through education and social change.
- **Conclusion:**
 - Kirsty Coventry's presidency marks a historic moment in the IOC's history. Her leadership will be pivotal in addressing global challenges, advancing inclusivity, and ensuring the sustainability of the Olympics. Her extensive experience as both an athlete and administrator positions her to lead the IOC through a transformative era.

Indonesia to Join New Development Bank: A Strategic Move Towards Economic Growth

• Overview

- **Indonesia's Membership:** Indonesia has joined the **New Development Bank (NDB)**, aiming to enhance its **economic growth** and infrastructure development.



• What is the New Development Bank (NDB)?

- **Formation:** Established by **BRICS** countries (Brazil, Russia, India, China, South Africa) to provide **financial resources** for **sustainable development** and **infrastructure projects** in emerging economies.
- **Expansion:** Membership has grown with countries like **Egypt, Ethiopia, Iran**, and the **United Arab Emirates** joining since its founding.

• Key Details about NDB:



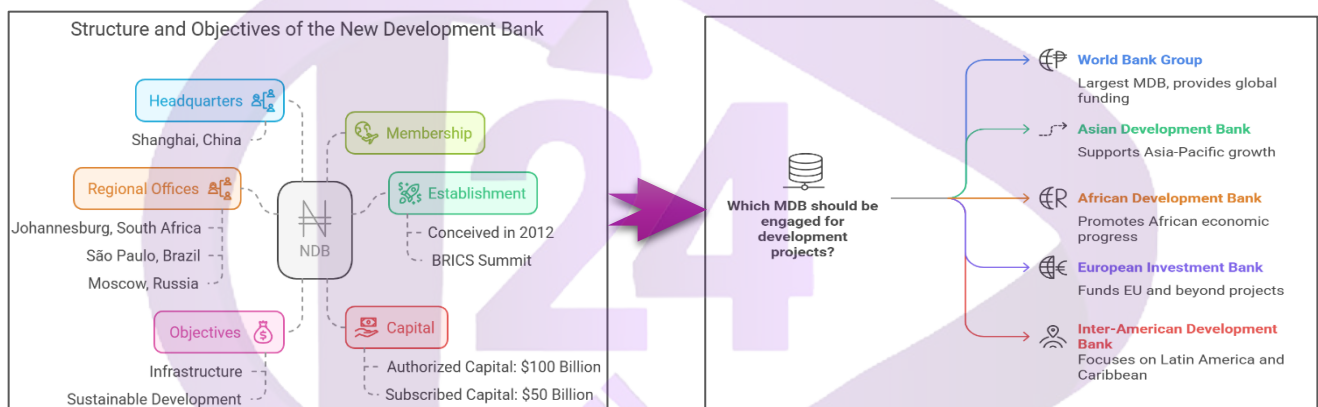
- **Overview:** Initially known as **BRICS Development Bank**, it is a **multilateral development bank**.
- **Objective:** Provide **funding for infrastructure** and **sustainable development** projects within the **BRICS bloc** and other developing countries.
- **Foundation:** Created in the 2012 **BRICS Summit** in **New Delhi**, India; received legal status in **2015**.
- **Headquarters:** Located in **Shanghai**, China.

- **Regional Offices:**

- Johannesburg, South Africa (First regional office)
- São Paulo, Brazil (2019)
- Moscow, Russia (2019)

- **Capital Investment:** Initial capital of **\$100 billion** and **\$50 billion** in share capital.

- **Membership:** Open to all **United Nations members**.



What is a Multilateral Development Bank (MDB)?

- **Definition:** An international financial institution created by multiple sovereign countries to promote development, particularly in underdeveloped areas.
- **Membership:** Includes both **developed** and **developing nations**.
- **Function:** Lends funds and provides **financial aid** for social and economic development projects (e.g., **road construction**, **water infrastructure**).

- **Future Implications for Indonesia's NDB Membership:**

- **Economic Transformation:** Indonesia's entry into NDB will enhance its **economic growth** and help meet its **developmental goals**.
- **Active Participation:** Indonesia will collaborate with NDB members to identify and execute key investment projects.

- **Conclusion:**

- **Strategic Advantage:** Indonesia's NDB membership will provide **capital resources** for infrastructure, renewable energy, and technological advancements, driving **sustainable economic expansion** and **financial security**.

3rd Session of India-Uganda Joint Trade Committee Held in New Delhi

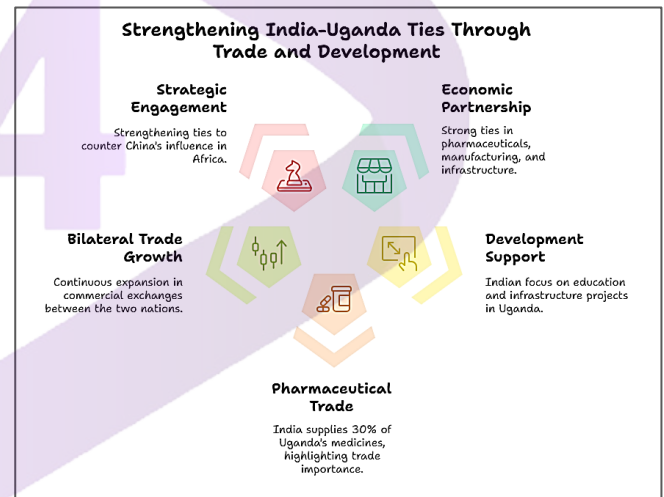


Overview:

- **Event:** Held in **New Delhi** from **25th-26th March 2025** after a 23-year gap.
- **Focus Areas:**
 - **Minerals, coffee products, pulses, dairy, and digital infrastructure.**
 - **Potential MoUs:** Public works, agriculture, traditional medicine, and telemedicine.
 - **Joint Business Forum:** To promote **industrial collaboration**.
 - Delegation visited **Noida SEZ** to explore India's **export systems**

Historical Context of India-Uganda Relations:

- **Early Connections:** India had a presence in Uganda during British colonial rule, notably for **railway construction**.
- **Support for Independence:** India supported Uganda's independence struggle, with leaders like **Jawaharlal Nehru** providing assistance.
- **Post-1972 Setback:** Relations declined during Idi Amin's rule, with the expulsion of 55,000 Indian residents.
- **Current Relations:** Strengthened under **President Yoweri Museveni**, with approximately **20,000 Indians** in Uganda.



Key Developments in India-Uganda Relations:

- **Primary Economic Partner:** Uganda sees **India** as its key **economic investor** and **trading partner**, especially in **pharmaceuticals, manufacturing, and infrastructure**.
- **Pharmaceutical Trade:** Uganda imports around **30%** of its pharmaceuticals from Indian manufacturers.
- **India's Support for Development:** India provides **continuous support** to Uganda's development through **education** and **infrastructure** initiatives.

- **Growing Bilateral Trade:** Both nations have expanded their **commercial exchange**, enhancing trade activities.
- **Strategic Engagement:** India-Uganda cooperation also aims to counter **China's growing influence** in Africa. The **Government of India** recognizes **Africa** as a **vital economic and diplomatic connection**.

Trade between India and Uganda

Trade	Amount	Products
India to Uganda	\$1.23 billion	1. Packaged Medicaments (\$225M), 2. Refined Petroleum (\$160M), 3. Motorcycles & Cycles (\$130M)
Uganda to India	\$1.5 billion	1. Gold (\$1.42B), 2. Coffee (\$56.1M), 3. Cocoa Beans (\$9.42M)

- **Financial Relations:**
 - **Indian Investment in Uganda:** Uganda receives significant investments from India, particularly in the pharmaceuticals, agriculture, and service industries.
 - **Employment Impact:** Indian companies in Uganda play a major role in local employment, contributing to the country's economic growth.
 - **Bilateral Trade:** In 2010-11, bilateral trade between India and Uganda reached \$728 million, with India ranking 2nd in terms of imports to Uganda.
- **Conclusion:**
 - The **Third India-Uganda JTC session** reaffirmed both countries' commitment to strengthening **economic and trade relations**.
 - Building on their **historical relationship**, India and Uganda are driving **sector-wide partnerships** through **mutual agreements** and **industrial cooperation**.
 - India's strategic African partnerships are focused on fostering **regional economic growth** while reaping **mutual benefits**.

Key Facts about Vanuatu

Fugitive former IPL chief Lalit Modi recently applied to surrender his passport to the Indian High Commission in London, and acquired the citizenship of Vanuatu, a tiny island nation in the South Pacific.

About Vanuatu:

- It is an **island country** located in the **South Pacific Ocean**.
- It is an **archipelago** made up of 83 islands, of which only 65 are inhabited.
- The islands extend north-south for some 400 miles (650 km) in an irregular Y shape.

- It lies **east of Australia and north of New Zealand**, or midway between Australia and Fiji.

Geography: A diverse relief—ranging from rugged mountains and high plateaus to rolling hills and low plateaus, with coastal terraces and offshore coral reefs—characterizes the islands.



- The country is home to **several active volcanoes**, including **Mount Yasur**, which is one of the world's most accessible active volcanoes.
- **Capital:** Its capital and largest city is **Port Vila**, located on **Efate Island**.
- **Currency:** The **vatu** is the currency of Vanuatu.
- The **population** of Vanuatu is **94% indigenous Melanesian**.

Language: The **national language** of the Republic of Vanuatu is **Bislama** (a Creole language). The **official languages** are **Bislama, English**, and

Government: Type: **Parliamentary democracy**.
Independence: July 30, 1980.

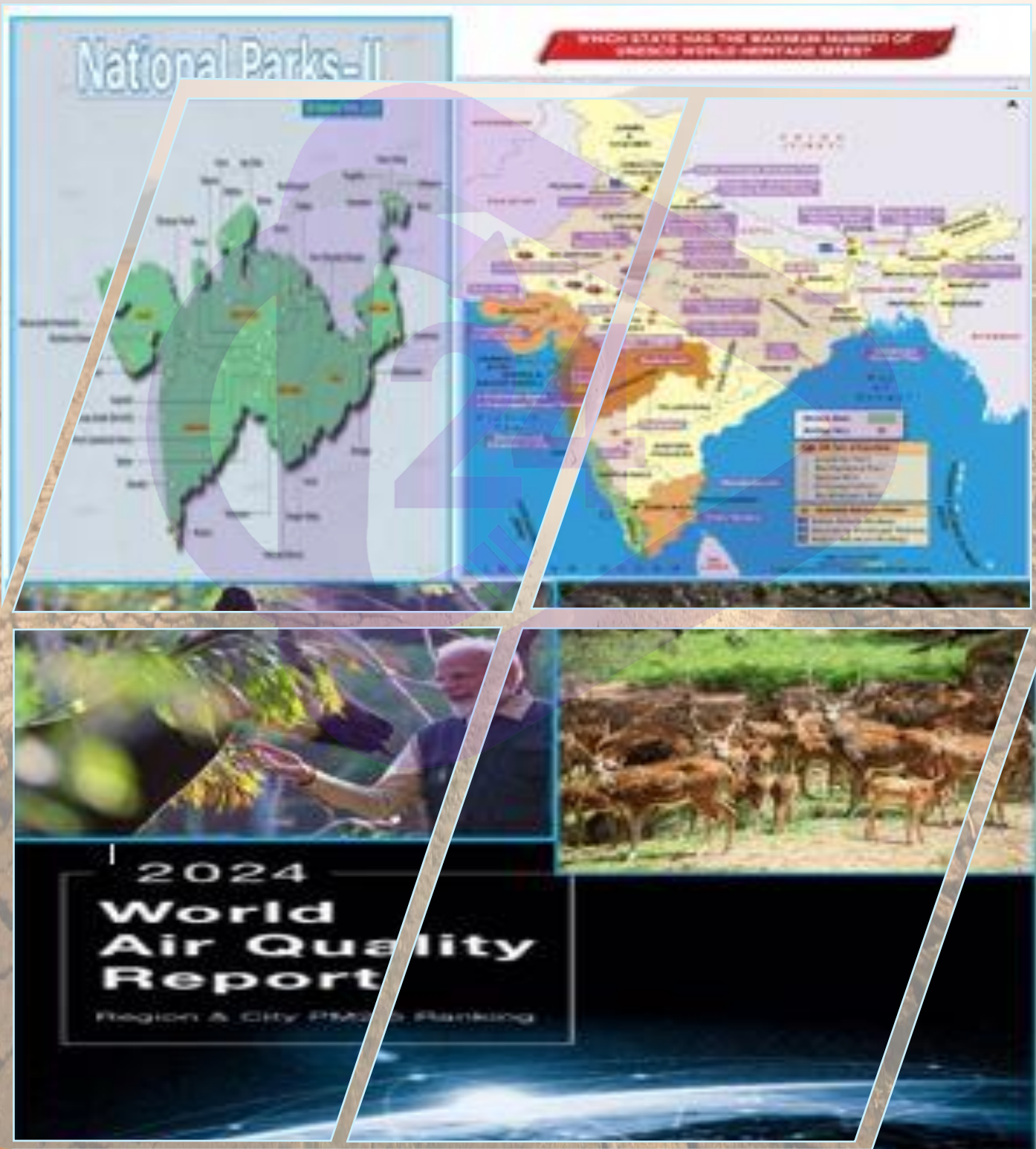
Economy: The economy is based on **agriculture, tourism, fishing**, and **offshore financial services**, with kava exports playing a significant role.

- Vanuatu **does not have income tax, withholding tax, capital gains tax, inheritance tax, or exchange control**.
- VAT, tourism, and agricultural exports contribute to the national income.
- Vanuatu **offers a citizenship-by-investment programme**, allowing foreigners to obtain citizenship in exchange for a financial contribution, typically **for around \$1,50,000 USD**.
- Passports provide a **major source of government revenues**.
- Vanuatu passport holders can travel without a visa to 56 countries, making its citizenship-by-investment programme a highly attractive scheme.



Environment

CHAPTER-2



Prime Minister Inaugurates Vantara, a Unique Wildlife Conservation Initiative in Gujarat

Prime Minister Shri Narendra Modi officially opened Vantara as a distinctive wildlife conservation rescue and rehabilitation project located in Jamnagar Gujarat. Shri Anant Ambani together with his team have received praise from the Prime Minister for their caring actions which created Vantara a sanctuary protecting animals and strengthening natural systems and wildlife welfare.



Vantara: A Model for Wildlife Welfare

- Through Vantara India demonstrates its dedication to wildlife defense which exemplifies the nation's traditional way of living in harmony with nature. The continued rescue work along with rehabilitation and eco-efficiency processes create a secure foundation for endangered along with injured animals to thrive during future generations.
- India's progress in wildlife conservation and rescue initiatives reaffirms its role as a global leader in biodiversity conservation and animal welfare.

National Parks and Wildlife Sanctuaries in Gujarat

National Parks in Gujarat

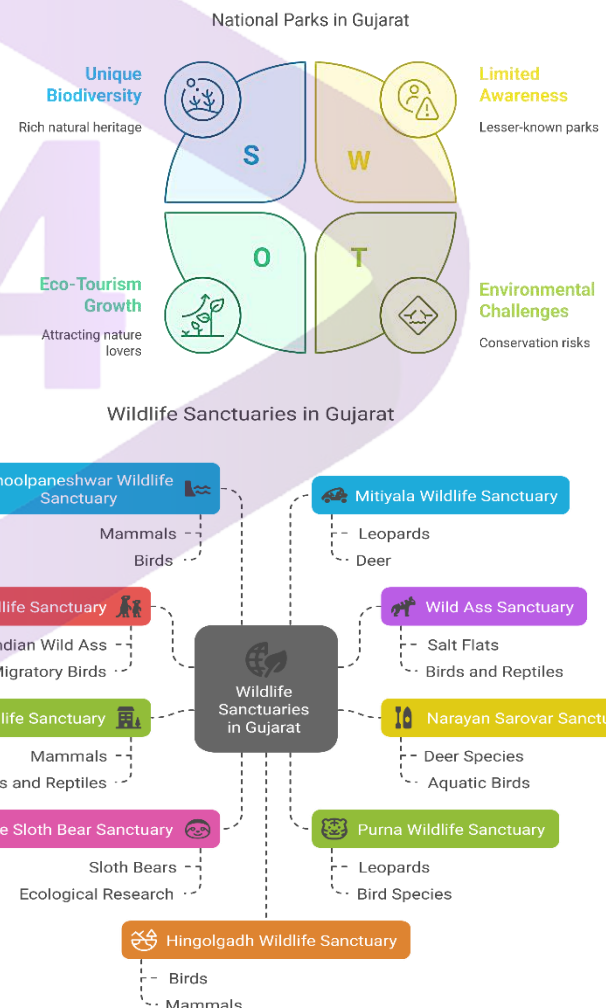
1. Gir National Park
2. Blackbuck National Park (Velavadar)
3. Marine National Park (Gulf of Kutch)
4. Vansda National Park

Wildlife Sanctuaries in Gujarat

1. Kutch Desert Wildlife Sanctuary
2. Wild Ass Sanctuary (Little Rann of Kutch)
3. Narayan Sarovar Sanctuary
4. Barda Wildlife Sanctuary
5. Jessore Sloth Bear Sanctuary
6. Purna Wildlife Sanctuary
7. Shoolpaneshwar Wildlife Sanctuary
8. Mitiyala Wildlife Sanctuary
9. Hingolghadh Wildlife Sanctuary
10. Jambughoda Wildlife Sanctuary
11. Gaga Wildlife Sanctuary
12. Rampara Wildlife Sanctuary
13. Khijadiya Bird Sanctuary
14. Nalsarovar Bird Sanctuary

What is Wildlife Conservation?

- The protection of untamed plant and animal species along with their environments constitutes wildlife conservation. It aims to:
- Light needs to stay untainted for the benefit of future planetary generations.
- Human beings together with other species need to understand wildlife has crucial value.
- Stability among ecosystems functions while preserving natural processes in their operating state.
- The main objective of this practice consists in minimizing human actions which harm wildlife species.



- Habitat disappearance and illegal trades along with environmental alterations threaten numerous unsecured species.

Remark: An endangered species describes the population of living species which faces possible extinction because of falling population sizes or environmental dangers and minimal numbers.

Global Effort for Wildlife Conservation: The World Conservation Strategy (1980) serves as the framework for worldwide conservation initiatives which the International Union for Conservation of Nature (IUCN) developed jointly with UNEP and WWF and FAO and UNESCO.

The Need of Wildlife Conservation Projects in India

- Wildlife conservation has become necessary because species face a critical threat of extinction.
- The recent 1970s analysis shows human activities have resulted in the disappearance of 58 percent of all wildlife species.
- The sixth mass extinction unfolds on Earth because people overuse land, waste energy, degrade water resources and alter climate patterns.
- A food production expansion has converted three decimals of total land suitable for biodiversity residence.
- The agriculture sector stands responsible for 80% of global deforestation while using up 70% of freshwater resources through the process of habitat destruction.

Factors Contributing to Biodiversity Loss:

- Rapid population growth and unsustainable consumer lifestyles.
- Increased waste production and pollution.
- Natural regions disappear because urban expansion continues to invade their territory.
- Between them both climate change and international conflicts produce negative effects on natural ecosystems.

What is Biodiversity?

Biodiversity represents all plant species, animal species, microorganism species together with their living and interactive ecosystems. The conservation of biodiversity requires shielding biological species alongside their living environments to maintain environmental stability along with valuable ecological systems.

Major Wildlife Conservation Projects in India

Various wildlife conservation projects were established by the Indian government together with NGOs and international organizations to fight biodiversity loss. Major wildlife conservation projects in India incorporated several notable programs.

1. Project Tiger (1973)

- The aim of this project remains to prevent the Bengal tiger species from becoming extinct.
- Under the National Tiger Conservation Authority (NTCA) Tiger Reserves have become the established conservation measure.
- The conservation measures resulted in population growth among tigers together with increased habitat protection measures.

2. Project Elephant (1992)

- The main purpose of this project remains focused on elephant corridor defense and elephant habitat protection.
- The conservation initiative has established three main approaches for reducing human-elephant conflicts and fighting poachers while protecting elephant habitats.
- The program generated positive effects for elephant protection alongside the development of migration paths.

3. Project Lion (2020)

- The main goal is to protect Asiatic Lions from extinction in Gir Forest area.
- Gir Protected Area received increased support through improved infrastructure while breeding projects and habitat restoration efforts were conducted.
- Impact: Growth in lion population.

4. Project Snow Leopard (2009)

- The main goal of this project is to protect Himalayan snow leopards.
- Through their programs the organization involved communities and conducted research while implementing anti-poaching measures.
- The program resulted in public education along with protected environments for habitats.

5. Project Cheetah (2022)

- The project has set its objective to reestablish cheetah populations within Indian territory.
- The Kuno National Park received Namibian and South African cheetahs through translocation.
- The program resulted in bringing back an extinct species to Indian territories.

6. Project Hangul (1970s)

- The goal is to save the critically threatened Kashmir stag (Hangul).
- The implementation of habitat restoration together with conservation initiatives within Dachigam National Park.
- Impact: Limited population stabilization.

7. Project Crocodile (1975)

- The goal of this project remains to safeguard crocodile populations while establishing their reproduction.
- Breeding programs together with habitat conservation served as the implemented solutions.
- The project resulted in enhancing wild crocodile populations.

8. Project Great Indian Bustard (2013)

- The main goal of the project is to safeguard the Great Indian Bustard which faces critical endangerment.
- Protection of habitats alongside breeding programs served as the implemented strategies.
- The conservation approach strengthened because of increased public knowledge along with enhanced environmental protection initiatives.

9. Project Dolphin (2020)

- The project must work toward safeguarding dolphin population within both the Ganges and Indus river systems.
- Through the implemented measures of pollution control combined with habitat restoration and anti-poaching activities improvements occurred.
- The measures have led to improved health levels of river dolphins.

Conclusion

- The protection of wildlife in India serves two essential purposes which include the support of biodiversity and the preservation of ecological stability. The nation has successfully advanced its efforts to safeguard endangered species together with their habitats through different conservation strategies. The present initiatives need sustained commitment together with improved enforcement together with community involvement to guarantee their success and expansion until upcoming generations.

Madhav National Park Declared India's 58th Tiger Reserve: A New Chapter in Wildlife Conservation

- The authorities declared Madhav National Park in Madhya Pradesh's Shivpuri district the 58th Tiger Reserve of India on March 9 2025. Such a move represents a major conservation achievement which enhances Madhya Pradesh's status as "Tiger State" by having its ninth tiger reserve.



Key Highlights

Location: Shivpuri district, Chambal region, Madhya Pradesh.

- Tiger Population:** Today there are 5 tigers present in the park which include two fresh born offspring combined with three recent arrivals. Additional two adult tigers will be released during the forthcoming period.
- Area:** The Park spans a total area of 1,751 sq km where the core zone reaches 375 sq km and the buffer zone reaches 1,276 sq km.
- Year of Establishment:** The site started its existence as a National Park during 1956 before its establishment.
- Recognition:** The 9th tiger reserve in Madhya Pradesh.
- Government Approval:** In-principle approval by the Central Government within a month of proposal.
- Announcement:** Union Environment Minister Bhupender Yadav declared the announcement on March 9th 2025.
- Inauguration:** Scheduled for March 10, 2025, by Madhya Pradesh Chief Minister Dr. Mohan Yadav. One tiger stemming from each of Bandhavgarh and Kanha Tiger Reserves will participate in this release event.

Location and Geography

- State:** Madhya Pradesh
- Location:** The ecological territory of this area contains the *Northern end of Central Highlands India that occupies the Upper Vindhyan Hills region.*
- Topography:** Comprises plateaus, valley sections, and *sedimentary rocks (sandstone, shale, and limestone) from the Vindhyan system.*

Water Bodies

- Lakes:** The southern section of the national park houses two connecting water bodies called *Sakhya Sagar and Madhav Sagar* which maintain ecological stability throughout the park.
- Rivers:**
 - The northern portion of the park functions as the drainage zone which supplies water to *Amarnadi.*
 - Most of the park drains through the *Sind River* which defines the eastern region.

Biodiversity

- Vegetation**
 - The park forests consist of two principal categories of vegetation systems.
 - Northern Tropical Dry Deciduous Mixed Forests*



- Dry Thorn Forests, typical of northwestern Madhya Pradesh
- **Flora**
 - **Dominant tree species:** Kardhai, Salai, Dhaora, and Khair.
 - **Understory vegetation:** Ber, Makor, and Karonda.
 - Jamun together with Mahua trees are located in nullah areas.
- **Fauna**
 - **Herbivores:** Nilgai, Chinkara, Chowsinga, Chital, Sambar, and Barking Deer.
 - **Carnivores:** Leopard, Wolf, Jackal, Fox, and Wild Dog.

Significance of Madhav Tiger Reserve

- **Tourist Attraction:** The development of tourist attractions throughout Madhya Pradesh will establish a vast wildlife tour route for Chambal visitors while creating local job positions.
- **Increasing Number of tigers:** The preservation initiative helps enhance existing national tiger protection programs as it increases the current tiger numbers in Madhya Pradesh.
- **Conservation:** This area stands near both Kuno National Park that reintroduced cheetahs and conservation work for gharials and dolphins in the Chambal River area.
- **Government Support:** Increased central funding for tiger conservation efforts in Madhya Pradesh.

Future Plans & Conservation Initiatives

- The Indian government plans to enhance safety measures within Kuno National Park in order to safeguard its resident cheetahs.
- The authorities at Madhav Tiger Reserve have designed plans to develop the habitat for long-term sustainability of the growing tiger population.
- The government should enhance anti-poaching programs while implementing conservation participation frameworks with nearby communities.

National Parks and Tiger Reserves in India

National Parks in India

Definition and Purpose

- The government creates National parks as spaces which exist for the conservation of natural environments alongside their biodiversity.
- Wildlife sanctuaries and national parks differ through their regulations because sanctuaries have extensive boundaries from national parks and focus on environmental protection as their main objective.

Regulations in National Parks

- **No human activities** are allowed.
- These protected areas **do not allow animals to graze** among them along with disallowing private ownership of land.
- **Hunting or capturing species** covered by the Wildlife Protection Act receives **total prohibition** under law.
- The National Park authorities **strictly prohibit any actions that damage wildlife or natural habitats**.
- National parks cannot be downgraded to a wildlife sanctuary.

Declaration of National Parks

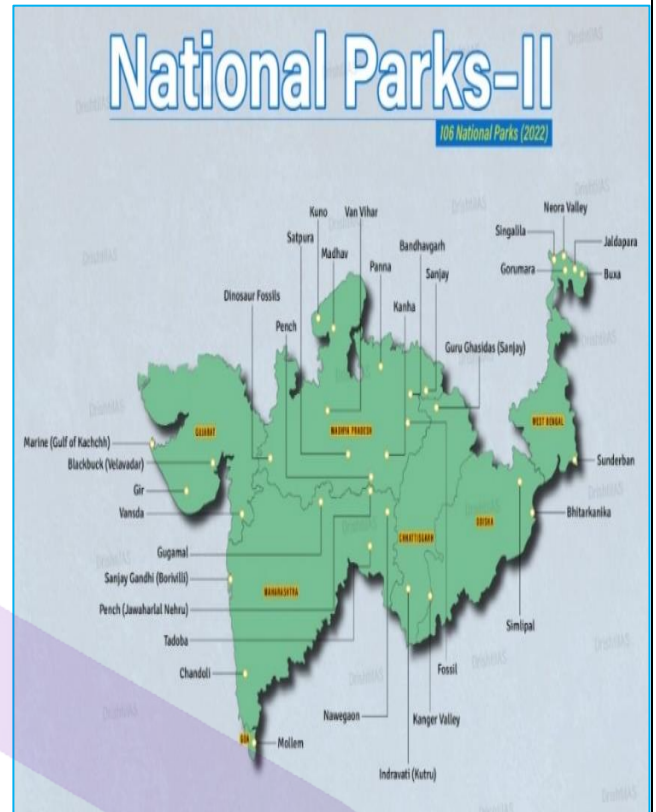
- Both the Government of India through its Central body and any State Government possesses authority to establish national parks.
- Boundaries of national parks must get legislative approval from the State Legislature.

India's National Parks

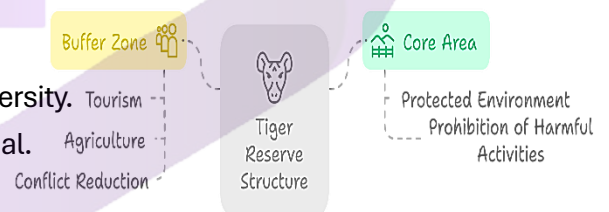
- **Total Number:** 106 (covering 40,501 sq.km.)
- The **Indian states of Madhya Pradesh together with Andaman and Nicobar Islands** hold the **distinction of having 9 national parks each.**
- **First National Park:** Jim Corbett National Park
- **Largest National Park:** Hemis National Park
- **Smallest National Park:** South Button National Park
- **Latest National Park:** Kuno National Park

List of National Parks in Madhya Pradesh: 11 national parks

- **Bandhavgarh National Park** – High density of Bengal tigers.
- **Kanha National Park** – Known for its barasingha population.
- The **Dinosaur Fossil National Park** contains ancient dinosaur fossils.
- **Ghughua Fossil National Park** – Rich in prehistoric plant fossils.
- **Kuno National Park** offers a sanctuary to cheetahs that were relocated there.
- **Madhav National Park** – Located in the Vindhya Range.
- **Panna National Park** – Renowned for tiger conservation.
- **Pench National Park** – Basis for "The Jungle Book."
- **Sanjay National Park** – Dense forest ecosystem.
- **Satpura National Park** – Unique terrain and rich biodiversity.
- **Van Vihar National Park** – Urban national park in Bhopal.



Structure and Purpose of Tiger Reserves in India



Tiger Reserves in India

- **Tiger Reserve Structure:** A tiger reserve contains two parts:
 - **Core Area:** Within critical tiger habitat areas it stands as a strictly protected region.
 - **Buffer Zone:** The Buffer Zone serves as a multiple-use area which has lower protection levels than other zones.

National Tiger Conservation Authority (NTCA)

- Project Tiger together with National Tiger Conservation Authority (NTCA) formed an essential system for Indian wildlife management.
- **Project Tiger entered the scene in 1973 as an initiative to safeguard tigers.**
- The **NTCA operates as a Wildlife Protection Act, 1972** based body which facilitates tiger conservation operations.
- **Tiger Reserves in India: 54 reserves covering 2.21% of India's land.**
- India established the new Tiger Reserve known as Ranipur Tiger Reserve in Uttar Pradesh on October 19th 2022.
- **Tiger Population in India**
 - The **Indian territory contains more than 70% of all existing tiger populations on Earth.**

- The 2018-19 tiger census conducted in India confirmed that the population reached 2,967 individuals.
- The **annual growth rate of tigers in India rises at 6%** according to statistics from 2006 to 2018.

Tiger Reserve in Madhya Pradesh:

Tiger Reserve	Notification Year	Total area (Km Sq.)
Bandhavgarh Tiger Reserve	1993-1994	1536.93
Kanha Tiger Reserve	1973-1974	2051.79
Panna Tiger Reserve	1993-1994	1598.1
Pench Tiger Reserve	1992-1993	1179.63
Sanjay-Dubri Tiger Reserve	2008-2009	1674.5
Satpura Tiger Reserve	1999-2000	2133.3
Veerangana Durgavati Tiger Reserve	2023	1414.006
Ratapani Tiger Reserve	2022	1271.465
Madhav Tiger Reserve	2025	1751

Largest and Smallest Tiger Reserves

- **Largest: Nagarjunsagar-Srisaillam Tiger Reserve (Andhra Pradesh, 3,728 sq.km.).**
- **Smallest: Bor Tiger Reserve (Maharashtra, 138 sq.km.).**
- **Geographical Classification of Tiger Reserves**
- The wildlife reserves across India fall under five district classifications.
 - Shivalik Hills and Gangetic Plains
 - Central India and Eastern Ghats
 - Western Ghats
 - Northeastern Hills and Brahmaputra Plains
 - Sundarbans

Global Tiger Conservation Efforts

International Tiger Day

- **Observed on July 29 since 2010.**
- Beginning its existence at the **Saint Petersburg Tiger Summit that took place in Russia.**
- Purpose of this global event is to spread knowledge about protecting tigers as well as their habitats.
- The Indian Ministry exceeded the goals set by the St. Petersburg Declaration (2010) by successfully attaining double the tiger population four years earlier than the timeline.

St. Petersburg Declaration on Tiger Conservation

- **Held in November 2010.**
- Tigers face an objective to stop their numbers from diminishing while their population must increase three times by 2022.
- **13 Tiger Range Countries:** Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Russia, Thailand, Vietnam.
- Conservation efforts receive financial resources with a parallel strategy using anti-poaching measures.

Challenges in Tiger Conservation

- Habitat loss and fragmentation.
- Human-tiger conflict in buffer zones.
- Poaching and illegal wildlife trade.
- Sustainable practices must be implemented for preserving ecological stability.

Conclusion

- Wildlife conservation remains a core strategic priority for India which is evident through making Madhav National Park the 58th tiger reserve in India. The top position of Madhya Pradesh in tiger conservation helps advance habitat security along with biodiversity preservation programs. The achievement needs continued backing from both government officials and scientists in combination with active community participation for enduring results. Such protective measures toward India's national animal remain essential to preserve both ecological stability and worldwide conservation initiatives.

Six Sites Added to India's Tentative UNESCO World Heritage List

Union Minister Gajendra Singh Shekhawat revealed six new sites during a Lok Sabha session on March 7, 2025 as per UNESCO's World Heritage Centre to be placed on India's tentative list. The tentative list of sites now includes the Mudumal Megalithic Menhirs in Telangana and palace-fortresses from the Bundelas in Madhya Pradesh and Uttar Pradesh as well as Kanger Valley National Park in Chhattisgarh and Ashokan Edict Sites along Mauryan Routes along with Chausath Yogini temples and Gupta temples from north India.



The new sites on India's tentative list now total 62 entities which serve as prerequisites for UNESCO World Heritage List nomination.

New Sites Added to the Tentative List:

1. **Mudumal Megalithic Menhirs (Telangana):** At **Mudumal in Telangana** prehistoric eminent field markers stand as monolithic stone structures named Mudumal Megalithic Menhirs.
2. **Palace-Fortresses of the Bundelas (Madhya Pradesh & Uttar Pradesh):** The Bundela Rajput dynasty built Palace-Fortresses of the Bundelas across Madhya Pradesh and Uttar Pradesh which merge cultural and defensive elements of their society.
3. **Kanger Valley National Park (Chhattisgarh):** The Kanger Valley National Park in Chhattisgarh functions as both a biodiversity hotspot and a distinctive region that includes unique flora and fauna as well as limestone caverns.
4. **Ashokan Edict Sites along the Mauryan Routes (Multiple States):** Ashokan Edict Sites situated throughout the paths constructed by the Mauryans (Multiple States) provide crucial documentation from Emperor Ashoka about Buddhism propagation and administrative order.
5. **Chausath Yogini Temples (Multiple States):** Multiple Indian states contain ancient Chausath Yogini Temples that present unique examples of Tantric cultural heritage from India.

6. **Gupta Temples in North India:** The Gupta Temples throughout North India presented both remarkable architectural masterpieces as well as sculptural achievements that characterizes the Gupta period often called the pinnacle of Indian artistic achievement.

Significance of the Tentative List:

- Future UNESCO World Heritage List nominations require members to exist on the tentative list in the first place.
- India currently holds position 62 on this list while showcasing multiple cultural elements and natural sites across its territory.
- These sites gain enhanced international recognition together with better preservation capabilities along with better funding possibilities through this list.



Current Status of India's UNESCO World Heritage Sites:

- Currently, the UNESCO World Heritage List includes 43 distinctive properties.
- **Categorization:**
 - **35 Cultural Sites**
 - **7 Natural Sites**
 - **1 Mixed Site** (Both Cultural & Natural Significance)
- The **Moidams of the Ahom Dynasty** received the UNESCO tag in 2024 becoming the newest addition to the list of heritage sites.

Government Initiative and Future Plans:

- The Ministry of Culture and Tourism remains dedicated to expanding the list of sites for nomination.
- Heritage tourism along with conservation initiatives represents the main focus of the Indian government.

Conclusion:

- India's preliminary UNESCO list now includes six additional sites which demonstrate both historical and cultural and natural richness spread throughout the nation. Through this step India can expand its global heritage assessment while opening potential opportunities for conservation and sustainable tourism development. Strategic government initiatives are expected to bring additional sites to reach the UNESCO World Heritage status which will strengthen India's cultural heritage standing worldwide.

Kasampatty Sacred Grove

The Tamil Nadu government recently notified Kasampatty (Veera Kovil) sacred grove as a Biodiversity Heritage Site.

About Kasampatty Sacred Grove:

- The Kasampatty Sacred Grove, also known as **Veera Kovil Sacred Grove**, is a revered ecological and cultural site located in Kasampatty village, Dindigul District, **Tamil Nadu**.
- Spanning 4.97 hectares **near the Alagarmalai Reserve Forest**, this grove is enveloped by lush mango plantations, enhancing its natural beauty and fertility.
- It hosts an impressive variety of species - 48 plant species, 22 shrubs, 21 lianas (woody vines), and 29 herbs.
- It also shelters more than 12 species of birds, along with small mammals, reptiles, and numerous insects, highlighting the grove's genetic richness.
- The Tamil Nadu government has notified Kasampatty Sacred Grove as the **state's second Biodiversity Heritage Site** under the **Biological Diversity Act, 2002**.



What are Biodiversity Heritage Sites (BHS)?

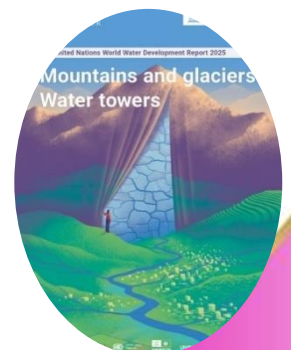
- BHS are **unique ecosystems** having rich biodiversity comprising **any one or more of the following** components:
- **Richness of wild** as well as **domesticated species or intra-specific categories**.
- **High endemism**.
- Presence of **rare and threatened species, keystone species**, and species of evolutionary significance.
- **Wild ancestors of domestic/cultivated species** or their varieties.
- **Past preeminence of biological components** represented by **fossil beds** and having significant cultural, ethical, or aesthetic values and are important for the maintenance of cultural diversity, with or without a long history of human association with them.
- Under Section 37 of the **Biological Diversity Act, 2002**, the **State Government**, in **consultation with local bodies**, may notify areas of biodiversity importance as BHS.
- The **State Government**, in **consultation with the Central Government**, may frame rules for the management and conservation of BHS.
- The creation of BHS **may not put any restriction on the prevailing practices and usages of the local communities** other than those voluntarily decided by them.
- The purpose of declaring BHS is to enhance the quality of life of the local communities through the conservation of such sites.
- In 2007, the **Nallur Tamarind Grove in Bengaluru**, Karnataka, was designated as India's first BHS.

United Nations World Water Development Report (WWDR) 2025

The **2025 UN World Water Development Report** says that **Retreating glaciers threatens the food and water supply of 2 billion people around the world**.

About United Nations World Water Development Report (WWDR):

- WWDR is **UN-Water's** flagship report on water and sanitation issues.



- It offers an authoritative and comprehensive assessment of the overall state, use and management of the world's freshwater resources.
- **Launched on World Water Day (March 22)**, the report focuses on a **different theme each year** and gives policy recommendations to decision-makers by offering best practices and in-depth analyses.
- UNESCO publishes the WWDR **on behalf of UN-Water** and its **production is coordinated by the UNESCO World Water Assessment Programme.**
- **Highlight of the WWDR 2025:**
 - **Theme: Mountains and glaciers - Water towers**
 - The report says that “**all mountain ranges**” have shown **evidence of warming since the early 20th century.**
 - It warns that, as global temperatures rise, more mountain precipitation will fall as rain instead of snow, causing snowpacks to thin and melt earlier in the year.
 - It finds that receding snow and ice cover in mountain regions could have “severe” consequences for people and nature.
 - This **acceleration in snowpack melt** often **causes river flow to increase** in glacier-fed water basins and rivers in the short term.
 - However, once the snow melts **beyond a certain threshold**, a “**peak water**” point is **passed** and **river flow declines again.**
 - The report says there is “**strong evidence**” that this “**peak water**” point has **already been passed** in the glacial-fed rivers of the **tropical Andes, western Canada and the Swiss Alps.**
 - Meanwhile, **many glaciers have disappeared entirely.** For example, Colombia has lost 90% of its glacial area since the mid-19th century, according to the report.
 - It warns that, as the climate warms, many glaciers will “inevitably” disappear over the coming decades. It points to projections that suggest that **warming of 1.5-4C will cause glaciers to lose 26-41% of their 2015 mass by 2100.**
 - The report highlights a wide range of impacts, including **reduced water for drinking and agriculture**, stress on local ecosystems and increased risk of “devastating” **glacial lake outburst floods (GLOFs).**
 - Retreating glaciers **threatens the food and water supply of 2 billion people** around the world.
 - **Two-thirds of all irrigated agriculture** in the world is **likely to be affected** in some way by receding glaciers and dwindling snowfall in mountain regions, driven by the climate crisis.

Sagareshwar Wildlife Sanctuary

The Sagareshwar wildlife sanctuary, located in the Sangli district, has 536 sambars and 295 cheetals (spotted deer), making the sanctuary one of the highest in deer population, especially among manmade wildlife sanctuaries.

About Sagareshwar Wildlife Sanctuary:

- It is located in the Sangli district of **Maharashtra.**
- It is **India's first manmade wildlife sanctuary.**



- It is an artificially cultivated forest **without a perennial supply of water**, and most of the **wildlife species were artificially introduced**.
- It has an area of 10.87 [sq.km](#).
- The sanctuary derives its name from an **ancient Sagareshwar temple**. The sanctuary houses numerous temples dedicated to Lord Shiva.
- **Vegetation**: The forests are **southern dry mixed deciduous** and **southern thorn fores**
- **Flora**: Major flora includes **Tamarind, Neem, Eucalyptus**, Acacia, Agave, and Khair trees.
- **Fauna**:
 - Large animals found in the sanctuary include **several types of deer** (Sambar Deer, Blackbucks, Muntjac, Chital) as well as **wild boar** and peacocks.
 - Small carnivores like **hyena, fox**, and porcupines are also found in the area.

Kanger Valley National Park (KVNP)

Kanger Valley National Park (KVNP), which is located in the once Maoist-infested pocket of Bastar district in Chhattisgarh, has been recently included in the tentative list of Unesco world heritage sites under the 'Natural' category.

About Kanger Valley National Park (KVNP):

- It is located in Jagdalpur in the **Bastar district** of
- The national Park derives its name from the **Kanger River**, which flows centrally from the Northwest to the Southeast direction.
 - Kanger River is a **tributary of the Kolab River**, which ultimately **joins the Godavari**
- **Topography**: It features low flatlands, gentle slopes, steep inclines, plateaus, **deep gorges, valleys**, and winding stream courses.
- **Tirathgarh Falls**, which originates from the Kanger River, presents an enchanting view falling from a height of 150 feet.
- The national park has more than 15 **limestone caves**, including the famous **Kotumsar, Kailash, and Dandak caves**.
- **Flora**: Blend of **mixed moist deciduous** type of forests with the predominance of **Sal, teak, and bamboo**.
- **Fauna**:
 - Major wild animals include **tigers, mouse deer, leopards, wildcat, sambar**, chital, barking deer, langurs, jackals, rhesus macaque, flying squirrel, etc.
 - The aerial fauna at the park consists of **common hill myna, red jungle fowl**, spotted owlet, racket-tailed drongos, parrots, etc.



World Air Quality Report 2024

With an average PM 2.5 concentration of 91.8 µg/m³, Delhi continues to be the most polluted Capital city in the world, according to the 2024 World Air Quality Report.

About World Air Quality Report 2024:

- World Air Quality Report is published by the Swiss organisation **IQAir** every year. The 2024 World Air Quality Report evaluates the global state of air quality for the year 2024.

- This comprehensive report presents **5 air quality** data collected from 8,954 cities across 138 countries, regions, and territories.

India-Specific Findings:

- According to the 2024 World Air Quality Report, with an average PM 2.5 concentration of 91.8 $\mu\text{g}/\text{m}^3$, Delhi continues to be the most polluted Capital city in the world.
- According to the report, 13 of the 20 most polluted cities in the world are in India, with **Byrnihat on the Assam-Meghalaya border being the most polluted**.
- The other cities include Faridabad, Loni (Ghaziabad), Gurgaon, Greater Noida, Bhiwadi, Noida, Muzaffarnagar, New Delhi (Central Delhi) and Delhi (taking the average from the rest of the city).
- India is the **fifth most polluted country** in the world, with an average Air Quality Index (AQI) of 50.6 $\mu\text{g}/\text{m}^3$ – 10 times higher than the World Health Organization's (WHO) annual PM2.5 guideline value of 5 $\mu\text{g}/\text{m}^3$. In 2023, it was the third most polluted country.





Polity

CHAPTER-3



AN INDIAN CHILDREN

**BAALP
KAVITA**

**MISUSE
OF
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Betting and Gambling are State Subjects: Union Minister in Lok Sabha

In his remarks to Lok Sabha Ashwini Vaishnaw stated betting and gambling operations require state government authority per Indian constitutional guidelines. The Seventh Schedule of the Constitution defines legislative power through three separate lists. The Minister stated that gaming sites reached 1,410 in number after blocking occurred due to received complaints. Article 246 delineates legislative powers among these lists, with the Union List covering national subjects, the State List covering regional subjects, and the Concurrent List serving as a shared legislative domain.



Introduction:

- Lok Sabha Ashwini Vaishnaw stated **betting and gambling operations require state government authority per Indian constitutional guidelines.**
- The Minister stated that **gaming sites reached 1,410 in number after blocking** occurred due to received complaints

Seventh Schedule and Article 246:

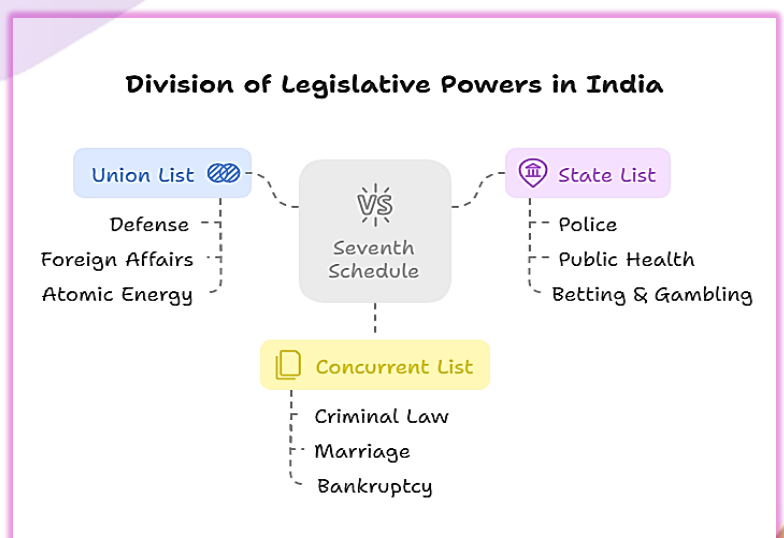
Three types of governing provisions exist within the Seventh Schedule of the Constitution of India.

- **Union List (List I):** Exclusive legislative power of Parliament.
- **State List (List II):** The State Legislative Bodies hold complete authority over the passages designated under List II.
- **Concurrent List (List III):** Joint legislative power of both Parliament and State Legislatures.
- Article 246 delineates legislative powers among these lists, with the Union List covering national subjects, the State List covering regional subjects, and the Concurrent List serving as a shared legislative domain.

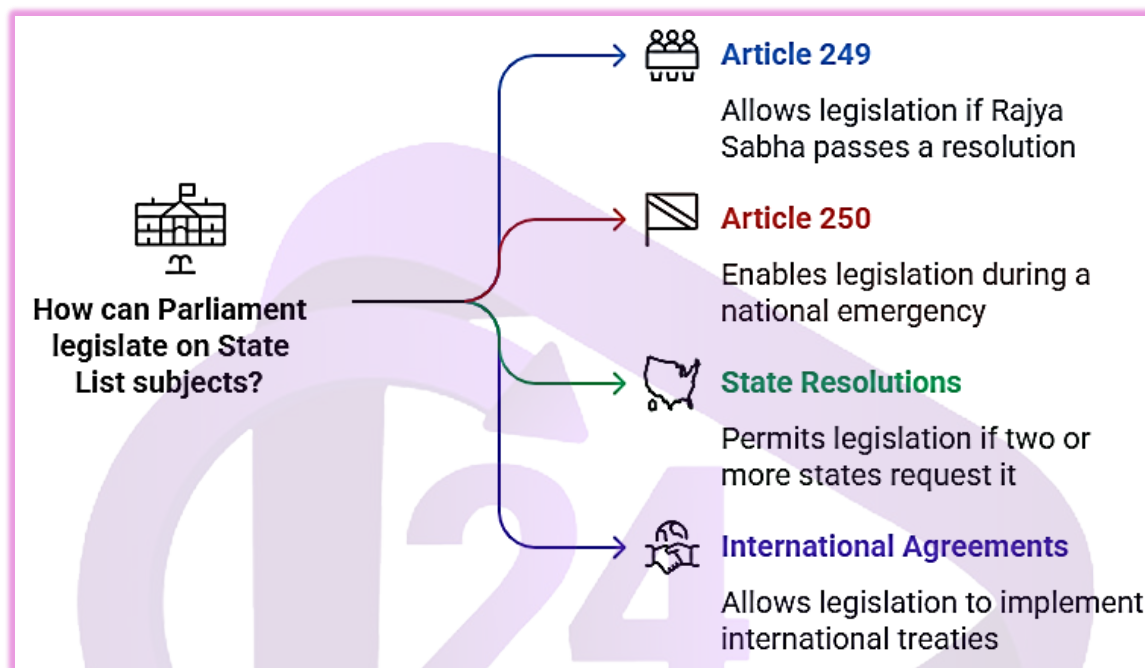
The State List includes betting and gambling among its subjects.

- The State jurisdiction for betting and gambling activities emerges from Entry 34 of the State List.
- The power of state governments remains exclusive so long as no constitutional provisions provide Parliament with intervention authority.

Conditions Under Which Parliament Can Legislate on State List Subjects:



- The Rajya Sabha adopts a resolution which enables Parliamentary legislation according to Article 249.
- During a national emergency under Article 250.
- A State List subject can be handled by Parliament through legislation following resolution approval from at least two States.
- The government can use State List legislation to execute international agreements and treaties.



Significance of the Seventh Schedule:

- This provision determines which areas of governance belong to which authorities to avoid confusion about official responsibilities.
- This provision stops governments from attaining too much power through centralization.
- Through the Concurrent List states maintain their freedom while maintaining connection to the center under Federalism.
- Post-independence governance receives a prepared organizational approach that creates unity between states through this structure.

Judicial Doctrines Applied to Legislative Powers:

- **Doctrine of Implied Powers:** Implied powers of the legislative branch apply to regions which the current provisions logically suggest.
- **Doctrine of Pith and Substance:** Under the doctrine of Pith and Substance the main components of a law which a legislature possesses authority to create permits incidental encroachment upon other jurisdictions.
- **Doctrine of Colourable Legislation:** Constitutional limitations remain protected through the doctrine which detects masking behavior by legislative bodies when they try to promote laws through deceptive names.

Need to visit the Seventh Schedule:

- The development of governance requires permanent attention to legislative lists through regular assessment of their contents.
- The 15th Finance Commission has conducted an assessment to fortify fiscal federalism systems in the country.
- The states of Tamil Nadu and West Bengal together with Odisha have presented legislative autonomy requests to their federal authorities.
- Previous State governance reform recommendations starting with the Rajamannar Committee (1969) and ending with Anandpur Sahib Resolution (1973) work toward enhancing the power of State governments.

Conclusion:

- The Constitution of India includes the Seventh Schedule which divides Legislative power distribution between Union and State governments. States hold exclusive jurisdiction over betting and gambling activities which maintains the principle of federal government in India. The government maintains intervention options but it needs to protect State autonomy due to its importance in upholding constitutional equilibrium among different agencies.

Free Speech as an Integral Part of a Healthy and Civilised Society

The Supreme Court of India defended free speech rights by dismissing charges of hate speech against Congress MP Imran Pratapgadhi. The Supreme Court established that democratic systems heavily rely on artistic presentation types including poetry and theatre together with stand-up comedy and satire. The court judges A.S. Oka and Ujjal Bhuyan explained through their ruling that people should retain their right to speak regardless of popular disagreement with their opinions. The legal decision ensures that limits on speech rights must follow logical boundaries to prevent the government from abusing these restrictions for silencing criticism.



What is freedom of speech?

- **Religious groups protect freedom of speech and expression through Article 19(1)(a) of the Indian Constitution.**
- Through speech writing and additional communication methods people obtain the capability to share their ideas.
- The Indian Constitution provides freedom of speech but recognizes Article 19(2) enables government-imposed reasonable restrictions for safeguarding sovereignty and security as well as public order and decency and morality among other grounds.

Scope of Article 19(1)(a):

- Under Article 19(1)(a) the Indian Constitution protects both the freedom of the press and obligations to public speech and commercial speech and maintains broadcasting platforms and access to held information.

- Article 19(1)(a) grants citizens the freedom to express themselves and to critique both nationally and internationally.
- Protects the right to silence.
- Available only to Indian citizens, not foreign nationals.

Constitutional Protection:

- All citizens under the Indian Constitution possess freedom of speech and expression rights under Article 19(1)(a).
- The Preamble declares thought freedom along with expression as two vital principles in the Constitution.

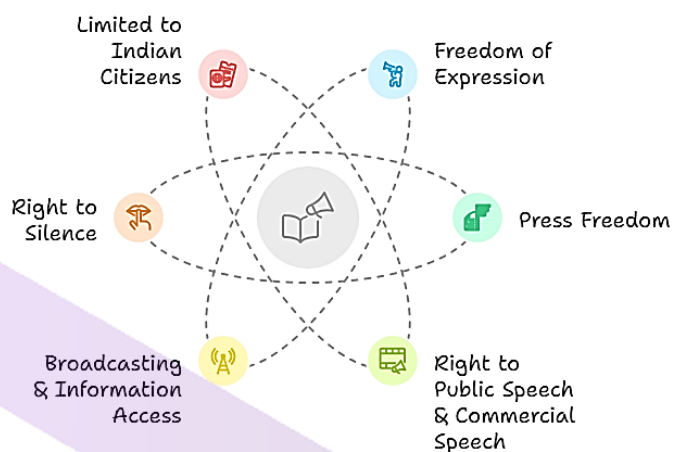
Reasonable Restrictions under Article 19(2):

- India's sovereignty and territorial integrity functions as a legal restriction to prohibit messages that push for separation movements or territorial division of the nation.
- Security Of The State Mandates The Ban Of Expressions That Promote Violent Upheavals Or Rebellion.
- Any expression which threatens diplomatic relations between India and other states falls under this restriction.
- Decency or Morality: Regulates obscene content under Sections 292-294 of the IPC.
- People cannot freely speak against judicial authority.
- The right of defamation protects people from statements which damage their public image.
- The law forbids expressions which have the power to trigger unlawful criminal conduct.

Judicial Precedents:

- **Romesh Thappar v. The Supreme Court of India:** in Romesh Thappar v. State of Madras (1950) determined that democratic society needs press freedom to operate effectively.
- **Bennett Coleman & Co. v. Union of India (1972):** The Supreme Court of India rendered a verdict in Bennett Coleman & Co. v. Union of India (1972) which declared that limitations on newsprint accessed

Components of Freedom of Expression



Speech Regulations



Article 19(1)(a) rights of free speech.

- **Maneka Gandhi v. The Supreme Court of India** made a ruling in 1978 through Union of India (1978) that free speech encompasses international boundaries.
- **Bijoe Emmanuel v. In State of Kerala (1986)** the court declared that the right to remain silent qualifies as protected free speech.

Significance of Free Speech:

Societal Good: Encourages open discussion and development of society.

- **Self-Development:** Essential for individual growth and personality development.
- **Democratic Values:** The freedom of speech enables democratic criticism which results in better public discussions based on information.
- **Pluralism:** The practice of pluralism shields a variety of opinions to build an inclusive community.

Challenges in Freedom of Speech and Political Satire:

Legal Censorship: Legal entities file FIRs and initiate prosecutions against comedians and critics who face charges of defamation and sedition under Section 124A of IPC as well as Section 295A of IPC for disrespecting religious sentiments.

- **Online Harassment and Threats:** Online attackers target political satirists through cyber-trolling alongside making threat-related posts that force performers to cancel their shows due to both political and social factors.
- **Impact on Creative Expression:** The desire to evade legal problems forces several artists into self-censorship practices that restrict vital critical exchanges.
- **Global Perception:** India's international position regarding press freedom suffers damage when governments enact free speech restrictions.

Misuse of Restrictions:

- According to the SC's ruling the government cannot employ legal provisions to silence expressions of dissent or art.
- The judicial authority needs to verify that all legal restriction implementations follow democratic guidelines.

**MISUSE
OF
LAWS**



Stand-up Comedy Media in Indian Political Criticism Under Freedom of Speech Laws

- Global and Indian society now recognizes stand-up comedy as an advanced form of social commentary which motivates worldwide political discourse. Indian stand-ups must maintain careful balance due to legal restriction intersections with cultural delicate matters along with political implications in the free speech arena.

Stand-up Comedy in India attributes political commentary.

The expression of political satire exists across all durations of Indian artistic history starting with ancient folk theater and continuing through modern-day social media comedy. The practice of Indian stand-up comedians involves pointing out government flaws using comedy while simultaneously revealing societal hypocrisy as they shine light on critical social matters.

Themes in Political Comedy:

- **Government Policies & Leaders:** Indian comedians use their humor to mock economic management and governmental decisions regarding taxes and policy reforms together with monetary devaluation and public sector performance.
- **Religious and Social Issues:** Indian comedians commonly mock religious matters as well as social problems such as caste-based discrimination and communal violence and moral regulation.
- **Media & Propaganda:** Several entertainers in media space use comedic methods against biased news propagation and unfounded information dissemination.
- **Judiciary and Law Enforcement:** Judiciary operations together with police conduct frequently serve as material for humor.

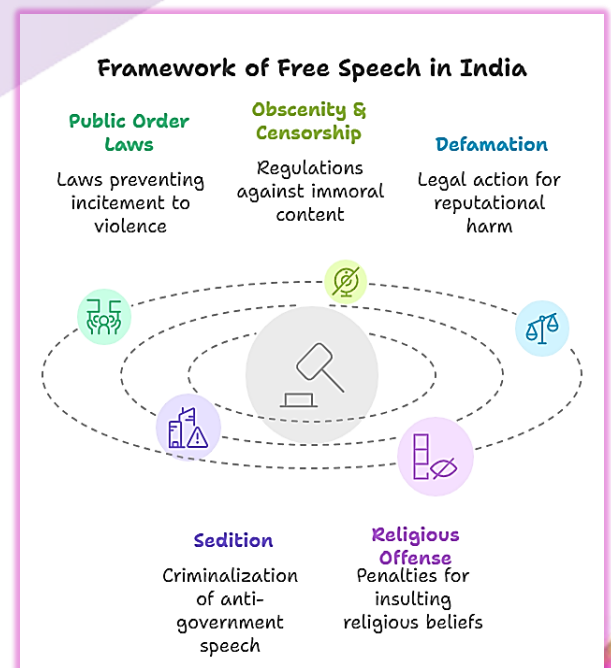
Notable Indian Comedians & Their Political Satire:

- **Kunal Kamra** delivers his political critiques through bold statements that strike Indian government actions and mainstream media reports.
- Through his well-developed storytelling abilities **Varun Grover** explores complex social and political issues with subtle humor.
- **Munawar Faruqi** received legal charges for jokes he supposedly didn't tell which demonstrates the dangers of performing political comedy.
- **Vir Das** gained worldwide praise and domestic criticism from his "Two Indias" speech at the Kennedy Center.

Legal and Constitutional Aspects of Free Speech in India

According to Article 19(1)(a) in the Indian Constitution people have the right to speak freely along with expressing their thoughts. Article 19(1)(a) grants the right of free speech to Indians but constricts it through Article 19(2) with permissible boundaries. These restrictions include:

- **Public Order:** According to Public Order laws the government can limit expressions that ignite violence or trigger public disorder.
- **Decency and Morality:** The screening authority has the right to censor content which features obscenity or violates traditional Indian moral standards.
- **Defamation:** Law of defamation permits lawsuits against comics whenever their comments result in reputational damage to another person.



- **Sedition (Section 124A, IPC):** Under Indian law Section 124A of the IPC accuses anyone of sedition when their speech demonstrates hatred towards the government.
- **Religious Sentiments (Section 295A, IPC):** Speech which offends beliefs concerning religion becomes a punishable offense based on Section 295A of the Indian Penal Code.
- Restrictions established for harmony purposes get misused by authorities who suppress dissenting voices.

Challenges Faced by Indian Comedians

A. Legal Harassment and Censorship

A significant number of Indian comedians have encountered First Information Reports or legal actions(predicate) through defamation, sedition, and religious sentiment laws.

Examples:

- **Munawar Faruqui (2021)** spent a month in jail following his supposed joke for which he received an arrest warrant.
- **Kunal Kamra (2020)** received court notices for contempt of court after mocking the judiciary.
- A legal complaint against Indian comedian **Vir Das** resulted in an FIR when he delivered his "Two Indias" monologue during 2021.

B. Online Trolling and Threats

- **Politically oriented and religious extremist** beliefs drive numerous comedians to experience **threats to their lives and harassment** through abusive messages.
- People feel compelled to avoid expressing themselves because of finding themselves targeted through social media and facing the consequences of **cancelling culture**.
- A few comedians were **pushed to move outside India** on a short-term basis.

C. Show Cancellations and Venue Pressure

- The entertainment industry has seen numerous comedy shows terminate their programming because **politicians used threats of violence or attempted to force show closings**.
- Event management teams believe dangerous consequences will follow so they **practice self-restricted performances**.

The Broader Implications for Democracy and Creative Expression

A. Impact on Democratic Discourse

- Political laughter functions as an indispensable element of democratic health by serving as an instrument to monitor governmental power.
- When political comedians are muffled it disrupts free speech channels while deterring people from openly criticizing governmental bodies.

B. Rise of Self-Censorship

- Comedians have selected to shy away from controversial subjects since it allows them to stay clear of legal complications.

- Some focus on neutral content (e.g., relationships, everyday life) rather than political satire.

C. Global Perception of India's Free Speech

- The country holds a poor position when compared to other nations on freedom of press indexes.
- International criticism intensifies because of government harassment or jail sentences of comedians who make jokes.

The Way Forward: Can India Protect Free Speech in Comedy?

- **Clearer definitions** must be established **for the sedition law and offenses** against religious sentiments to stop unconstitutional usage.
- Free speech protection must be **protected by the judiciary system** since political pressure should not influence court decisions.
- The **general public should champion better safeguards** to shield artists and comedians from Speech Laws.
- Stand-up comedians should continue **pushing boundaries while being mindful of legal risks**.

Conclusion

- A prosperous democratic society maintains questioning power along with its critical analysis along with its power satire as essential components rather than optional rights. According to the Supreme Court's decision freedom of speech serves as an indispensable foundation for democratic societies and makes advancement in Indian democracy possible. Legislation serves public order requirements but must not develop into tools that intimidate nor oppress political groups. Modern-day truth-tellers stand as stand-up comedians who perform crucial work to initiate discussions and confront social customs. For India to maintain its democratic principles it must protect all artistic freedom including political satire. Real democracy thrives through the open acceptance of multiple viewpoints including the ones which force mental unease.

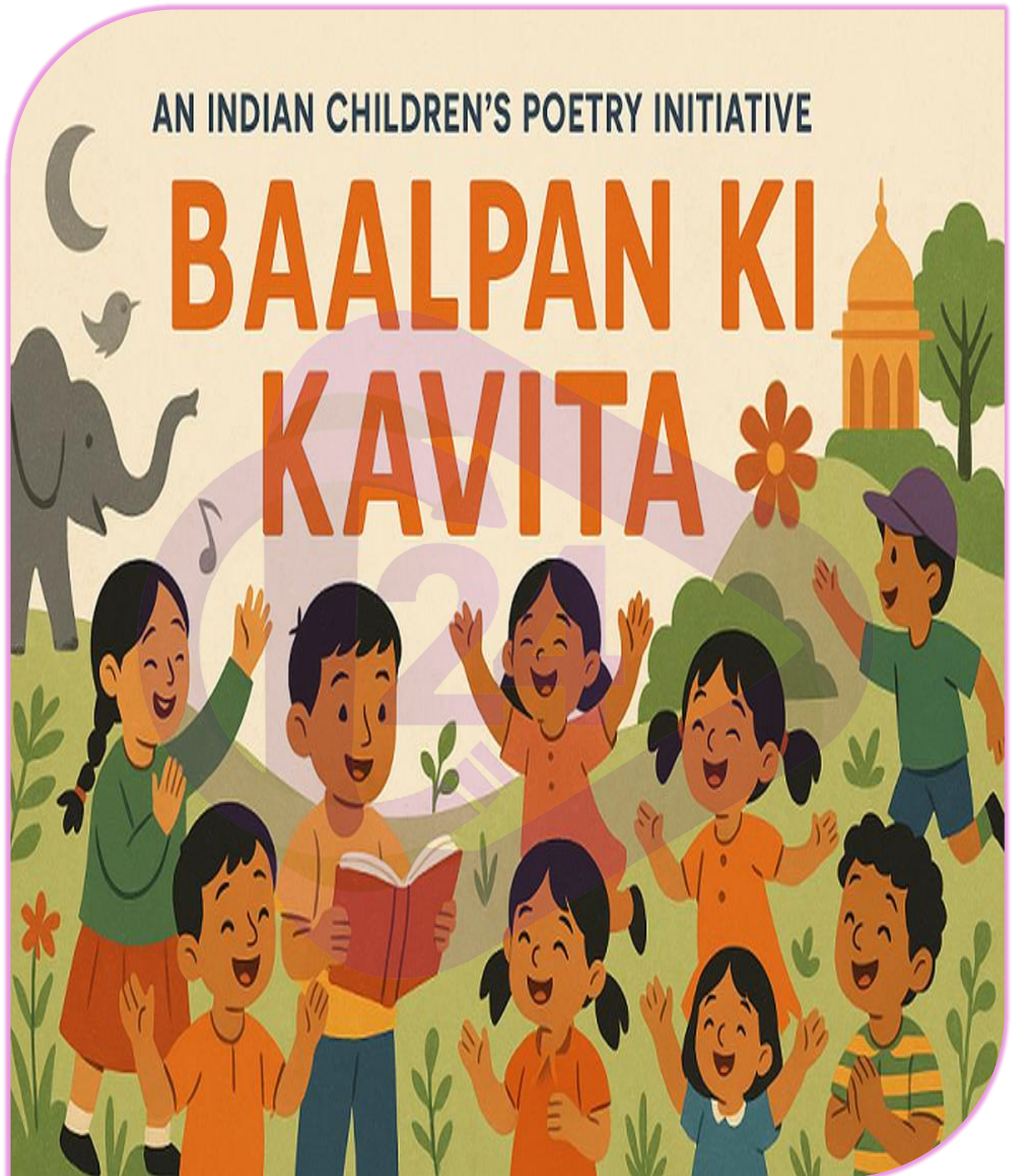
Baalpan Ki Kavita Initiative

The Union Education Ministry recently launched the “Baalpan ki Kavita” initiative.

About Baalpan Ki Kavita Initiative:

- It was launched by the **Ministry of Education** to revive and **restore traditional Indian rhymes and poems for young children**.
- It aims to create a comprehensive compendium of nursery rhymes and poems **in all Bhartiya Bhashas (Indian languages) as well as in English**.
- The objective is **to provide young learners with joyful and contextually relevant learning material**, helping them better connect with their cultural roots while making foundational education more engaging.
- “The ministry, **in collaboration with MyGov**, is **inviting contributions** to the initiative.
- The **participants** of the contest **can send existing poems, rhymes popular in folklore or newly composed joyful poems and rhymes under three categories**.
- The categories are **pre-primary** (ages three to six), **Grade 1** (ages six and seven) and **Grade 2** (ages seven and eight).

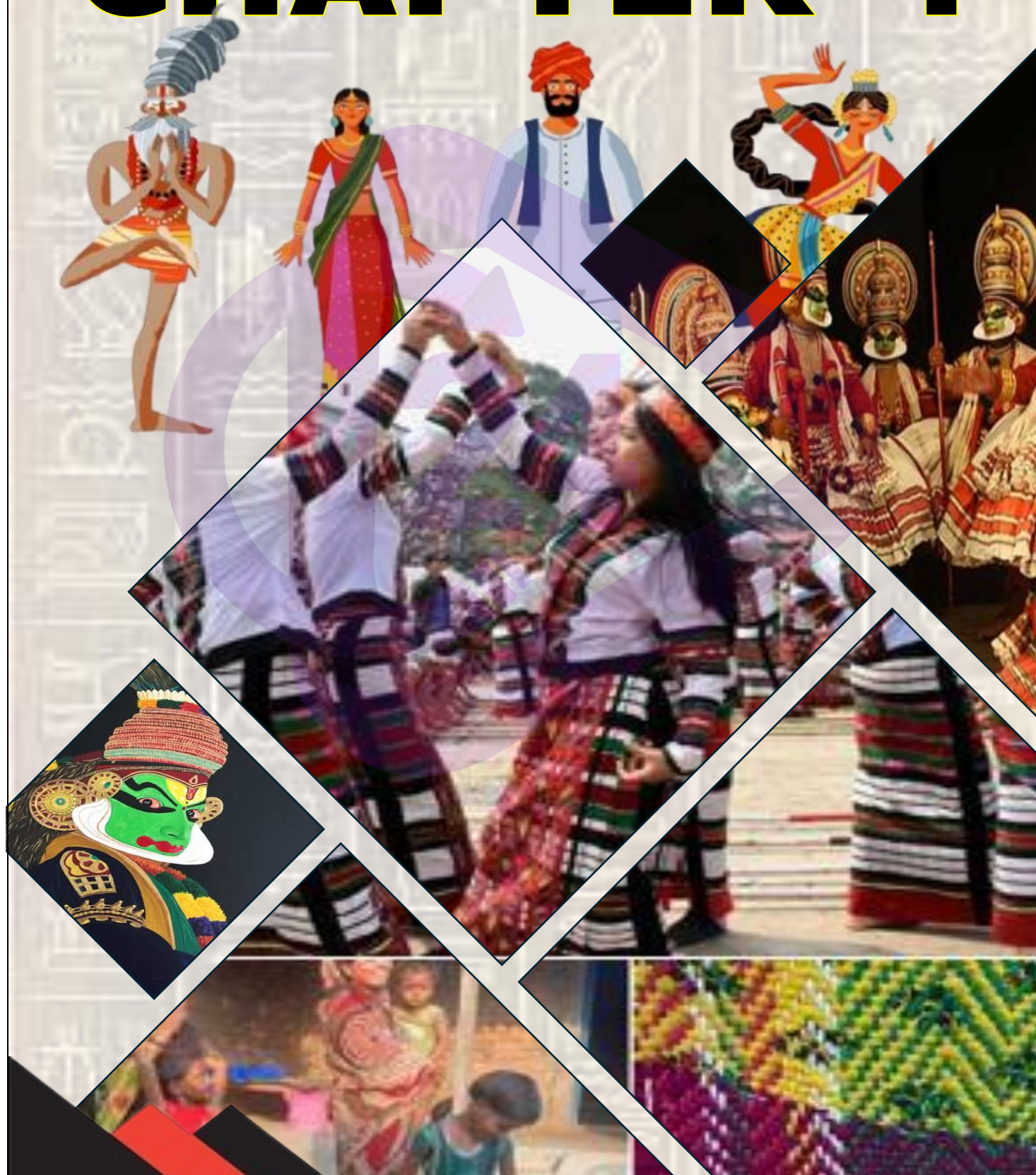
- Entries are invited in all Indian languages and English, and can include regional rhymes or poems that hold cultural significance in Indian context.





Art & Culture

CHAPTER-4



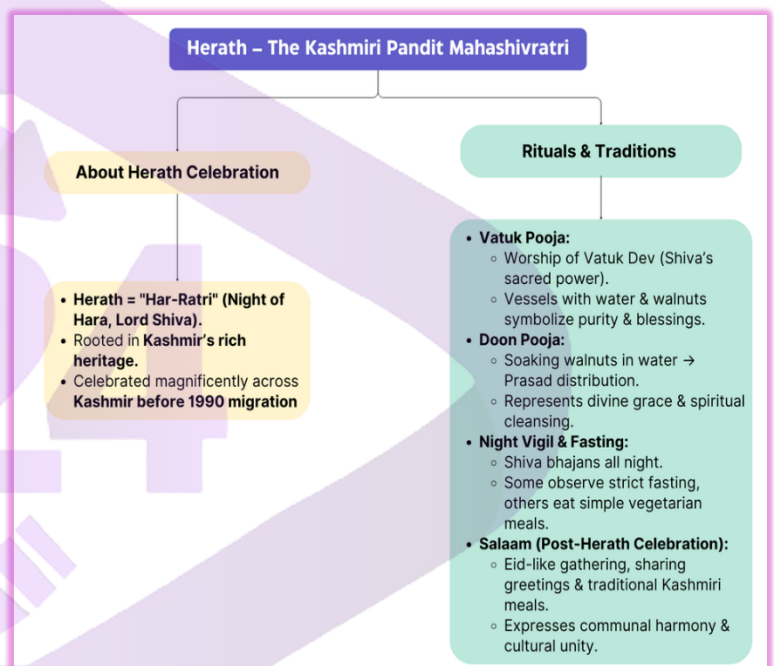
Herath: The Sacred Mahashivratri Celebration of Kashmiri Pandits

Known as a holy event by Kashmiri Pandits, Herath provides them a distinct tradition to observe Mahashivratri. Herath runs as a multi-day observance throughout India while most regions follow one-day celebrations for this spiritual festival. The word "Herath" comes from "Har-Ratri" which means "Night of Hara" thus referring to Lord Shiva. The symbolic nature of Herath manifests the divine connection between cosmic powers and the mutual relationship of Shiva and Parvati.



Historical & Cultural Context

- Kashmir's cultural heritage provides the foundation for these traditions which express themselves through its historical heritage.
- Both the celebration of Heritage have been carried out with magnificence throughout Kashmir's entire region.
- The observance of Herath by Kashmiri Pandits continues worldwide after their mass migration became history in 1990.



Spiritual & Religious Significance

- According to popular belief Lord Shiva appears before humans during this sacred nighttime manifestation.
- A time of spiritual awakening, purification, and divine blessings.
- In contrast to most parts of India Herath celebrations involve custom-based rituals at homes instead of mainly visiting temples.

Rituals & Traditions

1. Vatuk Pooja – Worship of Vatuk Dev

- In the belief of Kashmiri Pandits Vatuk Dev still represents the sacred power of Lord Shiva.
- Each vessel in the worship contains water mixed with walnuts and may be made from earthen or metal materials.
- Water functions as a symbol of spiritual purity and spiritual essence while walnuts communicate success together with holy gifts.

2. Doon Pooja – The Sacred Walnuts

- The proper ceremonial procedure involves walnut water soaking.
- The distribution of walnuts follows a process of sacred blessing to become Prasad.
- Symbolizes purification and divine grace.

3. Night Vigil & Fasting

- During the nighttime ritual of devotion devotees maintain vigil by reciting devotional songs about Lord Shiva.
- Religious traditions of Herath require strict fasting by certain people yet other followers eat simple vegetarian foods during times of observance.

4. Salaam – Post-Herath Celebration

- The festivities take place the day after Herath in an Eid-type manner.
- During Herath families both share their blessed messages and serve the traditional meals of Kashmiri culture.
- The celebration expresses both communal unity and culture-based peace between people.

Herath: A Lost Tradition in Kashmir

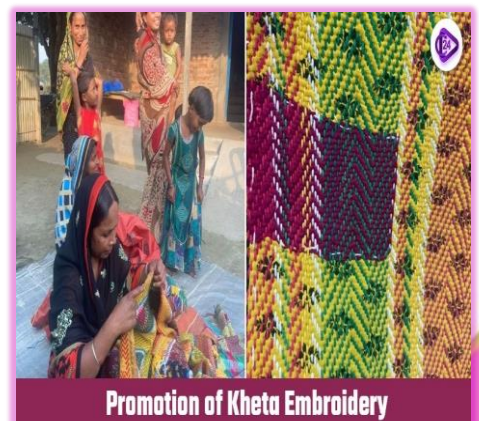
- A widespread traditional holiday connecting Muslims with Pandits used to be celebrated throughout Kashmir.
- Within Kashmir Pandits regularly received visiting greetings from their Muslim neighbors.
- The celebration of Herath ended after the mass migration of 1990 in the Kashmir Valley.
- The writer expresses hope that Herath will come back to Kashmir to celebrate with its people.

Conclusion

- Herath functions beyond its role as a celebration since it represents the perseverance and traditional beliefs and roots of Kashmiri Pandits. The celebration of Herath persists externally from Kashmir yet Pandit and Muslim Kashmiris continue to hope for its restoration within their ancestral land. The people of Kashmir hope one day the celebration of Herath will restore its original major element in the region by bringing together prayers and communal joy and harmony.

Promotion of Kheta Embroidery: Government Initiatives for Handicrafts Promotion

- Through the Office of the Development Commissioner (Handicrafts) at the Ministry of Textiles the organization actively supports traditional crafts such as Kheta embroidery and Sujani embroidery of Kishanganj Bihar. Two principal schemes empower artisans to reach these objectives.



Promotion of Kheta Embroidery

- National Handicrafts Development Programme (NHDP)
- Comprehensive Handicrafts Cluster Development Scheme (CHCDS)

The schemes provide artisans with multiple forms of assistance based on their needs which include:

- Marketing support
- Skill development training
- Cluster development
- Formation of Producer Companies
- Direct financial benefits
- Infrastructure and technology support
- Research and development support
- During the period between FY 2020-21 to 2024-25 the Office of DC (Handicrafts) conducted six skill development programs in Kishanganj which provided financial support to develop 290 artisans.

Kheta Embroidery: A Cultural Treasure

The Craft and Its Unique Features

- **According to traditional practices of the Shershabadi in Bihar only female members of the community can make this rare embroidery called Kheta embroidery.** The elaborate **needlework derives its motifs from natural river elements** which include:
 - Ripples of water
 - Movement of earthworms
 - The Distinctive qualities of betel leaves (pan patta) form part of this texture pattern
 - Rural women create hand embroidery by using needles and threads for their daily activities during their household work.

Need of Promoting Textile

- **Economic Growth:** Strengthening India's position as a global textile manufacturing hub.
- **Employment Generation:** A total of 3 lakh direct and indirect positions will become available through each PM MITRA Park.
- **Investment Attraction:** Large-scale investment in textile infrastructure.
- **Modernisation:** The PM MITRA project promotes technological advancement for sustainable global competition in modern manufacturing practices.
- **Support for traditional art:** Handloom and handicraft industries will receive backing through programs that aim to protect India's cultural textile heritage.

Key Schemes and Initiatives

PM MITRA Parks Scheme

- **Objective:** Create modern, integrated, world-class industrial ecosystems for the textile industry.

- Implementation: Establishment of 7 PM MITRA Parks in Tamil Nadu, Telangana, Gujarat, Karnataka, Madhya Pradesh, Uttar Pradesh, and Maharashtra.
- Outlay: Rs. 4,445 crore for seven years (2021-22 to 2027-28).
- Through this scheme India would gain big investments which creates job opportunities to build a complete textile value chain.

Production Linked Incentive (PLI) Scheme

- The PLI Scheme directs its support to Man-Made Fibre (MMF) & Apparel as well as Technical Textiles.
- The objective aims to enhance both the scale of manufacturing levels and international market competitiveness.

National Technical Textiles Mission

- The mission includes four essential parts which combine Research with innovation & development together with market promotion and skills development and export promotion.
- Objective: Strengthen India's position in the technical textiles sector.

SAMARTH – Scheme for Capacity Building in Textile Sector

- The program exists to create skill development services which match with market needs and lead to employment placements.
- The target recipients of this program include all textile industry workers and artisans.
- The Technology Upgradation Fund Scheme has undergone an amendment to become ATUFS.
- The objective of this scheme focuses on motivating textile sector companies to adopt modern technology through capital expenditure incentive programs.

Silk Samagra-2

- The scheme works to develop all aspects of the sericulture value chain fully.

National Handloom Development Program & Raw Material Supply Scheme

- The project seeks to boost handloom product markets while providing assistance to handloom workers.
- Support Provided:
 - Financial aid for raw materials.
 - Upgraded looms together with their accessories will be procured through the program.
 - Solar lighting units.
 - Product diversification and design innovation.
 - Common infrastructure development.
 - Marketing support in domestic and international markets.
- The Weavers' MUDRA Scheme provides both social security benefits and low-interest loans to weavers.

National Handicrafts Development Programme (NHDP) & Comprehensive Handicrafts Cluster Development Scheme (CHCDS)

- The Office of the Development Commissioner (Handicrafts) executes this program.
- The Support Areas comprise Marketing events together with skill development and cluster formation and infrastructure and technology support and direct benefits to artisans.

Conclusion

- Government schemes and exhibitions supporting Kheta embroidery play a crucial role in maintaining along with revitalizing this century-old traditional craft. Extra market connections together with financial backing from these initiatives let artisans maintain their living while allowing cultural heritage preservation. Widespread national and international backing can help Kheta embroidery gain global recognition while establishing itself as an essential part of traditional Indian textile heritage.

Kuthira Kali: A Traditional Ritualistic Dance of Kerala

The folk dance of Kuthira Kali exists as a dynamic and powerful indigenous dance from Kerala which preserves the deep cultural history of the state together with its religious heritage. The performers exhibit Kuthira Kali dance routines exclusively at temple festivities throughout central and southern Kerala districts. Performer movements during Kuthira Kali take place while wearing wooden horse structures and play traditional percussion instruments with rhythmic patterns. The dance form Kuthira Kali functions beyond artistic movement since it showcases stories from historical and mythological accounts.

Key Points:

Origins and Cultural Significance:

- Ancient traditions indicate Kuthira Kali started as a religious temple dance which artists presented during religious festivals.
- The religious practice maintains close connections between Bhagavathi temples and other goddess worship institutions in Kerala.
- Through its movements Kuthira Kali reflects both bravery and religious devotion as well as membership in the community.

Performance and Attire:

- The performers who embrace lightweight wooden horse structures (Kuthira) attached to their waists make the audience believe they are riding horseback.
- Movements during the performance match the patterns of cavalry formations while dancers maintain perfect coordination.
- The drum group of Chenda combined with Ilathalam and Maddalam percussion instruments delivers musical rhythm throughout the show.

Mythological and Historical Influences:

- The dance presents scenes taken from Hindu stories such as Ramayana and Mahabharata mixed with popular local tales.
- Some performances showcase historic wars alongside warriors who displayed courageous actions within these battles.
- Through this performance people seek divine blessings which lead to communal prosperity.

Regional Variations and Community Involvement:

- The districts of Thrissur and Palakkad and Alappuzha together demonstrate the highest popularity of Kuthira Kali.
- Traditional dancers in Kuthira Kali are men but there are exceptions in particular regions that include women performers.
- The art holds central importance as a festival ritual during Poorams and Utsavams temple celebrations.

Preservation and Modern-Day Relevance:

- The traditional dance receives ongoing protection from organizations that promote cultural events.
- Tourism along with heritage programs has contributed to raising awareness about Kuthira Kali through its incorporation.
- Next generation youth can learn Kuthira Kali through training programs provided by Kerala schools and cultural establishments.

Conclusion:

Kuthira Kali stands as Kerala's distinctive folk tradition because it celebrates both religious practices and cultural history of the state. The performance retains its status as an essential temple festival event as well as community gathering favorite because of its powerful visual impression. Preserving traditional art traditions remains vital because it strengthens both India's cultural diversity and lets upcoming generations experience these historical spiritual traditions.

Gomira Dance: A Masked Ritual of North Bengal

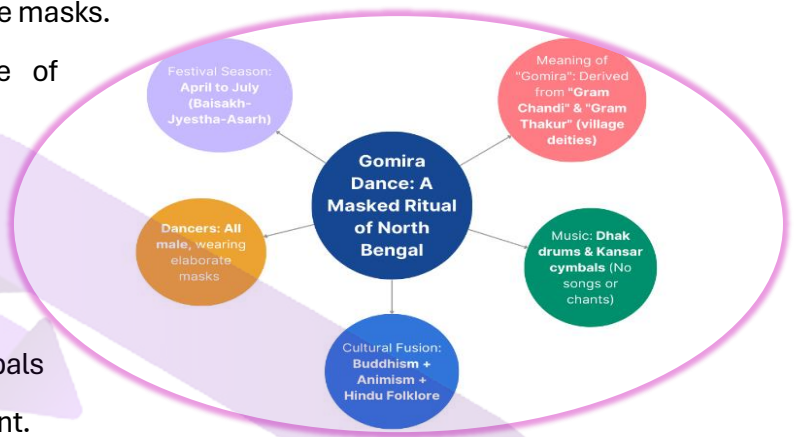
Traditional masked dances of Gomira originated from North Bengal where religious scholars link it to Mahayana



Buddhism alongside animistic cult practices in the area. Male dancers perform Gomira dance to worship village deities and introduce beneficial powers and dismiss malevolent spirits. The Gomira dance stands as a fundamental facet of North Bengal village culture and religion which occurs mainly during the Baisakh-Jyestha-Asarh period (mid-April to mid-July).

Origins and Significance

- The Gomira dance represents a cultural amalgamation between Buddhist religious practices and local animist beliefs alongside Hindu folklore traditions.
- **The linguistic origin of "Gomira" comes from two terms "Gram Chandi" and "Gram Thakur" which refer to rural Bengal's local deities.**
- Worshippers perform this ritual dedication directly to the deity so the deity can bestow blessings for abundant harvests and secure them against evil elements of nature.
- Various materials including papier-mâché alongside sholapith (Indian cork), bamboo, wood, sponge wood, clay and paper comprise the dance masks.
- Traditionally the family-based practice of creating masks remains a strictly male domain which family members have transmitted through the generations.
- Traditional musical performance consists of Dhak drum and Kansar cymbals without any song or chant accompaniment.



Performance and Ritual Timing

- The Gomira dance occurs mostly from April to July (during Baisakh-Jyestha-Asarh festivals).
- Throughout the community a Gomira dance performance takes place at least once at a communal facility located either near the temple or an open field.
- The dancers, all male, wear elaborate masks depicting deities, demons, and mythological characters.
- During the dance performance actors display a symbolic battle while the performance showcases the unending conflict between good and evil forces.

Cultural and Social Significance

- Gomira dance presents a visualization of divine victory over evil which reflects an essential concept in traditional Indian dance expressions.
- The practice of social bonding through this tradition leads to the development of community identity along with collective participation.
- The performance consists of spiritual elements which were traditionally used according to Hindu and Buddhist mythological rituals to protect against harmful spiritual energies through masked ceremonies.
- Through performance events that use masks and dance people support both handmade craft work and spoken traditions as they maintain their cultural heritage.

Global Parallels

- The Tibetan Cham dance shows close similarities to Gomira because both dances have Buddhist origins and employ complex masks.

- Japanese Noh theatre displays stylized masks yet exists as a classical art tradition instead of being a traditional community event.
- The South American Carnival events display mask-based spectacles which differ from Gomira because they are focused on celebration instead of Ritual purpose.

Comparison with Other Masked Dance Traditions in India

Region	Masked Dance Tradition	Similarities	Differences
Odisha	Chhau Dance (Mayurbhanj, Purulia, Seraikela)	Use of masks, mythological themes, battle sequences	Chhau involves acrobatics and martial movements, whereas Gomira is more ritualistic
Himachal Pradesh	Kinnauri Nati Dance	Use of elaborate masks, religious themes	Nati is a slow dance, whereas Gomira is energetic and dramatic
Karnataka	Bhoota Kola	Worship of spirits, performed at village festivals	Bhoota Kola is a trance-based spirit dance, not purely theatrical like Gomira
Kerala	Theyyam	Masks, spiritual invocation, performed in village shrines	Theyyam involves intense devotion and sometimes fire-walking

Conclusion: A Living Heritage

- Gomira represents a sacred communal ritual which combines sacred beliefs with artistic traditions as well as social unity through its performances. The folk dance maintains its symbolic status as a marker of North Bengal identity despite urban growth and decreasing numbers of its performers.

Hmar and Zomi Tribes

A day after the imposition of restrictions following clashes between the Hmar and Zomi people in Manipur, leaders of the two communities recently agreed to work together to restore peace in Churachandpur district of the State.

About Zomi Tribe:

- The Zomi are an ethnic group which can be found in India, Myanmar and in Chittagong hill tracks of Bangladesh.



- The word Zomi is used to describe an ethnic group, which is also known as the Chin, the Mizo, the Kuki, or a number of other names based on geographic distribution.
 - In northeastern India, they are present in Chin State, Nagaland, Mizoram, Manipur and Assam.
- They belong to the **Tibeto-Burman group of Mongoloid race**.
- The dispersal across international borders resulted from a British colonial policy that drew borders on political, rather than ethnic, grounds.
- **Language:** They speak more than fifty dialects that linguists call the **Kukish language group**, which is also known as Kuki-Chin (Kuki/Chin), Mizo/Kuki/Chin, or Kuki Naga.
- **Religion and Beliefs:** Traditionally, Zomis followed animism and worshiped nature spirits. Today, **Christianity** (mainly Baptist and Presbyterian) is the **dominant religion**.
- They have **typical Tibeto-Burman features** and are generally of short-stature with straight black hair and dark brown eyes.

About Hmar Tribe:

- The Hmar tribes (also called **Mhar or Mar**) are the dwellers of the **northeastern part of India**.
- The word "Hmar" literally means "north".
- They live in the northeastern states of **Manipur, Assam, Mizoram, Meghalaya and Tripura**.
- They belonged to the **Chin-Kuki Mizo group** of tribes. They are of **Mongoloid stock**.
- Hmar folk songs reveal that these people **migrated from Sinlung**, which is assumed to be in **China**.
- They are recognised as **Scheduled Tribe** under the Constitution of India.
- **Language:** The **Hmar language** belongs to the **Kuki-Chin group of Tibeto-Burman** stock of the great **Tibeto-Chinese family** of languages.
- **Occupation:**
 - The majority of the Hmars were **cultivators**.
 - **The Slash-and-burn** system of agricultural practices is still at large by the Hmar Tribe.
- **Religion and Beliefs:** Traditionally, they followed animistic and indigenous beliefs, but over time, **many have converted to Christianity**.
- **Clans:**
 - The Hmar society is based on a clan
 - **Each clan** had a **dialect of its own**, though nowadays a common dialect used by the Hmar people was developed by Christian missionaries.
 - The **chief of the village council** is called "**Lal**". Everybody follows his leadership and directive.

Who are Koch-Rajbongshis?

Ahead of the Home Minister's three-day visit to Assam, the Koch-Rajbongshis have renewed their demand for Scheduled Tribe (ST) status.

About Koch-Rajbongshis:

- Koch Rajbongshi is an **ancient tribe** originally **from the ancient Koch kingdom**.
- The Rajbongshi tribe is referred to as Koch Rajbongshi, or Rajbanshi, or Rajvanshi.
- The word "Rajbongshi" literally means "royal community".
- Considered as **indigenous people of South Asia**, at present they live in lower Nepal, **Northern Bengal, North Bihar, Northern Bangladesh, the whole of Assam, parts of Meghalaya, and Bhutan**.
- These modern **geographical areas were once part of the Kamata kingdom ruled by the Koches** for many centuries.
- The community is variously designated as **OBC (Assam), SC (Bengal), and ST (Meghalaya)**.
- **Language:**
 - The Rajbongshi/Rajbanshi **language is spoken by one crore people**, according to a 2001 census.
 - It has a **complete grammar**.
- **Religion and Beliefs:**
 - They are **largely Hindus** with lots of their own deities and rituals.
 - **A large section** of Koch Rajbanshi became **followers of Islam**, and the present Muslims of North Bengal, West Assam and Northern Bangladesh are of Koch Rajbanshi origin.
 - There are **also Christian and Buddhist Koch Rajbanshis**.
- The **primary livelihood** of the tribe is **agriculture and farming**. They live very close to nature because of the fact that **primitively they were 'Animist'** and the same significance is still prevailing among the tribe.





Awards

CHAPTER-5



CHUKLA SELECTED FOR 59TH J

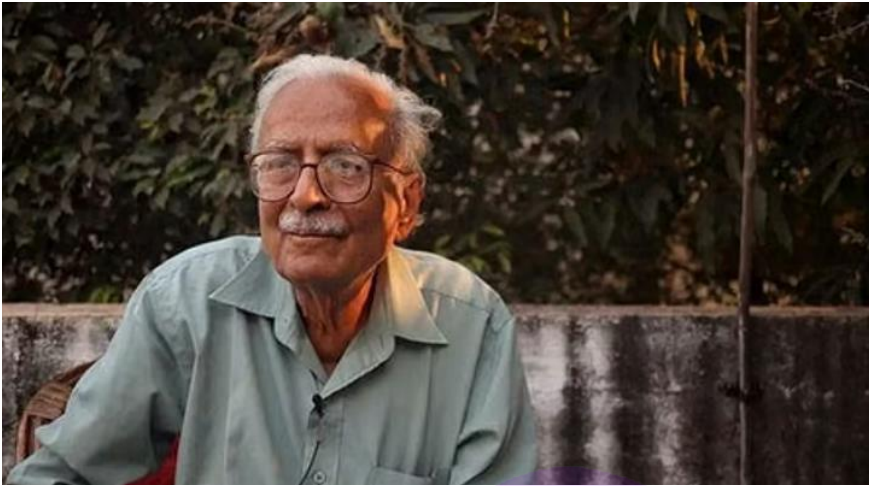


साहित्य अकाद



AWARDS

Vinod Kumar Shukla: First Hindi Writer from Chhattisgarh to Receive Jnanpith Award



The Jnanpith Award goes to Vinod Kumar Shukla an eminent Hindi writer and poet and novelist primarily for his outstanding influences in Hindi literature. At the age of 88 he has received recognition for his important work in Hindi literature through his distinctive method of simple sensitive writing along with experimental techniques. As the 12th writer in Hindi

literature and the first from Chhattisgarh Vinod Kumar Shukla gained this renowned award. This recognition through the Jnanpith Award recognizes his entire life commitment to writing which showcases the complex range of human experiences in his creative works.

Key Points:

About the Jnanpith Award:

- The Jnanpith Award began in 1961.
- It was first given out in 1965 to Malayalam poet G. Sankara Kurup.
- Praised as India's foremost literary distinction for authors demonstrating excellence in several Indian languages.
- The Jnanpith Award gives ₹11 lakhs and also grants recipients a bronze Saraswati statue with a citation.

About Vinod Kumar Shukla:

Life & Career

- Born in 1937 in Rajnandgaon, Chhattisgarh
- He received multiple honors from Sahitya Akademi together with other distinguished awards throughout his career.
- The first collection of poetry by Vinod Kumar Shukla began his literary career when he published Lagbhag Jai Hind in 1971.
- He represents both his state Chhattisgarh and stands as the 12th recipient of this literary award among Hindi writers.

Overview of the Jnanpith Award

Physical Award

Includes a bronze Saraswati statue and citation

First Recipient

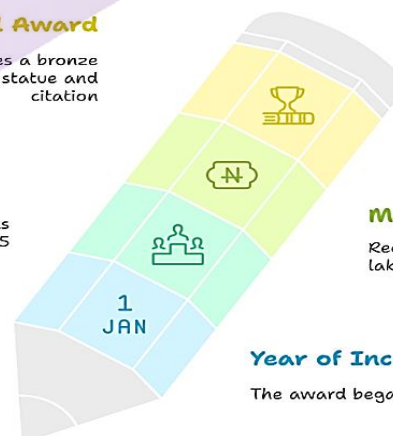
G. Sankara Kurup was the first recipient in 1965

Monetary Prize

Recipients receive ₹11 lakhs

Year of Inception

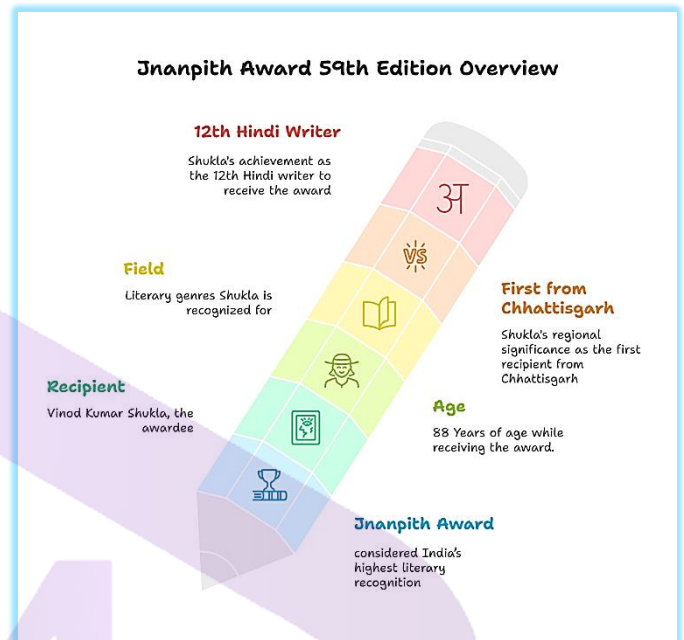
The award began in 1961



- Through his art he represents the ordinary experiences and feelings which characterize common people.
- **Vinod Kumar Shukla became the inaugural writer from Chhattisgarh to achieve the Jnanpith Award.**
- His literary **achievements include receiving prizes from both Sahitya Akademi** and other distinguished literary institutions.

Notable Works:

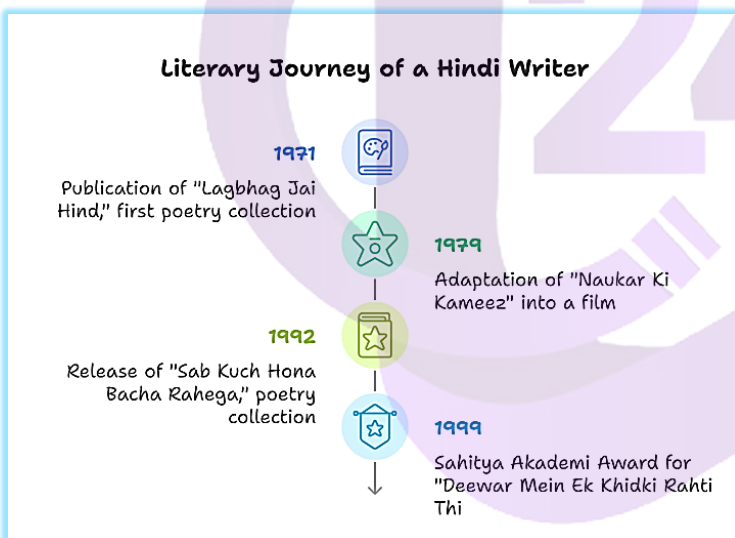
- **"Deewar Mein Ek Khidki Rahti Thi"** – Won the Sahitya Akademi Award in 1999.
- **"Naukar Ki Kameez" (1979)** – Adapted into a film by Mani Kaul.
- **"Lagbhag Jai Hind" (1971)** – His first poetry collection.
- **"Sab Kuch Hona Bacha Rahega" (1992)** – A well-known poetry collection.



Conclusion:

The Jnanpith Award bestowed upon Vinod Kumar Shukla properly honors his enriching work in Hindi literature. Through his straightforward literary methods Shukla tells stories which reach deep into human feelings as he depicts societal complexities. Through becoming the inaugural Jnanpith Awardee of Chhattisgarh he has made both his state and regional literary voices

essential in the national literary context. The invaluable work of this author inspires all new writers in India today.





National

CHAPTER-6



India's Exploration of Critical Minerals in Zambia, Congo, and Australia

Key Developments

➤ Exploration in Africa and Australia

- **Zambia:** Opened a **9,000 sq. km** exploration zone for Indian entities to prospect cobalt and copper.
- **Congo & Tanzania:** India exploring potential mining prospects.
- **Australia:** Lithium and critical mineral exploration by **Coal India, NMDC, and ONGC Videsh Limited.**



➤ Domestic Lithium Reserves

- India discovered **5.9 million metric tons of lithium** in Jammu & Kashmir in **2023**.
- **Lithium mining to begin soon**, but private companies have not shown commitment.
- **Decision on lithium exploration in J&K expected before May 2025**

➤ About Lithium

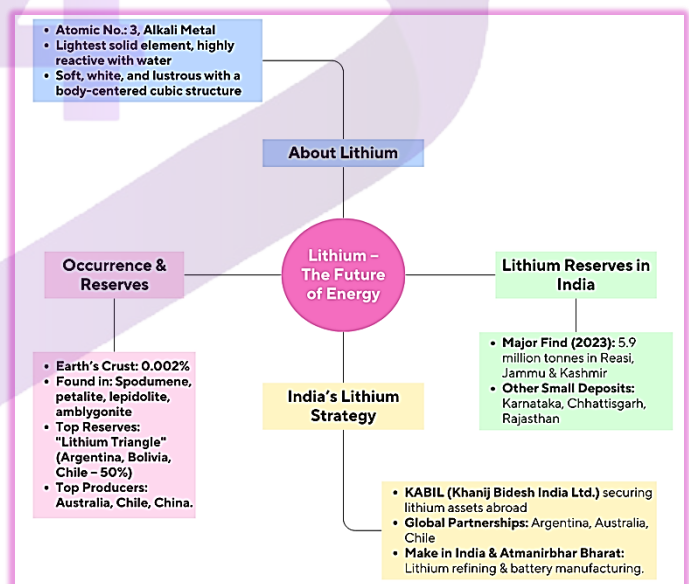
- **Atomic Number: 3**
- **Lightest solid element**, part of the alkali metal group.
- **Highly reactive with water** and has a lustrous white appearance.

➤ Occurrence & Reserves

- Exists at **0.002% concentration** in Earth's crust.
- Found in minerals like **spodumene, petalite, lepidolite, and amblygonite**.
- **The Lithium Triangle (Argentina, Bolivia, Chile) holds ~50% of global reserves.**
- **Major producers: Australia, Chile, China.**

➤ Uses of Lithium

- **Rechargeable lithium-ion batteries** for mobile phones, laptops, EVs, and renewable energy storage.
- **Lithium-aluminium & lithium-magnesium alloys** for aircraft, trains, and bicycles.



- **Glass and ceramics industry** (lithium oxide for durability).
- **Air conditioning & drying operations** (lithium chloride & lithium bromide).
- **Medical use: Lithium carbonate for bipolar disorder treatment.**
- **Hydrogen energy storage** (lithium hydride).

➤ **Lithium Reserves in India**

- **5.9 million tonnes discovered in Reasi, Jammu & Kashmir (GSI report, Feb 2023).**
- **Minor lithium deposits found in Karnataka, Chhattisgarh, Rajasthan.**

➤ **Lithium Exploration & Production Efforts**

- **Khanij Bidesh India Limited (KABIL)** leads **foreign lithium asset acquisitions.**
- **India seeks lithium supply agreements with Argentina, Australia, and Chile.**
- **Make in India & Atma Nirbhar Bharat** initiatives focus on lithium refinement and battery production

➤ **Strategic Funding & Policy Push**

- **₹163 billion (\$1.88 billion) allocated for critical minerals development (Jan 2025 approval).**
- **Ministry of Mines identified 20+ essential minerals for India's renewable energy & construction needs.**
- **India aims to develop lithium processing technology, currently dominated by China**

➤ **Significance of Critical Mineral Exploration**

➤ **Economic Implications**

- **Lower EV battery prices → More affordable electric vehicles.**
- **Reduces India's dependence on lithium imports, saving billions in foreign exchange.**
- **India opens offshore mineral block bidding worth ₹1.5 trillion to global investors.**

➤ **Geopolitical Considerations**

- **India aims to counter China's dominance in lithium processing.**
- **Strengthening economic ties with Zambia, Congo, and Tanzania through mining agreements.**
- **Partnerships with Australia ensure stable critical mineral supply chains.**

➤ **Environmental & Social Impact**

- **Mining operations create new jobs in India and Africa.**
- **Need for responsible mining to prevent ecosystem damage & community displacement.**
- **Supports India's green energy transition (EVs & renewable storage)**

➤ **Challenges & Way Forward**

- **India lacks advanced lithium processing technology.**

- **Security & logistical challenges in Jammu & Kashmir.**
- **Environmental regulations required for sustainable mining.**
- **Intense global competition** for critical mineral extraction.

➤ **Conclusion**

- India's critical mineral exploration in **Zambia, Congo, Australia, and domestically** is a strategic move to ensure **energy security and self-reliance**. The success of this initiative depends on **technological advancements, environmental sustainability, and geopolitical stability**.

A Holistic Approach for Food Security and Nutrition: The Surat Food Security Saturation Campaign

Introduction

- **Prime Minister Shri Narendra Modi** launched the **Surat Food Security Saturation Campaign** in **Limbayat, Surat**.
- Aims to **ensure food security** and **connect disadvantaged populations** with **basic food and nutrition provisions**.
- **Over 2.3 lakh beneficiaries** were incorporated under the **National Food Security Act** through this campaign.
- Serves as a **model for other districts** to support India's vision of '**Viksit Bharat**' and **hunger prevention**.



➤ **Vision and Objectives**

- Ensuring **nutritional food access** for every resident.
- **Two key goals:**
 - **Eliminating discrimination** in food distribution.
 - **Improving food supply chains** for efficiency.
- Surat acts as a **model district** for other regions in India.

➤ **Government's Commitment to Food Security**

- **2.5 lakh beneficiaries** identified (widows, differently-abled persons, elderly citizens).
- **₹2.25 lakh crore allocated** in the **annual budget** for food security.
- **Pradhan Mantri Garib Kalyan Yojana** provides **free food grains** to millions of households.
- **Increased income thresholds** for Gujarat residents to **enhance eligibility** for benefits.

➤ **Nutritional Initiatives and Health Benefits**

- **PM Poshan Scheme:** Daily meals for **12 crore school children**.
- **Saksham Anganwadi Programme:** Regular nutrition for pregnant women, children, and mothers.

- **PM Matru Vandana Yojana: Financial assistance** for pregnant women to support health & nutrition.
- **Goals: Reduce anemia, child malnutrition, and health deficiencies.**

➤ **Efficient & Transparent Food Distribution**

- **Removal of 5 crore fake ration cards** → **Prevention of leakages & better management.**
- **‘One Nation, One Ration Card’** → **Migrant workers can access rations nationwide.**
- **Aadhaar-linked ration cards** → **Ensures benefits reach the right recipients.**

➤ **Role of Cleanliness & Hygiene in Nutrition**

- **Swachh Bharat Mission (Clean India)** → **Reduces medical conditions in rural areas.**
- **‘Har Ghar Jal’ Initiative** → **Safe drinking water for all households** → **Reduces waterborne diseases.**
- **Surat: A national leader in urban cleanliness & public health standards.**

➤ **Economic Empowerment & Poverty Alleviation**

- **Mudra Yojana: ₹32 lakh crore** disbursed to **support small businesses.**
- **PM SVANidhi Yojana: Financial access for street vendors.**
- **PM Vishwakarma Yojana: Monetary support & skill training** for traditional craftsmen.
- ****Government lifted 25 crore people** out of poverty in **10 years** through various initiatives.

➤ **Government Support for the Middle-Class & MSMEs**

- **Zero tax policy for incomes up to ₹12 lakh** benefits middle-class families.
- **Loan programs for SC/ST entrepreneurs & women-led small businesses.**
- **Surat: A key hub for employment generation & economic growth.**

➤ **Infrastructure Development in Surat**

- **Surat Metro, Western Dedicated Freight Corridor & Delhi-Mumbai Expressway** boost connectivity & commerce.
- **Bullet Train project & new Surat Airport terminal** → **Enhanced transport & economic benefits.**

➤ **Women Empowerment & Social Development**

- **Multiple schemes for women’s financial & entrepreneurial support.**
- **PM to highlight women entrepreneurs & leaders on International Women's Day**

➤ **Conclusion**

- **Surat Food Security Saturation Campaign** is a **significant step toward national food security.**
- **Holistic approach** integrating **nutrition, economic empowerment, hygiene, and governance transparency.**

- Supports India's **goal of a hunger-free, self-reliant, and prosperous nation**.
- **A replicable model for other districts**, reinforcing '**Sabka Saath, Sabka Vikas**'.

Rashtriya Karmayogi Jan Seva Programme: A Step Towards Ethical Governance

Introduction

➤ **Social Justice and Empowerment Department (DoSJE)**

launched the **Rashtriya Karmayogi Jan Seva Programme** under **Capacity Building Commission** management.

➤ **Objective:** Foster **Seva Bhav (service spirit)** among public officials to promote **citizen-focused services and ethical governance**.

➤ Establishes **public administration based on integrity, transparency, and empathy**.

➤ **What is Ethical Governance?**

- **Integration of moral principles** into public administration.
- Ensures **fair and transparent** governance, strengthening **public trust**.
- **Examples:**
- **Public officials should go beyond duties**, such as offering water to elderly citizens while they wait.
- **PDS ration distribution must prioritize human dignity**, even when **Aadhaar authentication fails**.
- **Ethical governance builds citizen trust**, enhancing collaboration in public service.

➤ **Key Elements of Ethical Governance**

- **Probity** – Prevents **misconduct and corruption**.
- **Responsibility** – Ensures **accountability and reduces inefficiency**.
- **Rule of Law** – Eliminates **random actions and combats administrative corruption**.
- **Compassion & Empathy** – Encourages **humane decision-making**.
- **Transparency** – Maintains **citizen trust through open governance**

➤ **Ethical Issues in Indian Governance**

- **Abuse of power** by civil servants harms **public welfare**.
- **Neglect of duty** weakens governance performance.
- **Organized bribery** threatens **fairness and justice**.
- **Favoritism and nepotism** reduce **merit-based hiring**.
- **Secrecy in administration** allows **corrupt practices** to flourish.
- **Bureaucratic rigidity** lacks **compassion for individual needs**.

➤ **Rashtriya Karmayogi Jan Seva Programme: A Solution?**



- **Trains officials in citizen-centered governance.**
- **Encourages service excellence and ethical decision-making.**
- **Bridges the gap between policy implementation and public benefits.**

➤ **Addresses Key Challenges:**

- **Eliminates complacency** by promoting **service-oriented behavior**.
- **Develops accountability and responsibility** among officials.
- **Strengthens ethical standards and public service integrity.**
- **Encourages compassionate policymaking** through governance education.

➤ **Way Forward: Strengthening Ethical Governance**

- **Transparency and Justification** – Civil servants must **explain decisions** to **improve trust**.
- **Anti-Corruption Initiatives** – Motivate officials to **resist unethical practices**.
- **Whistleblower Protection Laws** – Shield **those exposing corruption**.
- **Ethics Audit System** – Identifies **threats to governance integrity**.

➤ **Second Administrative Reforms Commission (ARC) Recommendations:**

- **State-funded election campaigns** to reduce **political corruption**.
- **Stronger anti-defection laws** to ensure **political accountability**.
- **Code of Ethics** for **ministers, legislators, judiciary, and civil servants**.
- **Strengthened Prevention of Corruption Act (1988)** to introduce **asset confiscation measures**.
- **Speedy trials** for **corruption cases**.

➤ **Conclusion**

- **Rashtriya Karmayogi Jan Seva Programme** is a **major step toward ethical governance**.
- Strengthens **service integrity, transparency, and accountability**.
- **Ethical governance is crucial** for **justice, citizen trust, and efficient administration**.
- **Promotes probity, empathy, and openness**, strengthening **Indian governance and public welfare**.

Sashakt Panchayat-Netri Abhiyan: Empowering Women Leaders in Local Governance

➤ **Overview**

- Launched on: 4th March 2025 by the Ministry of Panchayati Raj.
- Objective: Empower Women Elected Representatives (WERs) in Panchayati Raj Institutions (PRIs).

➤ **Focus Areas:**

- Leadership training.
- Governance participation.

- Gender-inclusive decision-making.
- Participants: 1,200+ women leaders involved in rural development and policy-making.

➤ **Strategic Initiative**

- Strengthens women's leadership and decision-making in PRIs.
- Increases female participation in governance and policy formulation.

➤ **Key Highlights of the Workshop**

- Participation of 1,200+ women Panchayat leaders from across India.
- Recognition & felicitation of exemplary women leaders in Panchayati Raj.
- Launch of training modules for Women Elected Representatives.
- Introduction of a book on gender-based violence and harmful practices.

➤ **Panel Discussions**

- Theme: "Women's Participation and Leadership in PRIs."

➤ **Alignment with National Vision**

- Aligned with PM Modi's vision of "Nari Shakti" in nation-building (discussed in 'Mann Ki Baat' episode 119).
- Goal: Develop gender-neutral, safe, and inclusive Gram Panchayats.

➤ **Conclusion**

- Sashakt Panchayat-Netri Abhiyan is a milestone for local governance empowerment.
- Reinforces India's commitment to rural development and gender equality.
- Aims to strengthen women's decision-making for more inclusive, equitable Panchayats.

India Achieves Targeted Maternal Mortality Rate of 100 Deaths per Lakh Live Births:

Union Health Minister J.P Nadda

➤ **Overview**

- India meets National Health Policy (NHP) target – MMR at 100 per 100,000 live births
- 83% decline in Maternal Mortality Rate (1990-2020), surpassing global decline
- Significant drop in Infant Mortality Rate (IMR) & Under-5 Mortality Rate (U5MR)
- Government focus on strengthening healthcare infrastructure & achieving UN SDGs



➤ **Maternal Mortality Ratio (MMR)**

- **Definition:** Maternal deaths per 100,000 live births due to pregnancy or childbirth complications
- **Global Target (WHO/SDGs):** Reduce MMR to below 70 per 100,000 live births by 2030
- **India's Target:** Reduce MMR below 70 by 2030

➤ Decline in MMR (2016-19)

- MMR dropped from 113 to 103

➤ States Achieving SDG Target (<70 MMR)

- Kerala (30) – Lowest in India
- Maharashtra (38)
- Telangana (56)
- Tamil Nadu (58)
- Andhra Pradesh (58)
- Jharkhand (61)
- Gujarat (70)

➤ States Meeting NHP Target (<100 MMR)

- Karnataka (83)
- Haryana (96)

➤ States with MMR Between 100-150

- Uttarakhand (101)
- West Bengal (109)
- Punjab (114)
- Bihar (130)
- Odisha (136)
- Rajasthan (141)

➤ States with MMR Above 150

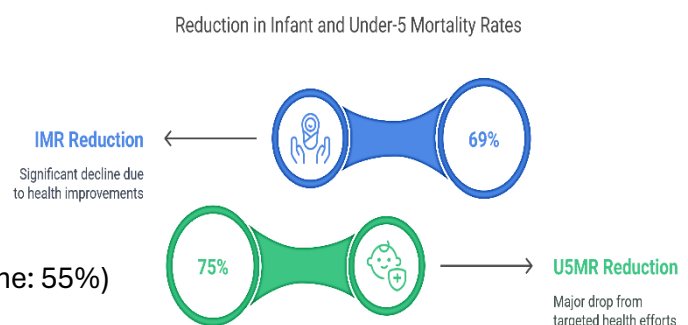
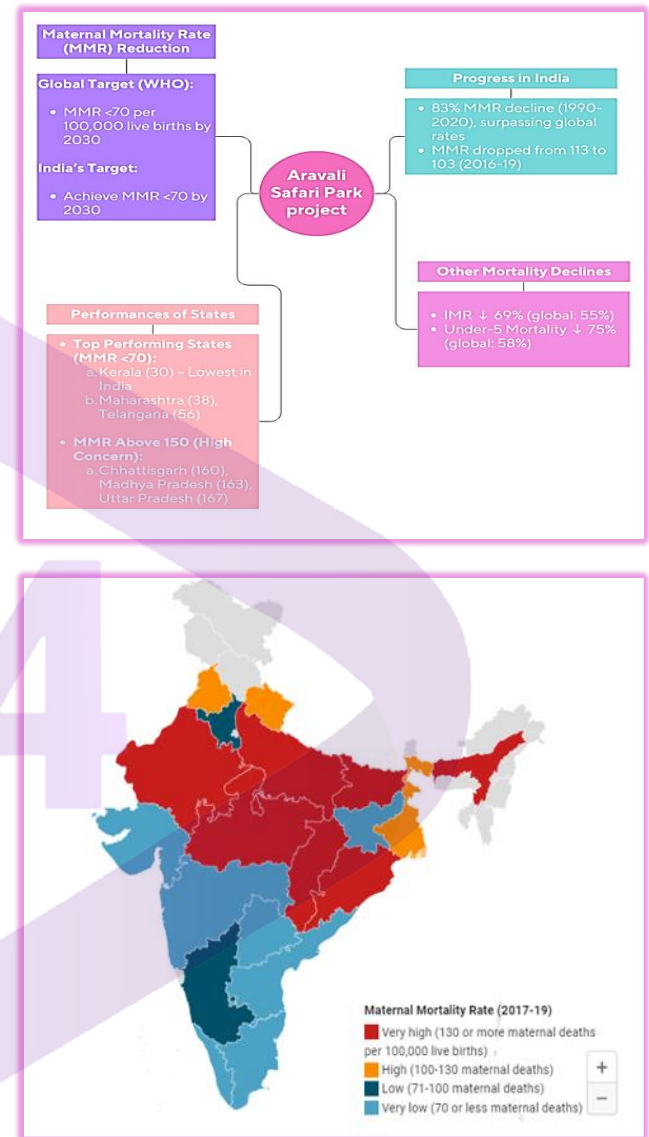
- Chhattisgarh (160)
- Madhya Pradesh (163)
- Uttar Pradesh (167)
- Assam (205) – Highest in India

➤ Infant & Under-5 Mortality Trends

- IMR decreased by 69% (Global decline: 55%)
- U5MR reduced by 75% (Global decline: 58%)

➤ Fertility Rate & Its Impact

- **Total Fertility Rate (TFR):** Predicted number of children per woman (15-49 years)



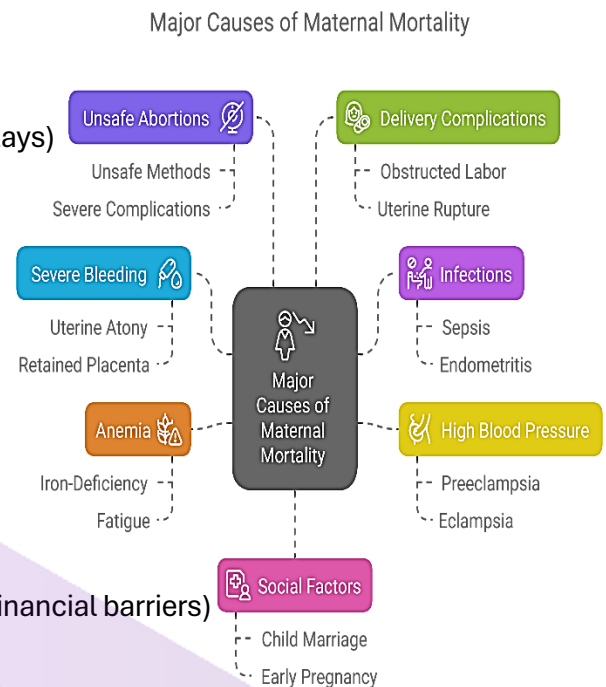
- **India's TFR (2019-21): 2.0** – Near replacement level

➤ Low Fertility Risks

- Aging population pressure (Kerala)
- Reduced workforce & economic slowdown
- Changing social norms (Marriage & childbirth delays)

➤ Major Causes of Maternal Mortality

- Severe bleeding (Postpartum hemorrhage)
- Infections
- High blood pressure (Preeclampsia/Eclampsia)
- Anemia
- Unsafe abortions
- Delivery complications
- Social factors (Child marriage, early pregnancy, financial barriers)



➤ Government Initiatives to Reduce MMR

- **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)** – Free antenatal care
- **POSHAN Abhiyaan** – Improves maternal & child nutrition
- **Pradhan Mantri Matru Vandana Yojana (PMMVY)** – Direct cash benefit for pregnant women
- **Surakshit Matritva Anushasan (SUMAN)** – Free & respectful maternity care
- **LaQshya Initiative** – Enhances labor room & maternity ICU care

➤ Rise in Institutional Deliveries

- 95.5% of births in hospitals (2020-21)
- 94% in rural areas
- 98% in urban areas
- Significant jump from 88.6% (2019-21)

➤ Strategies to Further Reduce MMR

- Expand healthcare access – Strengthen rural hospitals & maternity care
- Train healthcare providers – Focus on emergency obstetric care
- Increase awareness – Promote hospital births & safe pregnancy practices
- Regular monitoring – Maternal Death Surveillance & Response (MDSR) for early intervention

➤ Conclusion

- India's success in reducing MMR reflects strong public health policies & initiatives
- Continuous efforts needed to sustain progress & achieve SDG target of <70 MMR by 2030.

Jan Aushadhi Diwas 2025: Affordable Quality Medicines for a Healthier Future

➤ Overview

- **Jan Aushadhi Diwas** is celebrated annually on **March 7th** to raise awareness about the **Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)** and its role in providing **affordable generic medicines**.
- A **week-long awareness campaign (March 1-7)** spreads healthcare-related information across the country.
- The **Department of Pharmaceuticals** launched the **PMBJP initiative in November 2008** under the **Ministry of Chemicals & Fertilizers**.



➤ Objectives of PMBJP

- Ensure **affordable access** to quality generic medicines for all.
- Educate the public about **cost-effective, high-quality** generic drugs.
- Encourage **government hospitals and doctors** to prescribe generic medicines.
- Expand access to essential medicines through an **extensive network of PMBJP Kendras**.
- Strengthen India's position as a **global leader in generic medicine exports** while ensuring domestic affordability..

➤ Major Initiatives Under PMBJP

1. Suvidha Sanitary Napkins

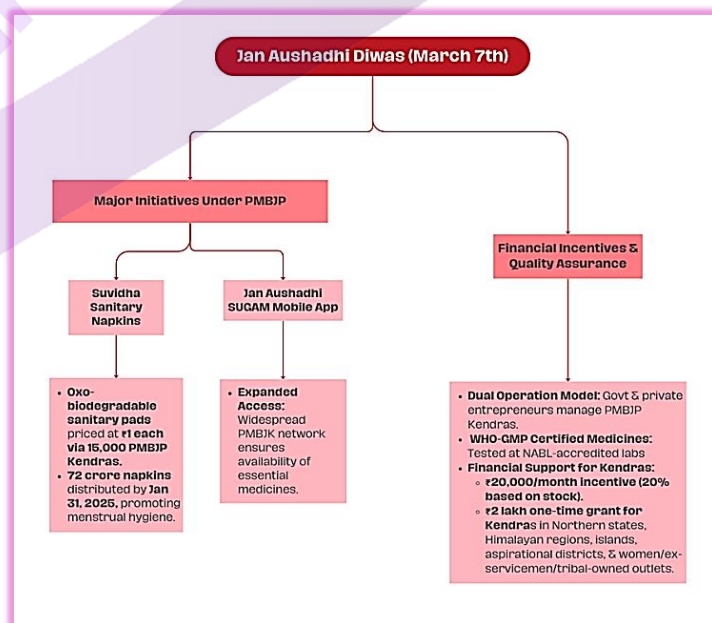
- **Launched on: August 27, 2019**
- **Price: ₹1 per pad at 15,000 PMBJP Kendras.**
- **Impact: 72 crore napkins** sold by **January 31, 2025**, promoting menstrual hygiene.

2. Jan Aushadhi SUGAM Mobile App

- **Launched: August 2019**

Key Features:

- **Locate Jan Aushadhi Kendras** via **Google Maps**.
- Search and compare **generic vs. branded medicines**.
- Calculate **cost savings on medicines**.



➤ Key Features of PMBJP

- **1. Dual Operation Model**
 - **Government + Private Entrepreneurs** collaborate to run PMBJP Kendras.
- **2. Cost Savings for Patients**
 - Generic medicines cost **50%-80% less** than branded alternatives.
- **3. Quality Assurance**
 - Medicines are sourced from **WHO-GMP-certified manufacturers** and tested in **NABL-accredited laboratories**.
- **4. Financial Incentives**
 - PMBJP Kendras receive **up to ₹20,000 per month** (20% margin-based incentives).
 - A **one-time ₹2 lakh grant** is provided for:
 - **Himalayan states, islands & aspirational districts**
 - **Women, ex-servicemen, differently-abled, tribal entrepreneurs**

➤ Growth of PMBJP

- The PMBJP program has seen major growth over successive years.
- More than 15,000 PMBJP Kendras exist throughout all districts in India.
- PMBJP offers more than 1,800 generic medicines and 280 surgical & medical devices to customers.
- Jan Aushadhi Diwas 2025: 7 Days of Celebration

➤ Conclusion

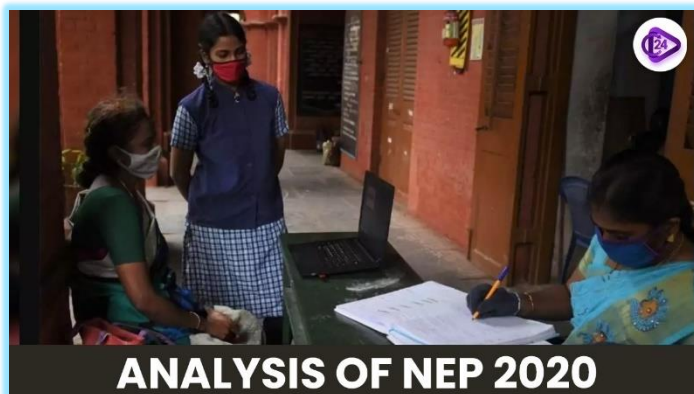
- The **PMBJP initiative revolutionized healthcare affordability** by providing **high-quality, low-cost medicines**. With **15,000 operational Janaushadhi Kendras**, the program benefits **both patients and rural entrepreneurs**. By **expanding generic medicine access**, India moves closer to **universal healthcare and economic empowerment**. **Jan Aushadhi Diwas** reinforces the government's commitment to making **healthcare accessible and affordable for all**.

Analysis of NEP 2020: Three- Language Policy

Key Highlights of NEP 2020

➤ Medium of Instruction

- NEP 2020 states that home language, mother tongue, and regional languages should serve as the primary instructional mediums from Grade 5 to at least Grade 8.



- Encourages bilingual education, combining native languages with English to improve learning outcomes.
- Research indicates that children grasp concepts better in their native language.

➤ **What is the Three-Language Formula?**

- Aims to support linguistic diversity while fostering national unity.
- NEP 2020 ensures no language is imposed upon any state or region.
- Promotes Sanskrit, Tamil, Telugu, Kannada, Malayalam, Odia, and other classical languages.

➤ **Implementation Challenges**

- **Declining Trend:** Research through the All India School Education Survey (AISES) detected that schools progressively switch away from using the students' native language for teaching.
- **Rural vs Urban:** A larger proportion of rural educational institutions choose mother-tongue-based education classes instead of urban schools.
- **Different Preference of States:** The government of Tamil Nadu keeps fighting against the three-language policy since they prefer dual-language education over the existing norm.
- **Lack of trained educators:** The lack of trained educators handling regional and classical languages becomes a barrier to successful program execution.

➤ **Role of Digital and Bilingual Resources**

- Under NEP 2020 the educational board **supports digital educational resources in mother tongue languages** for improved learning access.
- NCERT has **developed educational content in 104 different regional languages** and dialects to establish mother-tongue-based learning programs.

➤ **Foreign Languages in NEP 2020**

- Secondary students in schools have the choice between the foreign language options of Korean, Japanese, French, German and Spanish for their studies.
- Students need to learn two Indian languages during their first ten years of school but they get flexibility later to pick a foreign language.

➤ **Critical Analysis**

➤ **Strengths**

- Early learning of the mother tongue helps **develop cognitive capabilities** of children during formative years.
- NEP 2020 adopts a policy to acknowledge **diverse languages** throughout India while embracing multiple linguistic skills.
- The system provides **adaptable language** policies because it gives authority to states to create their own choices.

- Focuses on **technological integration** with digital resources in regional languages.

➤ Challenges

- A **strong opposition** against the three-language formula exists in Tamil Nadu as its residents fear Hindi language enforcement.
- AISES survey data shows that the **number of students enrolled in mother tongue education has decreased** across the education system.
- **Infrastructure and manpower issues:** Shortage of qualified teachers for classical and regional languages.
- **Unequal Implementation:** The language policy adoption differs between States as certain states succeed in having bilingual books yet other states face difficulties with integrating the policy.

➤ Way Forward

- The government should prioritize **investing money into training programs** that teach teachers regional and classical languages.
- The language policy **must be applied equitably to urban schools at equal strength to that of rural schools.**
- Education institutions should **use technology to develop digital learning tools** which support multilingual education delivery.
- **State governments should receive flexibility** to modify the three-language approach as long as national unity remains preserved.

➤ Conclusion

- The language policy within NEP 2020 functions to develop an education system which offers balanced and inclusive and multilingual learning. The strategy needs continuous improvement in addition to proficient teachers who can implement this approach and avoidance of opposition from different regions. Success of this policy demands a detailed approach which both recognizes different languages while maintaining educational standards.

Railways to Dig Ponds Under Mission Amrit Sarovar to Fight Water Scarcity

➤ Mission Amrit Sarovar Overview:

- **The initiative began on April 24, 2022** to celebrate 75 years of independence according to Azadi Ka Amrit Mahotsav standards.
- The **program targets the development of 75 fresh or renewed ponds** in all territorial districts across the borders of India.
- As of October 2024 the interventions **reached more than 68,000 ponds.**

- The project assists **rural communities to combat their water scarcity problem and improves water accessibility** across the board.

➤ **Railways' Role in Mission Amrit Sarovar:**

- Railways received orders to perform cleaning operations of existing water reservoirs or **establish new water reservoirs along railway track paths.**
- **Pond construction sites** need to be identified through joint work between district authorities and their representatives.
- The terraced soil extracted during construction will be rerouted for railway embankments thereby minimizing waste disposal while expanding railroad capabilities.
- Coordination with the Rural Development Ministry for smooth implementation

➤ **Features of Mission Amrit Sarovar include:**

- The Amrit Sarovar ponds must contain a minimum ground space of 1 acre which provides a water storage capacity of 10,000 cubic meters.
- Water conservation measures must combine with people's participation together with the best practices of soil utilization.
- **Six ministries/departments work together** following the Whole of Government Approach for implementing the program.
 - Department of Rural Development
 - Department of Land Resources
 - Department of Drinking Water and Sanitation
 - Department of Water Resources
 - Ministry of Panchayati Raj
 - Ministry of Forest, Environment, and Climate Change
- The program operates through existing budgets and funding sources within the government.
- The technical partnership role belongs to **Bhaskaracharya National Institute for Space Application and Geo-Informatics (BISAG-N).**

➤ **Future Prospects and Implementation**

- The second phase of the program centers on two key elements: **Jan Bhagidaari community engagement and climate resilience and ecological balance.**
- By August 15, 2025 the Railways aim to finish an extensive number of pond rejuvenation projects.

➤ **Conclusion:**

- Mission Amrit Sarovar represents an essential program that seeks sustainable water conservation along with rural water security. Through its participation Indian Railways expands

and improves the mission's effectiveness while maximizing natural resource utilization. Through its integration with infrastructure development the initiative supports both environmental and economic progress which makes India stronger against water scarcity.

EC Reconsiders EPIC-Aadhaar Linkage

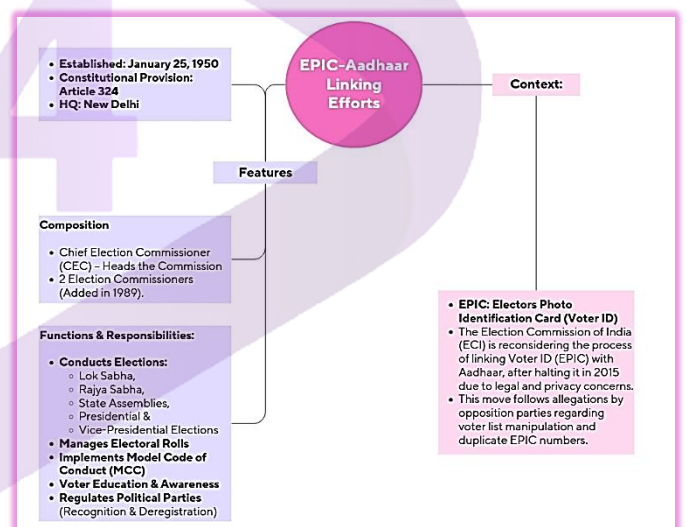
Introduction

- The Election Commission of India (ECI) has resumed discussions on linking voter ID (EPIC) with Aadhaar, following the discontinuation of the process in 2015 due to legal and privacy concerns. The move has sparked debates regarding its impact on voter list integrity and potential risks. The ECI remains committed to conducting fair and transparent elections across all levels in India.



➤ Background: EPIC-Aadhaar Linking Efforts

- The Electors Photo Identification Card serves as the acronym for Electors Photo Identification Card along with its common name of Voter ID.
- **2015 Attempt:**
- The EC started NERPAP as a plan to cleanse voter rolls of duplicate enrollment.
- Within three months the linking of Aadhaar with 30 crore (300 million) voters was successfully accomplished.
- The Supreme Court issued its verdict to prohibit making Aadhaar mandatory which resulted in NERPAP being placed on hold during August 2015.



➤ Key Considerations

A. Social Aspects

➤ Pros:

- Clean voter lists become possible due to the elimination of both bogus voting and duplicate entries within the system.
- The procedure enhances voting authentication mechanisms and maintains democratic electoral systems.

➤ Concerns:

- Privacy risks and potential misuse of Aadhaar data.
- Particular populations who face higher risks of losing their voting rights become most vulnerable during this process.

B. Economic Aspects

➤ **Pros:**

- The process of linking reduces the expenses associated with electoral fraud and fake voter ID production.
- Election validation procedures become easier through this system making electoral procedures run more efficiently.

➤ **Concerns:**

- Gender Qualified extensive financial support together with technical requirements are essential to execute this system.
- The use of digital infrastructure in the voting system presents a challenge to voters with limited access to Aadhaar because it depends heavily on these systems.

➤ **Election Commission of India (ECI)**

- The autonomous constitutional authority known as Election Commission of India (ECI) executes administrative duties to conduct elections at all levels throughout India.
- Through its work the commission provides open and honest elections which are operated with full transparency across all levels.

➤ **Key Facts**

- Established: January 25, 1950
- Constitutional Provision: Article 324 of the Indian Constitution
- Headquarters: New Delhi

➤ **Composition:**

- Chief Election Commissioner (CEC) – Heads the Commission
- Two Election Commissioners (since 1989)

➤ **Functions & Responsibilities**

- The Commission **manages Lok Sabha Rajya Sabha State Assembly** and Presidential elections as part of its conducting duties.
- The organization maintains **electoral lists** while preparing them for usage.
- The **Model Code of Conduct** ensures the regulation of political party and candidate activities.
- **Voter Education & Awareness** – Encourages voter participation.
- **Political Party Regulation** – Recognizes and deregisters political parties

➤ **Conclusion**

- Linking Voter ID with Aadhaar presents dual advantages for electoral transparency but simultaneously generates issues regarding voter identification protection. By taking a voluntary

approach the EC seeks to achieve security measures while protecting individual rights despite ongoing public discussions about data protection and voter disenfranchisement.

Union Home Minister Amit Shah had announced that the Free Movement Regime (FMR) along the India-Myanmar border would be scrapped.



Why in the News?

- In **February 2024**, **Union Home Minister Amit Shah** announced that the **Free Movement Regime (FMR)** along the **India-Myanmar border** would be **scrapped**.
- The decision was reportedly influenced by **former Manipur CM N. Biren Singh**, who blamed **unregulated cross-border movement** for fueling **ethnic conflict in Manipur**.
- However, **Mizoram and Nagaland opposed the decision**, and no official notification or bilateral agreement has been made yet.
- The **FMR was introduced in 1968** and initially allowed movement up to **40 km**, later **reduced to 16 km in 2004**, with additional **regulations enforced in 2016**.

About Free Movement Regime (FMR)

- **The FMR is a bilateral arrangement** between **India and Myanmar** that permits unrestricted movement **within 16 km** on either side of the **1,643 km Indo-Myanmar border (IMB)**.
- **Eligibility:** Any member of the **hill tribes** (whether an **Indian or Myanmar citizen**) can cross the border **with a border pass valid for one year** and **stay for up to two weeks per visit**.
- **Objective:**
 - To maintain **historical, cultural, and social ties** between the trans-border communities.
 - To **boost local trade** and facilitate **familial visits**.
 - To serve as a **unique case of cross-border cooperation** under **India's Act East Policy**.

- **Implementation:**

- Introduced formally in **2018**, although movement existed **informally for centuries**.
- Inspired by **India's Act East Policy**, which aims to **strengthen ties** with Southeast Asian nations.

APAAR ID

APAAR ID: A Digital Student Identification System in India

- **What is APAAR ID?**

- APAAR stands for Automated Permanent Academic Account Registry.
- It is part of the National Education Policy (NEP) 2020 to streamline student records.
- The initiative is based on the 'One Nation, One Student ID'
- It is linked to Aadhaar and stored in DigiLocker for easy access.
- APAAR is generated through Unified District Information System for Education Plus (UDISE+).



- **Objectives of APAAR:**

- To accumulate and store students' academic achievements in a central database
- To facilitate seamless transfer between institutions
- To provide standardized digital records for mark sheets and institutional affiliations
- To help in educational policymaking and analysis

- **Is APAAR Mandatory?**

- Officially, APAAR is voluntary, as per government documents. However, CBSE and certain state government boards (e.g., Uttar Pradesh) are pushing for 100% student enrollment.
- Many parents are not explicitly informed about the voluntary nature of the program.
- Parliament confirmed in December 2024 that APAAR registration is not legally mandated.

- **How is an APAAR ID Generated?**

- Schools collect demographic details (Name, Date of Birth).
- Parents sign a consent form to authorize APAAR ID creation.
- Schools verify details and authenticate before issuing the ID.

- **Relation to Other Digital Initiatives:**

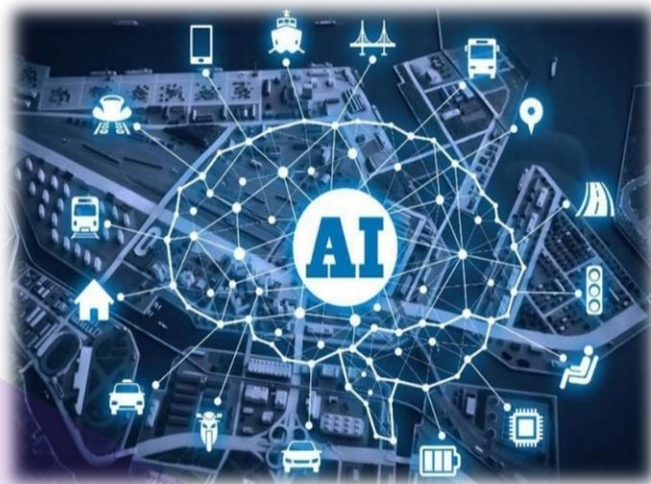
- Academic Bank of Credits (ABC): Introduced under NEP 2020 for credit transfer across institutions. Students' credits are stored digitally and linked to APAAR ID.
- DigiLocker: Cloud-based platform for storing and verifying educational certificates. It is recognised as legally valid under IT Rules, 2016.

Sansad Bhashini Initiative

The Lok Sabha Secretariat and the Ministry of Electronics and Information Technology (MeitY) signed a Memorandum of Understanding (MoU) to develop the Sansad Bhashini initiative recently.

About Sansad Bhashini Initiative:

- It is an initiative jointly undertaken by the Lok Sabha Secretariat and Ministry of Electronics and Information Technology (MeitY) for the development of a package of in-house AI.
- It is designed to integrate AI-powered tools that will facilitate multilingual support, optimize documentation and improve overall parliamentary operations.
- The initiative will deploy cutting-edge AI applications such as real-time speech-to-text transcription, speech-to-speech translation, and interactive AI chatbots.
- These technologies will ensure seamless translation of parliamentary debates, committee reports, and legislative documents into multiple Indian languages, thereby fostering inclusivity and broader public engagement.
- It will leverage AI to transcribe spoken debates into text in real-time, making parliamentary discussions more accessible and easier to reference.
- This transcription system will incorporate features such as background noise reduction, customizable vocabulary, and efficient documentation tools to enhance accuracy and usability.
- Additionally, AI-enabled automatic summarization of extensive debates will facilitate quicker decision-making and streamlined record-keeping.



What is Parvatmala Pariyojana?



The union cabinet recently approved two major ropeway projects- Govindghat to Hemkund Sahib Ji (12.4 km) and Sonprayag to Kedarnath (12.9 km)- in Uttarakhand, which will be developed under National Ropeways Development Programme – Parvatmala Pariyojana.

About Parvatmala Pariyojana:

- The National Ropeways Development Programme, known as the ‘Parvatmala Pariyojana’, was announced in the 2022-23 Union Budget.
- Under the Parvatmala Pariyojana, the Ministry of Road Transport and Highways envisages the provision of safe, economical, convenient, efficient, self-sustainable & world-class ropeway infrastructure providing first- and last-mile connectivity to improve logistics efficiency in India.
- The programme aims to improve connectivity and convenience for commuters in hilly regions and to decongest urban areas where the conventional mode of transport is saturated or not feasible.
- **Key Highlights:**
 - Enhances **first- and last-mile connectivity** for better logistics.
 - **200+ projects** identified with a **₹1.25 lakh crore** investment
 - **60% government funding** under a **Public-Private Partnership (PPP)** model.
 - Collaboration with **state governments** for ropeways in forests, urban areas, and tough terrains.
- **Implementing Agency:**
 - **National Highways Logistics Management Limited (NHLML)**, a **100% NHAI-owned SPV**, is responsible for execution.

Bodo Peace Accord

➤ Agreement & Formation of BTR

- Signed on **January 27, 2020**, between the **Government of India, Assam, and Bodo groups**.
- Established the **Bodoland Territorial Region (BTR)**, replacing BTAD, with **greater autonomy** for the Bodoland Territorial Council (BTC).



➤ Political & Linguistic Recognition

- **Bodo language is recognized** as an **associate official language of Assam**.
- BTC granted **legislative, administrative, and financial powers** for self-governance.

➤ Economic & Developmental Initiatives

- **₹1,500 crore allocated** for Bodoland’s **economic and infrastructural growth**.
- **₹5 lakh crore investment secured** for Assam at PM Modi’s Investment Summit.
- **Bodo products secured 11 GI Tags** under ‘One District One Product’ initiative.
- **400 Bodo youth recruited** into the Assam Commando Battalion.

➤ Security & Peace Measures

- **AFSPA was removed from BTR** (April 1, 2022), ensuring a peaceful environment.

- ₹287 crore allocated for rehabilitation of 4,881 ex-NDFB cadres.
- Over 10,000 militants reintegrated into society through peace efforts.

➤ Cultural & Social Recognition

- Bodo culture, heritage, and Bathou religion granted official recognition.
- Bodo language education strengthened, ensuring its preservation for future generations.
- Durand Cup hosted in Bodoland, showcasing its peace and stability.

➤ Conclusion

- The Bodo Peace Accord fosters **peace, autonomy, and economic growth**, laying the foundation for a **stable, prosperous, and self-sufficient Bodoland**.

Prime Minister's Young Authors Mentorship Scheme (YUVA) Scheme



➤ Launch & Objective

- Launched on March 11, 2025, by the **Ministry of Education (MoE) & National Book Trust (NBT)**.
- Aims to **mentor young writers (under 30)** to enhance literary skills and promote Indian literature.
- Supports **Ek Bharat Shreshtha Bharat** by documenting cultural heritage and knowledge.

➤ YUVA 3.0: Key Features

- **Themes:**
 - **Indian Diaspora's Contribution** to Nation Building
 - **Indian Knowledge System**
 - **Makers of Modern India (1950-2025)**

➤ Selection Process

- **MyGov India** hosts applications.
- **50 authors** selected via competitive evaluation.
- **Proposals of 10,000 words** required for assessment.

➤ Mentorship & Benefits:

- **6-month mentorship** with industry experts.

- ₹50,000 monthly financial support.
- **Publishing & promotional assistance** in multiple Indian languages.
- **Participation in national & international literary events.**

➤ **Background & Previous Editions**

➤ **YUVA 2.0 (2022):**

- **Theme:** Democracy & Constitutional Values.
- Received **12,000+ applications**, breaking participation records.

➤ **YUVA 1.0 (2021):**

- **Theme:** India's National Movement.
- Writings adapted into **educational materials & audiobooks.**

➤ **Future Prospects**

- **Online publishing platform** for global readership.
- Expansion into **science fiction, technology & environmental themes.**
- **Global literary partnerships** to provide international opportunities.

➤ **Conclusion**

- The **YUVA scheme nurtures young literary talent**, enriching **India's multilingual literary heritage.** With growing government support and participation, it serves as a foundation for **future global literary contributions from India's youth.**

Indore to Set Up India's First PPP Green Waste Processing Plant

➤ **Introduction:**

- Indore, under the **Swachh Bharat Mission-Urban**, has launched **India's first Green Waste Processing Plant** through a **Public-Private Partnership (PPP) model.** This initiative aims to **convert green waste into valuable resources**, promoting sustainability while reducing pollution and enhancing air quality.



➤ **Key Features of the Plant**

- **Location:** **55,000 sq. ft.** facility in **Bicholi Hapsi.**
- **Revenue Generation:** Indore Municipal Corporation (IMC) earns **₹3,000 per tonne** from wood and branches.
- **Daily Waste Processing:** **30 tons** of green waste, increasing to **60-70 tons in autumn.**

➤ **Products Generated:**

- **Wood pellets** as an alternative to coal.
- **Sawdust** for sustainable product manufacturing.
- **Eco-friendly fuel, fertilizers, and biodegradable plates.**

➤ **Additional Green Waste Management Initiatives**

- **Smaller private sector plants (Meghdoot & sub-grade units)** handle garden waste at Sirpur.
- **Compost pits in council gardens** process leaves & twigs.
- **Pellet production supplies NTPC industries** with renewable energy.

➤ **Impact & Benefits**

- **Revenue Generation** through green waste processing.
- **Improved Air Quality Index (AQI)** by reducing waste burning.
- **Promotes sustainability** under **Swachh Bharat Mission-Urban.**
- **Coal replacement with alternative fuel** for a cleaner environment.

➤ **Conclusion**

- Indore's **PPP-model Green Waste Processing Plant** is a game-changer in sustainable waste management. By transforming **green waste into eco-friendly products**, the initiative promotes **environmental conservation, revenue generation, and innovation**—setting an example for other cities to follow.

Rashtriya Gokul Mission: Strengthening Indigenous Cattle Breeds

➤ **Overview**

- The **Union Cabinet** has approved **₹3,400 crore** in revised funding and an **additional ₹1,000 crore** for the **2021–22 to 2025–26** period under the **Rashtriya Gokul Mission (RGM)**. Launched in **December 2014**, RGM aims to **boost milk production, enhance cattle productivity, and conserve native bovine breeds** through **scientific breeding techniques**.

The logo of the Rashtriya Gokul Mission is displayed within a dark brown rectangular box with a thin pink border. The text "Rashtriya Gokul Mission" is written in a large, bold, white sans-serif font, stacked in three lines: "Rashtriya" on the top line, "Gokul" on the middle line, and "Mission" on the bottom line.

➤ **Key Features of RGM**

- **Development & Preservation of Native Cattle:** Focuses on indigenous breeds like **Gir, Sahiwal, Rathi, Tharparkar, and Red Sindhi.**
- **Improved Milk Production:** Enhances **genetic potential** through **Artificial Insemination (AI)** and **sex-sorted semen** technology.

- **Gokul Grams:** Acts as **integrated breeding centers** to preserve and promote indigenous cattle.

➤ Implementation & Funding

- **Ministry:** Ministry of Fisheries, Animal Husbandry, and Dairying.
- **Financial Assistance:**
 - ₹5,000 subsidy per IVF pregnancy.
 - 50% subsidy on sex-sorted semen cost.
 - 50% project cost coverage (up to ₹2 crore) for breed multiplication facilities.



➤ Objectives & Benefits

- **Genetic Improvement:** Strengthens **milk productivity** through advanced breeding methods.
- **Sustainable Dairy Farming:** Ensures **better livelihoods** for farmers and promotes **food security**.
- **Conservation of Indigenous Breeds:** Protects and propagates native cattle for **long-term biodiversity preservation**.

➤ Conclusion

- RGM is a **transformational initiative** for India's dairy sector, combining **scientific innovation with traditional cattle preservation**. With **enhanced funding and focused breeding programs**, the mission is set to **strengthen rural economies and ensure sustainable dairy production** for the future.

Watan Ko Jano Programme: Promoting National Integration Among Kashmiri Youth

➤ Overview

- The '**Watan Ko Jano**' program, launched by the **Jammu & Kashmir Government** in collaboration with the **Ministry of Home Affairs**, provides **underprivileged children** with **educational and cultural exposure** across India. It aims to **nurture patriotism, strengthen**

national unity, and introduce Kashmiri youth to India's rich heritage and technological progress.

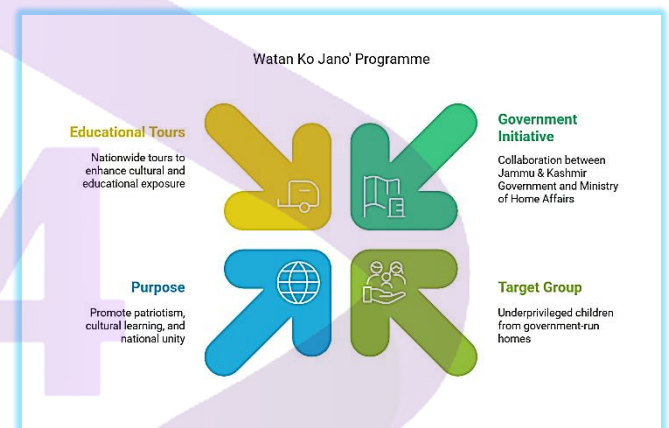
➤ Objectives

- **National Integration:** Fosters a sense of belonging by exploring India's **cultural diversity**.
- **Educational Exposure:** Visits to **historical landmarks, institutions, and industries**.
- **Technological Awareness:** Insight into **scientific advancements and innovation**.
- **Personality Development:** Builds **confidence, communication, and leadership skills**.
- **Promoting Harmony:** Strengthens relations between Kashmir and other regions of India.



➤ Youth Skill Development Initiatives

- **Mission Youth:** Provides **career guidance, entrepreneurship support, and financial aid**.
- **Mission Yuva:** Focuses on **technical training, financial literacy, and employment support**.



➤ Kashmiri Youth Exchange Programme (KYEP)

- Organized by **Nehru Yuva Kendra Sangathan (NYKS)**, KYEP enhances **youth engagement and national integration** through:
 - **Cultural & Educational Exchanges:** Panel discussions, seminars, and interactive sessions.
 - **Skill Development Workshops:** Training in **entrepreneurship, career planning, and personality development**.
 - **Industrial Visits:** Exposure to **various industries and businesses**.
 - **Promotion of Kashmiri Heritage:** Exhibitions, food festivals, and cultural programs.
 - **Nation-Building Activities:** Encouraging **patriotism and social unity**.

➤ Conclusion

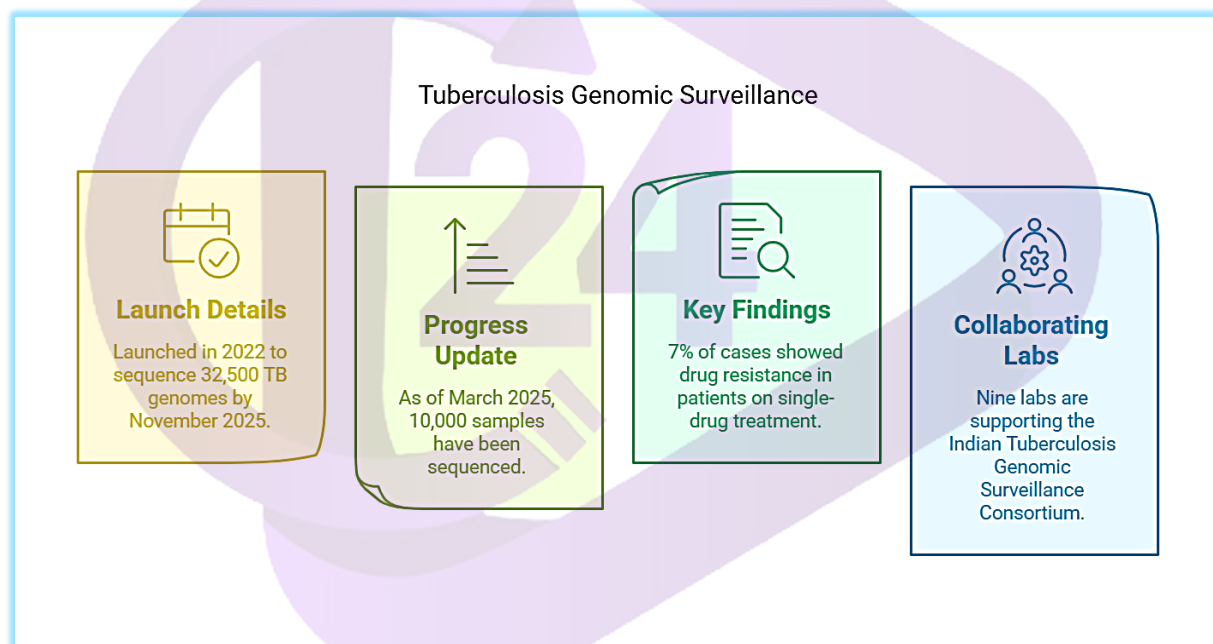
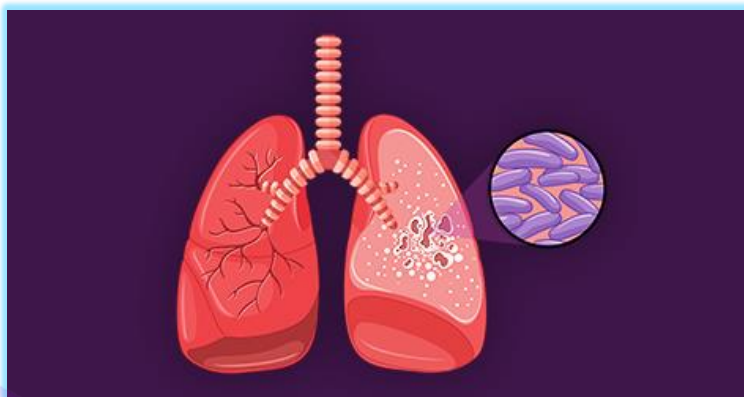
- The **'Watan Ko Jano'** program, alongside other youth initiatives, demonstrates the **government's commitment to integrating Kashmiri youth** into the national framework. By

enhancing education, cultural awareness, and skill development, these programs promote peace, inclusivity, and socioeconomic growth in the region.

DBT Advances TB Genomic Sequencing: A Step Towards Eliminating Tuberculosis in India

➤ Overview

- The Department of Biotechnology (DBT), under the "Dare2eraD TB" initiative, has completed sequencing **10,000 TB genome samples**, aiming to reach **32,500 sequences by November 2025**. This research will improve **drug resistance understanding and diagnostic methods**, contributing to India's goal of TB elimination five years ahead of the WHO's 2030 target.



➤ Key Highlights

- Launched in 2022**, the initiative focuses on **TB genome sequencing** to study **drug-resistant strains**.
- 10,000 genome samples** have been sequenced as of **March 2025**, with **7% resistance** in patients using a single anti-TB drug.
- 9 laboratories** from **DBT, CSIR, and ICMR** collaborate under the **Indian Tuberculosis Genomic Surveillance Consortium**.
- India has the **highest TB burden** (28% of global cases, 1,990 cases per million in 2022).

- **AI and genome sequencing** could **reduce detection time from three weeks to one week**, improving early diagnosis and treatment.
- **Young adults (18-45 years)**, diabetics, and malnourished individuals are at the **highest risk** of TB.

➤ **Tuberculosis: A Global and National Health Concern**

- **Cause:** Mycobacterium tuberculosis bacteria.
- **Transmission:** Airborne droplets from coughing, sneezing, or spitting.
- **Symptoms:** Persistent **cough, fever, weight loss, fatigue, night sweats.**
- **Treatment:** Anti-TB antibiotics; vaccine available (BCG for newborns).

➤ **Global Data:**

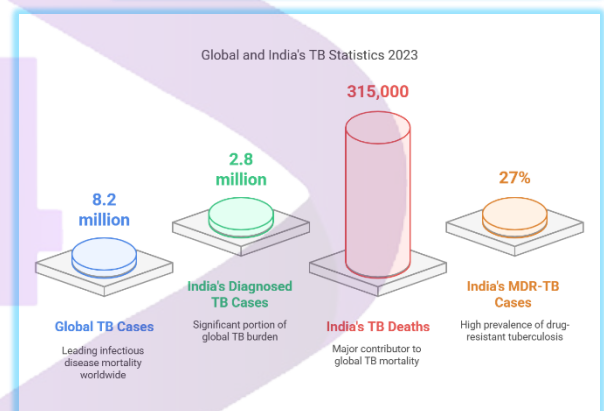
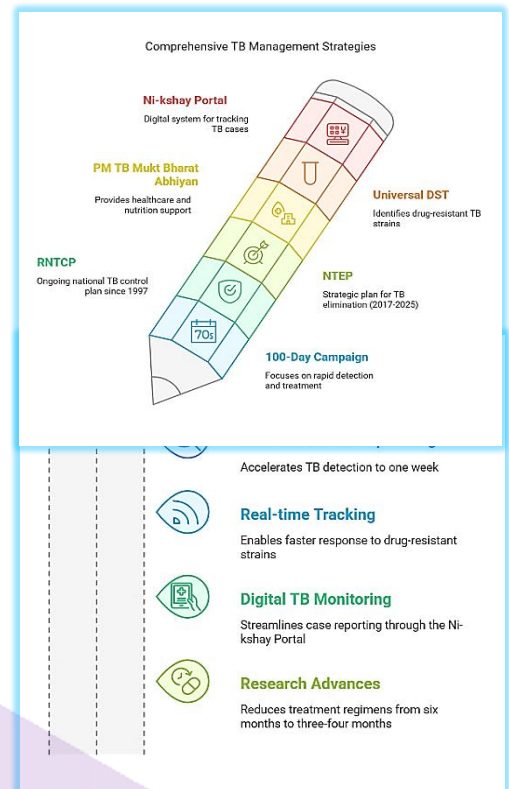
- **8.2 million new TB cases** annually (leading infectious disease mortality).
- **India accounts for 26% of cases, 29% of global TB deaths (315,000 deaths in 2023).**
- **27% of global MDR-TB cases** are in India, requiring **specialized treatment.**

➤ **Challenges in TB Elimination in India**

- **Drug-Resistant TB:** High MDR-TB cases need extended and costly treatment.
- **Limited Diagnostic Tools:** Rural areas **lack modern diagnostic infrastructure.**
- **Poor Healthcare Access:** Remote regions suffer from **delayed treatment.**
- **Low Awareness & Stigma:** Patients hesitate to seek timely medical help.
- **Treatment Adherence:** **Long treatment duration** makes adherence difficult.
- **Vulnerable Populations:** Migrants, slum dwellers, and malnourished individuals face higher risk.

➤ **Government Initiatives to Eliminate TB**

- **100-Day Intensified Campaign (Dec 2024):** Nationwide **rapid TB case detection** and improved treatment.
- **Revised National TB Control Program (RNTCP, 1997):** Ongoing nationwide TB control intervention.



- **National TB Elimination Program (NTEP, 2017-2025):** Strategic framework for **elimination by 2025**.
- **Pradhan Mantri TB Mukht Bharat Abhiyan (PMTBMBA, 2022):** Nutritional support, screenings, and education for TB patients.
- **Universal Drug Susceptibility Testing (DST):** Identifies **drug-resistant TB** for personalized treatment.
- **Ni-kshay Portal:** Real-time monitoring of **all reported TB cases** in India.
- **New TB Drugs:** Bedaquiline and Delamanid included in **free public treatment plans**.
- **Research & Vaccine Development:** Immuvac & VPM1002 vaccines under trials for **improved TB protection**.

➤ **Suggestions for Strengthening TB Eradication**

- Develop **national guidelines** for **prevention, early detection, and treatment**.
- Enhance **TB research funding** and implement **evidence-based strategies**.
- Establish **global and national-level monitoring systems** for **policy effectiveness**.

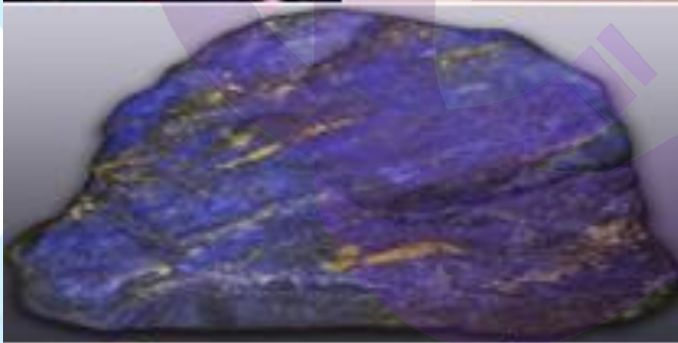
➤ **Conclusion**

- The **"Dare2eraD TB"** initiative is a **game-changer** in India's fight against tuberculosis, leveraging **AI and genomic sequencing** for rapid **diagnosis and treatment of drug-resistant TB**. By **tackling asymptomatic carriers and MDR-TB challenges**, India is on track to **eliminate TB by 2025**, setting an **example for global TB control programs**.



Geography

CHAPTER-7



India's Wheat Output Hits Record 115.3 MMT!



Myanmar Earthquake

A 7.7-magnitude earthquake struck central Myanmar on March 29, 2025, causing significant destruction in Mandalay and claiming at least 144 lives.

About Earthquakes

- **Earthquake:** Sudden shaking or trembling of the Earth's surface due to the **release of stored energy** in the Earth's crust or upper mantle.
- **Focus (Hypocentre):** The **point within the Earth** where the earthquake originates.
- **Epicentre:** The **point on the surface** directly above the focus.
- **Seismograph:** An **instrument** used to **detect and measure**
- **Isoseismic line:** A line connecting points on the surface **experiencing the same intensity**.



Types of Seismic Waves

Type	Description	Speed
Primary (P) Waves	Fastest , travel through solids, liquids, and gases	Fastest
Secondary (S) Waves	Travel through solids only , cause more damage	Slower than P-waves
Surface Waves	Slowest , cause maximum destruction	Slowest

Causes of Earthquakes

- **Fault zones:** Most earthquakes occur along **fault lines**, where **stress builds up** due to **tectonic movements**.
- **Major faults:**
 - **Thrust faults** (Convergent boundary) → **Most powerful quakes** (Magnitude 8+).
 - **Strike-slip faults** (Transform boundary) → **Horizontal movement** (e.g., **Sagaing Fault, San Andreas Fault**).
 - **Normal faults** (Divergent boundary) → **Less intense quakes** (Magnitude <7).
- **Plate Tectonics:** **Tectonic movement at plate boundaries** can trigger earthquakes:

- **Convergent Boundaries** → Subduction zones, causing megathrust earthquakes (e.g., 2004 Indian Ocean earthquake).
- **Divergent Boundaries** → Spreading ridges generate mild earthquakes.
- **Transform Boundaries** → Horizontal movement of plates leads to strike-slip earthquakes (e.g., Sagaing Fault, San Andreas Fault).
- **Volcanic activity: Magma movement** inside volcanoes can cause **volcanic earthquakes**.
 - **Myanmar** has **active volcanoes**, contributing to **seismic activity**.
- **Human-induced earthquakes: Mining, dam construction, and deep drilling** can trigger **artificial seismic activity**.

Why Does Myanmar Experience Frequent Earthquakes?

- **Tectonic Setting:** Myanmar lies at the **junction of three major tectonic plates**:
 - **Indian Plate** (moving northward)
 - **Eurasian Plate** (moving southward)
 - **Burma Microplate** (moving eastward)
- The **Sagaing Fault**, a **strike-slip fault**, runs **north-south** through **central Myanmar**, making it **highly prone to seismic activity**.

Debrigarh Wildlife Sanctuary

In a first-of-its-kind initiative, Debrigarh Wildlife Sanctuary hosted the 'Indian Bison Fest' to spread the word about its conservation needs and ecological significance.

About Debrigarh Wildlife Sanctuary:

- **Location:** It is situated in the Bargarh district of **Odisha** near the **Hirakud dam** (Mahanadi River).
- It finds a special mention because of noted **freedom fighter Veer Surendra Sai**.
 - During **his rebellion against the British**, his **base at 'Barapathara'** was located **within the sanctuary**.
- It was declared a wildlife sanctuary in 1985.
- **Vegetation:** **Dry deciduous mixed forests**.
- **Flora:** Major trees found here are **Sal, Asana, Bija, Aanla**, Dhaura etc.
- **Fauna:** A huge variety of wild animals reside in the dense forest of the sanctuary, such as **Tiger, Sloth Bear, Leopard, Hyena**, Spotted Deer, Antelopes, Sambar, Gaur, Nilgai, **Bison**, Langur Monkeys etc.



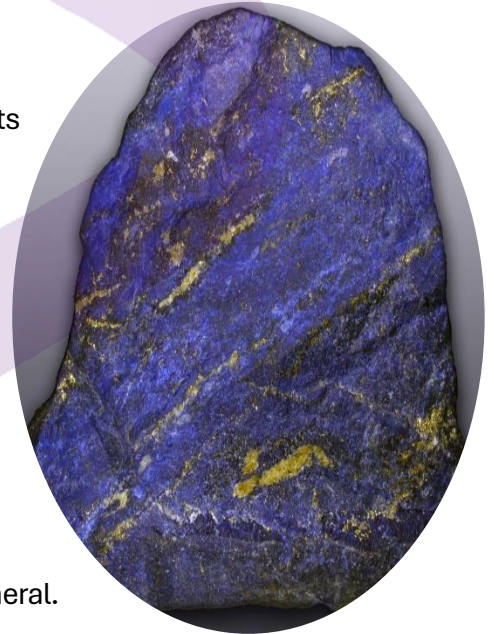
Key facts about Indian Bison:

- Indian Bisons are **one of the largest extant bovines**. It is one of the **largest species among the wild cattle**, reaching a shoulder height of up to 220 cm.
- **Habitat:** They are found on the **forested hills and grassy areas** of **south to southeast Asia**.
- **Distribution:**
 - There are about 13,000 to 30,000 gaurs in the world with approximately **85% of the population present in India**. It is also found in **Burma and Thailand**.
 - The **Western Ghats** in southern India constitute one of the most extensive extant strongholds of gaur, in particular in the Wayanad – Nagarhole – Mudumalai – Bandipur complex.
- The gaur is the **State Animal of Goa and Bihar**.
- **Conservation:**
 - **IUCN: Vulnerable**
 - CITES: Appendix I
 - The Wild Life Protection Act, 1972: Schedule I

Lapis Lazuli

Lapis Lazuli: The Earth's Best Blue

- **What is Lapis Lazuli?**
 - Lapis lazuli is a vivid blue metamorphic rock, known for its striking colour and semi-precious gemstone value.
 - It has been highly valued for thousands of years for use in jewellery, ornaments, and pigments.
 - Etymology:
 - "Lapis" (Latin) means stone.
 - "Lazuli" (Persian - Lazward) means blue.
- **Composition of Lapis Lazuli**
 - The blue colour comes from lazurite (25-40%), a rare mineral.
 - The shade of blue depends on the amount and structure of sulphur in lazurite.
 - Other minerals present:
 - Pyrite (gives golden streaks and sparkle).
 - Calcite (reduces the blueness).
 - Diopside and Sodalite (found in smaller quantities).
- **Where is Lapis Lazuli Found?**
 - Major sources include Afghanistan, Chile, Russia, and the United States.



- The highest-quality lapis lazuli is mined in Badakhshan province, Afghanistan, where it has been extracted for over 6,000 years.
- Lapis Lazuli in History
- Ancient Trade and Use in India: Imported to India from Badakhshan as early as 1000 BCE.
 - Ornaments made of lapis lazuli have been discovered at Indus Valley Civilization sites (Mohenjo-daro & Harappa).
- Ancient Egypt: Used in jewellery and ground into powder for eye shadow.
- Renaissance Europe: Ground into ultramarine, a rare and expensive blue pigment used by painters.

World's Oldest Impact Crater

Scientists in Australia have discovered the world's oldest known meteorite impact crater in northwestern Australia, estimated to be 3.47 billion years old.



➤ About World's Oldest Impact Crater:

- Scientists in Australia have identified what they believe to be the world's oldest known meteorite impact crater, a finding that could reshape understanding of Earth's history and the origins of life.
- The crater, discovered in the remote **North Pole dome region in northwestern Australia**, is estimated to be 3.47 billion years old—more than a billion years older than any previously known impact site.
- The crater, named the **North Pole Crater**, was likely formed by a meteorite striking Earth at more than 36,000 kilometres per hour, creating an impact site over 100 kilometres wide. The collision may have sent debris flying across the planet, with molten droplets possibly landing as far away as South Africa.
- This discovery challenges previous assumptions about Earth's ancient history and suggests that such impacts may have contributed to the origins of life by creating environments suitable for microbial activity.

➤ What is an Impact Crater?

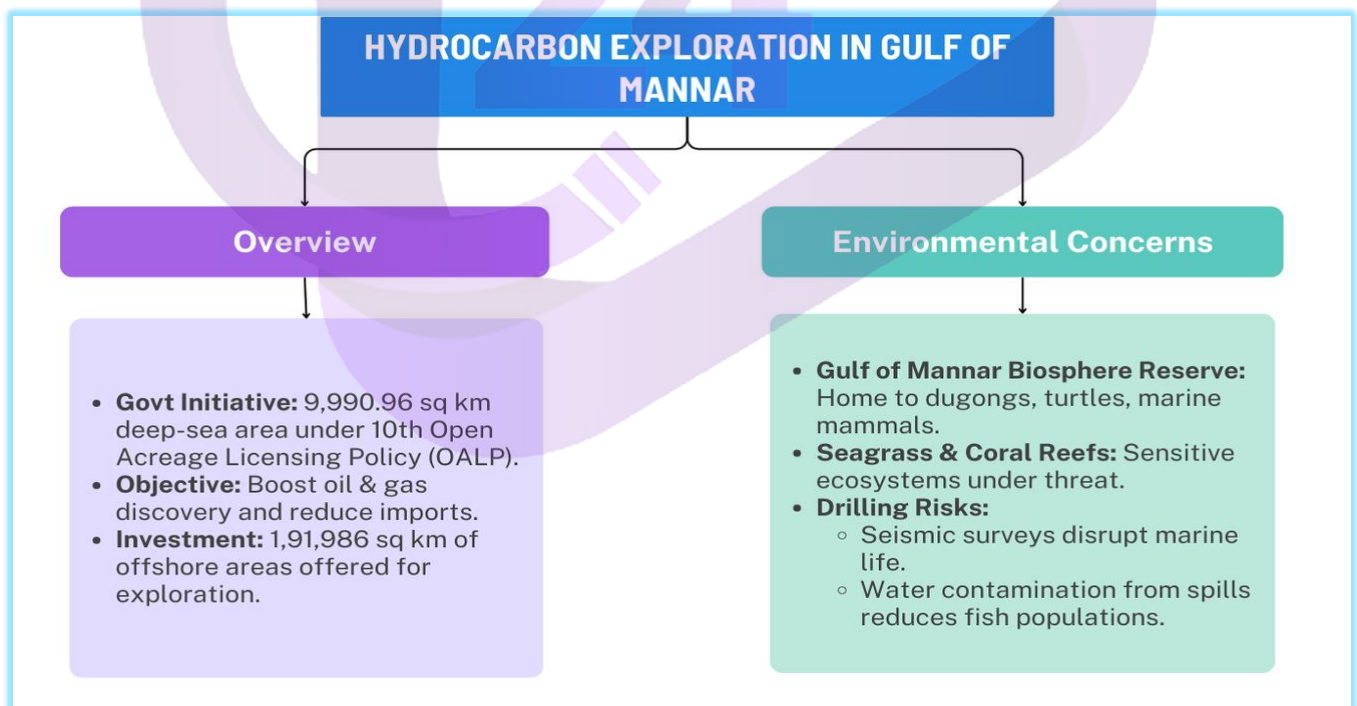
- An impact crater forms **when a fast-moving asteroid or meteorite crashes into a planet or moon.**

- The impact is so powerful that it vaporizes the object, creating shockwaves that melt and reshape the ground, leaving a large circular hole with scattered rocks.
- **Examples:** Barringer Crater, Tycho Crater, etc.

Hydrocarbon Exploration in the Gulf of Mannar: Balancing Energy Security and Environmental Concerns

Introduction to the Project:

- The **Ministry of Petroleum and Natural Gas** included **9,990.96 sq km** of deep-sea area in the Gulf of Mannar under the **10th round of Open Acreage Licensing Policy (OALP)**.
- Part of a larger tender involving **25 offshore blocks**, covering **1,91,986 sq km** aimed at increasing domestic hydrocarbon output.



➤ About Hydrocarbons

- **Basic Definition:** Hydrocarbons are chemical substances made up of **only two elements** – **hydrogen** and **carbon**.

- **Natural Source of Energy:** They are found in **crude oil**, **natural gas**, and **coal** – the main sources of **fuel and energy**.
- **Types of Hydrocarbons:**
 - **Alkanes** (like methane, propane) – used in cooking and heating
 - **Alkenes and Alkynes** – used in making plastics and chemicals
 - **Aromatic hydrocarbons** – used in paints and medicines
- **Where They Come From:** Hydrocarbons are formed **underground over millions of years** from the remains of plants and animals.
- **How We Use Them:**
 - Petrol and diesel for vehicles
 - LPG for cooking
 - Natural gas for electricity and heating
 - As raw material for making plastics, fertilizers, and cosmetics
- **Non-Renewable:** Hydrocarbons are **limited resources**. Once used up, they **cannot be replaced quickly**.
- **Pollution Problem:** Burning hydrocarbons releases **carbon dioxide (CO₂)** and other gases that cause **air pollution** and **climate change**.

A Holistic Approach for Cleanliness of River Ganga

Namami Gange Programme (NGP)

- Launched in 2014 with an initial budget of ₹20,000 crore, later increased to ₹22,500 crore till 2026
- Aims to reduce pollution, restore ecology, and ensure sustainable water management
- Focus on Nirmal Dhara (clean flow) and Aviral Dhara (continuous flow)



Ganga River Basin

- Covers 27 percent of India's land area
- Supports 47 percent of India's population
- Faces challenges like pollution, excessive water withdrawal, and ecosystem degradation

Key Interventions

- Construction of sewage treatment plants (STPs)

- Control of industrial waste through effluent treatment
- Biodiversity conservation and afforestation
- Community involvement through Jan Ganga
- Scientific research and policy development under Gyan Ganga

Progress (as of January 2025)

- 492 projects launched with total funding of ₹40,121.48 crore
- 307 projects completed, including 127 STPs
- 56 biodiversity and afforestation projects approved

Recent Initiatives

- Sewage treatment projects using hybrid annuity and DBOT models in Varanasi and Bhadohi
- National framework introduced for safe reuse of treated water
- Seven biodiversity parks under development over 33,024 hectares
- 143.8 lakh Indian Major Carp fingerlings released for fish and dolphin conservation
- Common Effluent Treatment Plants (CETPs) being developed to tackle industrial pollution

Ganga River Basin:

- The region spans across 27% of India's land territory and sustains 47% of its human population.
- The river faces multiple difficulties because of heavy water extraction and environmental contamination.

Vision for Ganga Rejuvenation:

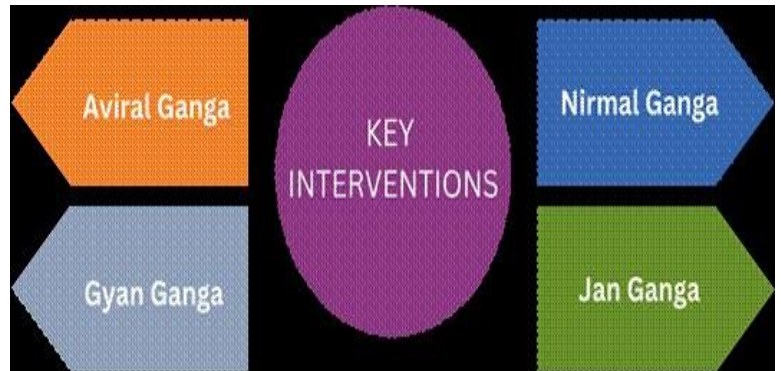
- Aviral Dhara (Continuous Flow) and Nirmal Dhara (Unpolluted Flow).
- Emphasis on Integrated River Basin Management (IRBM) through scientific research and multi-sectoral interventions.

Key Interventions:

- Pollution Abatement as part of Nirmal Ganga involves creating sewage treatment plants (STPs) and implementing effluent control programs and waste management practices.
- Through Ecology and Flow Improvement (Aviral Ganga) the project works to improve the natural river ecosystem together with steady water sources.



- Community Engagement (Jan Ganga): Awareness campaigns and active participation of local communities.
- The department of Gyan Ganga focuses on developing scientific studies and mapping processes and formulating policies for sustainable water governance.



Progress Overview (As of January 2025):

- The authority launched 492 projects which received a total funding of ₹40,121.48 crore.
- The Ganga project team successfully finished 307 tasks while obtaining completion of 127 sewage treatment projects.
- As part of their initiatives the government authorized 56 biodiversity and afforestation projects that help maintain a sustainable balance between nature in the Ganga basin.

Recent Government Initiatives:

- Major sewage treatment projects received approvals from the government as hybrid annuity and DBOT models for Varanasi and Bhadohi.
- Implementation of a National Framework for Safe Reuse of Treated Water.
- Seven biodiversity parks together with afforestation activities are being implemented across 33,024 hectares of land.
- A program has been established to ranch 143.8 lakh Indian Major Carp (IMC) fingerlings for the conservation of fish biodiversity and river dolphins.
- Industrial pollution prevention requires the development of Common Effluent Treatment Plants (CETPs).

The Ganges-Brahmaputra-Meghna (GBM) River Basin

- This enormous river system receives its source from Himalayan glaciers and rainfall plus tributary streams and precipitation.
- From the Himalayas the Ganges River streams toward the south and east and creates a wide chasm.

Ganga River System

- The rivers Bhagirathi and Alaknanda give birth to this water system.
- **Origin:** It starts at Gaumukh (3700m) where gangotri glacier resides in Uttarkashi district of Uttarakhand state.
- **Merges:** The Ganga receives the Alaknanda stream at Devprayag before it attains its namesake status as the Ganga.

- **Total length in India:** The Ganga River runs for 2,525 kilometers across four Indian territories which start in Uttarakhand then extend to Uttar Pradesh and continue to Bihar and terminate in West Bengal.
- **Basin area in India:** 8.6 lakh sq km.

Major Tributaries of Ganga

Right Bank Tributaries

- **Yamuna:** Yamuna stands as the longest tributary because it springs from Yamunotri Glacier and converges with Ganga at Prayagraj.
- **Son:** Son originates from the Amarkantak Plateau before it joins Ganga near Patna.
- **Damodar:** The Hugli River receives Damodar's tributary stream which creates the sorrowful condition known as "Sorrow of Bengal."
- **Punpun:** Punpun originates in Jharkhand then passes through Bihar before entering its stream.

Left Bank Tributaries: Gomati, Gandak, Ramganga, Kosi, Ghaghara, Mahananda.

- **Gandak:** Gandak starts in Nepal Himalayas before uniting with the Ganga near the city of Patna.
- **Ghaghara:** Ghaghara commences its course in Tibet before joining the Ganga near Chhapra in Bihar.
- **Kosi:** Coming from Mt. Everest vicinity the Kosi River acquires its local name as "Sorrow of Bihar".
- **Ramganga:** Ramganga comes from the Garhwal Himalayas and reaches Ganga near Kannauj.
- **Mahananda:** Mahananda begins in Darjeeling while being the westernmost left-bank tributary in West Bengal.

Key Confluences (Prayags) of Alaknanda

- **Vishnu Prayag** – Dhauli & Vishnu Ganga meet.
- **Karna Prayag** – Pindar meets Alaknanda.
- **Rudra Prayag** – Mandakini joins Alaknanda.

Importance of the Ganga River in the Indian Context

The Ganga River stands amongst the most important rivers in India since it supports essential functions for agriculture while also driving the economy and protecting the environment and maintaining cultural and religious traditions. The Ganga River begins its passage at the Gangotri Glacier in Uttarakhand and then traverses various states before discharging into the Bay of Bengal while supporting the justified needs of millions of inhabitants and local biodiversity.

1. Agricultural Importance

- The world's largest granary region constitutes the Indo-Gangetic plain which exists as one of the most productive farming areas because The Ganga River along with its tributaries provides irrigation support.
- The river's alluvial soil sediments support the growth of four basic crops which include rice alongside wheat together with sugarcane and pulses.

- The Ganga Canal alongside its expansion systems convey irrigation benefits to Uttar Pradesh and West Bengal as well as Bihar.

2. Economic and Industrial Significance

- The river sustains water supply to textile production facilities and tanneries together with paper-making plants and sugar refinement centers.
- As a main waterway of India National Waterway 1 (NW-1) which includes the Ganga stream improves trading activities and lowers freight expenses.
- Hydropower Generation and renewable energy objectives in India receive support from numerous hydroelectric projects situated along the river.

3. Cultural and Religious Importance

- The Indian waterway Ganga serves as a goddess to followers of Hinduism and provokes millions to visit sites like Varanasi along with Haridwar and Prayagraj.
- The Ganga Aarti ceremonies along with ash immersion and river bathing rituals are seen to cleanse the sins of the performers.
- Kumbh Mela and Ganga Dussehra are important religious events that center on the river which drives cultural tourism.

4. Ecological and Environmental Significance

- The river exists as a biodiversity hotspot because it serves as a home for numerous animal and plant species while protecting the endangered Gangetic dolphins which inhabit its waters.
- Wetlands that thrive in the area receive support from the river which additionally enables fishermen to practice inland fisheries for their subsistence.
- Strict pollution problems including industrial waste and sewage discharge and plastic contaminants endanger the river's ecological health so Namami Gange Mission was initiated to advance river rejuvenation.

5. Social and Human Development Role

- Drinking water sustainability along the Ganges is essential because millions of people extract their water supply from the river thus safeguarding public health remains vital.
- Various economic activities such as agriculture, fisheries, tourism and small-scale industries derive employment opportunities from the river throughout the region.
- The river's water flow undergoes changes because of climate change alongside glacial melting and unpredictable monsoon occurrences which in turn affects both drinking water access and agricultural practices.

Conclusion:

- The National Mission for Clean Ganga (NMCG) continues to pursue worldwide leading methods and scientific strategies for preserving the river. Continuous governmental work alongside communal support is turning the future dream of maintaining both Ganga's cleanliness and thriving state into reality.

Bangus Valley: Kashmir's Hidden Ecotourism Gem

➤ Introduction

- Bangus Valley is gaining attention due to **ecotourism initiatives** by the J&K government
- Located in **Kupwara district**, the valley features **unspoiled landscapes and rich biodiversity**



➤ Geographical Location & Connectivity

- Situated **~100 km from Srinagar**, near the **Line of Control (LoC)**, based in the **Pir Panjal range**
- **Two sub-valleys:**
 - **Boud Bangus (Big Bangus)** – 300 sq. km, encircled by Rajwar, Mawar & Shamasbury mountains
 - **Lokut Bangus (Small Bangus)** – Located northeast of Boud Bangus, popular for **trekking and scenic beauty**
- Name origin: Sanskrit – “**Van**” (forest) + “**Gus**” (grass) = *Forest of Grass*

➤ Connectivity

- **Preferred route:** Handwara via Reshwari Mawar
- **Trekking route:** Handwara via Rajwar
- **Under-construction road:** Kupwara via Chowkibal (to complete by 2025)
- **Road from Handwara completed in June 2022**

➤ Ecological Significance

- Declared a **biodiversity hotspot**
- **50+ animal species, 10+ bird species**
- Notable **mammals:** Musk deer, antelope, snow leopard, black & brown bear, red fox, monkeys
- Prominent **birds:** Tragopan, monal pheasant, black partridge, bush quail, wild fowl
- Source of **traditional herbal medicine** from local **medicinal plants and wildflowers**

➤ Water Conservation

- Contains **14 water sources:** e.g., Roshan Kul, Tillwan Kul, Douda Kul

- These streams flow into the **Pohru River**, vital for **hydrological balance**
- **Climate threats:** Glacial melting & shifting precipitation due to climate change

Other valleys:

Valley	State
Kashmir Valley	Jammu and Kashmir
Chenab Valley	
Poonch Valley	
Tawi Valley	
Sind Valley	
Lidder Valley	
Gurez Valley	
Lolab Valley	
Yusmarg Valley	
Basoli Valley	
Tulail Valley	
Zaskar Valley	Ladakh
Nubra Valley	
Suru Valley	
Shyok Valley	
Indus Valley	
Drass Valley	
Markha Valley	
Rupshu Valley	

Valleys of Jammu and Kashmir and Ladakh

Valleys in Jammu and Kashmir

Kashmir Valley -
 Chenab Valley -
 Poonch Valley -
 Tawi Valley -
 Sind Valley -
 Lidder Valley -
 Gurez Valley -
 Lolab Valley -
 Yusmarg Valley -
 Basoli Valley -
 Tulail Valley -

Valleys in Ladakh

Zaskar Valley
 Nubra Valley
 Suru Valley
 Shyok Valley
 Indus Valley
 Drass Valley
 Markha Valley
 Rupshu Valley

Valleys of Jammu and Kashmir and Ladakh



India's Wheat Output Hits Record 115.3 MMT!

India's Wheat Production Estimated to Hit Record High of 115.3 Million Metric Tonnes in 2024-25

- **Wheat stock** in central pool: **14.41 million tonnes** (March 2025) vs buffer norm of **7.46 million tonnes**
- **2024–25 wheat production: 115.3 million metric tonnes** (record high)
- **2023–24 production: 113.3 million metric tonnes**
- **2022–23 production: 110.05 million tonnes**
- **Government wheat procurement (current): 26.6 million tonnes**
- **Procurement target for RMS 2025–26: 31 million tonnes**
- **MSP for RMS 2025–26: Rs 2,425/quintal** (↑ 6.59% from Rs 2,275)
- India remains a **top global wheat producer** with consistent production growth

India's Wheat Production Data (2021-2025)

Year	Wheat Production (Million Metric Tonnes)	MSP (Rs/Quintal)
2021-22	107.7	
2022-23	110.05	
2023-24	113.3	2,275
2024-25	115.3 (Estimated)	2,425

➤ Climatic & Soil Conditions

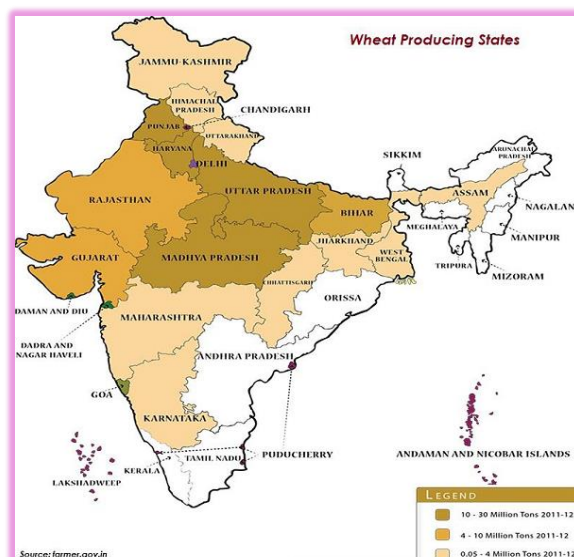
- **Rabi crop:** Sown Sep–Dec, harvested Feb–May
- Requires **cool temperatures** and **~75 cm rainfall** (100+ cm is excessive)
- Grows best in **well-drained alluvial and clay loam soils**

➤ Major Wheat-Growing Regions

- **Northern & Northwestern Plains:** Uttar Pradesh, Punjab, Haryana, Bihar, Rajasthan
- **Central & Southern Peninsular Region:** Madhya Pradesh, Maharashtra, Karnataka, Andhra Pradesh, West Bengal
- **Himalayan Region:** Himachal Pradesh, Jammu & Kashmir

➤ Top Wheat-Producing States

1.	Uttar Pradesh
2.	Madhya Pradesh
3.	Punjab
4.	Haryana
5.	Rajasthan



➤ **Wheat Variety**

- **Durum wheat:** Premium Indian variety, also called **pasta or macaroni wheat**

➤ **India vs Global Wheat Production**

- **India:** 2nd largest wheat producer globally (after China)

➤ **Yield per hectare:**

- India: **3.37 tonnes/ha**
- France: 6.84, Germany: 6.67, China: 5.42 tonnes/ha

➤ **Challenges**

- Declining **soil fertility**
- High **irrigation dependence**
- **Pest attacks, climate variability**

➤ **Improvement Measures**

- Better **seed quality**
- Efficient **fertilizer use**
- **Advanced irrigation** (e.g., micro-irrigation)
- Effective **pest and disease control**

➤ **Significance**

- **2nd major staple** after rice, crucial in north and northwest India
- Supports **millions of farmers' livelihoods**
- Boosts **food security and self-sufficiency**
- Opportunity to **increase wheat exports** and **foreign exchange earnings**

➤ **Conclusion**

- **2024–25 wheat production** has set **new records**
- Wheat plays a vital role in **national food security** and **economic stability**

Mount Lewotobi Laki-Laki Volcano Eruption

➤ **Recent Eruption: Mount Lewotobi Laki-Laki (Indonesia)**

- Location: Flores Island, East Nusa Tenggara Province
- Date: 21 March 2025
- Eruption: 3 eruptions, ash plume reached 8,200 meters
- Impact: Danger zone extended; no evacuation plan yet



- Background: November 2024 eruption caused 9 deaths and several injuries
- Region experienced hundreds of seismic tremors in the past week

➤ **Indonesia's Volcanic Profile**

- Lies in the Pacific Ring of Fire
- Hosts 120 active volcanoes
- Faces frequent earthquakes and eruptions
- High population density increases disaster vulnerability

➤ **Understanding Volcanism**

- Volcanism: Expulsion of solid, liquid, or gaseous material from Earth's interior
- Volcano: An opening in Earth emitting lava, ash, gases, and steam
- Magma: Molten rock below the surface
- Lava: Magma that erupts onto the surface

➤ **Types of Volcanoes**

- **By Activity:**
 - Active: Frequent eruptions (e.g., Kilauea)
 - Dormant: Currently inactive but could erupt
 - Extinct: No recorded eruptions (e.g., Dhinodhar Hill)
- **By Structure/Nature:**
 - Shield: Broad, gentle slopes (e.g., Hawaiian volcanoes)
 - Composite: Steep, explosive (e.g., Mount Fuji)
 - Caldera: Collapsed magma chamber, forms large depressions
 - Flood Basalt: Wide lava flows (e.g., Deccan Traps)
 - Mid-Ocean Ridge: Underwater volcanic chains

➤ **Volcanic Landforms**

- **Intrusive (below surface):**
 - Batholiths, Laccoliths, Sills, Dikes, Phacoliths, Monadnocks
- **Extrusive (surface):**
 - Conical volcanoes, Lava domes, Calderas, Lava plateaus, Mid-ocean ridges

➤ **Volcano Monitoring Tools**

- Seismic activity (earthquakes, tremors)
- Surface deformation
- Gas emissions (SO₂, CO₂)
- Changes in gravity and magnetism

➤ **Volcanic Eruption Impacts**

- **Destructive:**
 - Earthquakes, Tsunamis, Climate effects, Ash hazards
- **Constructive:**
 - Fertile soil, New landforms, Geothermal energy, Crater lakes

➤ Conclusion

- Volcanism is both destructive and constructive
- Monitoring and scientific research are crucial to reduce risks and protect lives

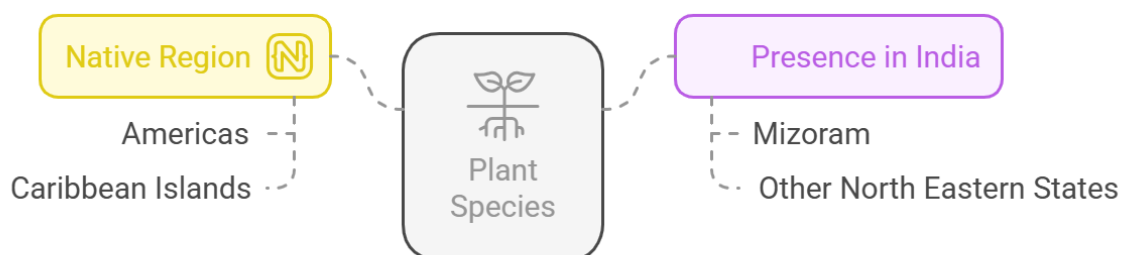
First-Ever Export of Anthurium Flowers from Mizoram to Singapore



➤ Historic Export Milestone

- Event: First-ever export of Anthurium flowers from Mizoram (India) to Singapore
- Date: Linked with outcomes of the International Buyer-Seller Meet (Dec 6, 2024) in Aizawl
- Export Quantity: 1,024 flowers
- Facilitators: APEDA (Agricultural & Processed Food Products Export Development Authority) and Department of Horticulture, Govt. of Mizoram

Geographical Distribution of a Plant Species



➤ **Significance**

- First floriculture export from Mizoram – a breakthrough for the North Eastern Region (NER)
- Enhances the economic potential of local women entrepreneurs
- Strengthens market visibility for NER's agri-products globally

➤ **About Anthurium**

- Origin: Native to tropical Americas, from northern Mexico to Argentina
- Cultivation in India: Mainly in Mizoram and other Northeastern states
- Features:
 - Herbaceous plant
 - Grows as epiphyte or terrestrial
 - Inflorescence includes a spadix and spathe (brightly colored - red, pink, orange, etc.)
 - Produces berries with seeds
- Toxicity: Contains calcium oxalate crystals – can irritate skin and eyes

➤ **India's Floriculture Export Sector**

- FY 2023-24 floriculture exports: USD 86.62 million
- NER holds untapped potential for floriculture and horticulture exports

➤ **APEDA's Role**

- Statutory body under the Ministry of Commerce & Industry
- Promotes exports of agricultural and processed food products globally
- Created global market links through trade events like the IBSM in Mizoram

➤ **Future Outlook**

- Boosts India's agricultural export diversity
- Opens doors for NER to become a floriculture export hub
- Enhances economic empowerment for local farmers, especially women
- Requires continued support, market expansion, and logistics strengthening



Space and Tech

CHAPTER-8



ChatGPT's viral Studio Ghibli-style images highlight AI copyright concerns

➤ AI-Generated Ghibli-Style Art:

- OpenAI's tools allow users to create **Ghibli-style art**, transforming memes and portraits into artworks resembling **Hayao Miyazaki's** style.
- Sam Altman** (OpenAI CEO) supported the trend by using a **Ghibli-style** portrait as his social media profile image.



➤ Studio Ghibli films are:

- Hand-painted, no digital shortcuts.
- Studio Ghibli animations feature strong feminine characters who fight for environmental protection and parade pacifist and anti-war messages during each film.
- Nature & imagination > modern materialism.

➤ Progressive Themes

- Porco Rosso called it "anti-war propaganda."
- Princess Mononoke depicted the battle between humans and nature.
- Female main characters show bravery and intellectual competence alongside their lack of sexualization.
- The film Spirited Away follows a girl who becomes trapped inside the kami (spirit) realm.
- Themes include:
 - Anti-capitalism
 - Environmental protection
 - Individual freedom

➤ Hayao Miyazaki:

- Born:** 1941 in Tokyo, Japan.
- Co-founded **Studio Ghibli** with **Isao Takahata** in 1985.
- Directed masterpieces like **Spirited Away** (2001) and **The Boy and The Heron** (2023).
- Known for **anti-war**, **environmental**, and **anti-capitalism** themes in his films.
- Ghibli's **hand-painted** animation style and strong **female characters** set the studio apart.

Celebrated Animated Film Achievements



➤ **Miyazaki's View on AI Art:**

- Criticized AI-generated art, calling it an **offense** to life's nature.
- Believes AI-generated animations lack **emotional quality** and depth.

➤ **Legal and Ethical Issues:**

- **Copyright Concerns:** AI models like OpenAI's use artistic data without consent, raising questions about **intellectual property** and **artist compensation**.
- **Artists' Response:** Artist **Karla Ortiz** filed a lawsuit against AI-generated art, arguing AI companies exploit artists without proper legal authorization.
- The **EU AI Act** and **U.S. Copyright Law** are evolving to address AI and intellectual property rights.



➤ **Global Perspective:**

- **Japan** and the **EU** are moving towards stricter regulations on **AI** in art and other creative sectors.
- Ongoing debates about **ownership** and **creative rights** in AI-generated content

➤ **Conclusion:**

- The rise of **AI-generated Ghibli-style art** highlights the clash between **advancing technology** and **traditional artistic practices**. With **ethical dilemmas** about copyright infringement and artist recognition, the increasing integration of AI in creative industries requires **stronger policies** to protect intellectual property and **human creativity**.

Gaia Space Telescope

On March 27, 2025, ESA confirmed that the spacecraft was "passivated" (drained of energy) and placed into a safe "retirement orbit" around the Sun.

About the Gaia Mission



- Originally named **Global Astrometric Interferometer for Astrophysics (GAIA)**, later simplified to **Gaia**.
- Launched in **2013** by the **European Space Agency (ESA)**, it aimed to create the **most precise 3D map of the Milky Way** through **astrometry** (measuring positions and movements of celestial bodies).
- **Position:** Placed at **Lagrange Point 2 (L2)**, **5 million km from Earth** (behind Earth when viewed from the Sun), ensuring an **unobstructed cosmic view**.
- **Scientific Instruments:**
 - **Twin Telescopes:** Captured light from different directions.
 - **Digital Camera:** Nearly **1 billion pixels**, the **largest ever flown in space**.
 - **Three Key Instruments:**
 - **Astrometer:** Measures **precise locations** of celestial bodies.
 - **Photometer:** Determines **brightness and temperature** of stars.
 - **Spectrometer:** Identifies **chemical composition** and **motion** of objects.

Key Discoveries of Gaia

- **Mapping the Milky Way in 3D:** The First precise 3D map of the Milky Way galaxy also helped understand the shape of the galaxy, including:
 - The central bar and spiral arms.
 - A warped, wobbly disc, likely caused by past collisions with smaller galaxies.
 - Ripples in the galaxy from these collisions may have led to the formation of new stars, including the Sun.
- **Discovery of New Black Holes:** A new class of black holes that are invisible and can only be detected by their gravitational effects.
 - Discovered **one of the closest black holes to Earth**.
- **Tracking asteroids and space threats:** Gaia identified **over 1,50,000 asteroids**, tracking their **orbits and potential threats to Earth**.

Dragon Copilot

Recently, the Microsoft has introduced a new voice-activated AI assistant called Dragon Copilot.



Microsoft Dragon Copilot

About Dragon Copilot:

- It is the **new healthcare AI tool** which is being offered as part of **Microsoft Cloud for Healthcare**.

- It is designed to help doctors and healthcare professionals transcribe clinical notes and draft paperwork as well as quickly search for information from medical sources.

- **Features of Dragon Copilot:**

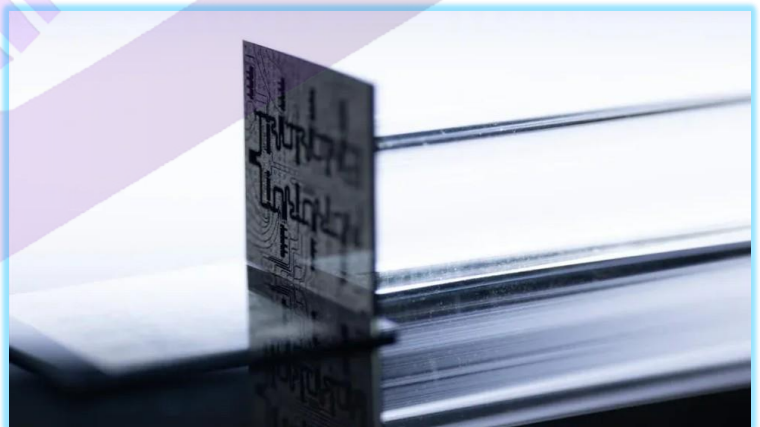
- It harnesses the **natural language voice dictation** and ambient listening technology developed by AI voice company Nuance.
- These capabilities have been further **fine-tuned using generative AI** and adapted to incorporate healthcare safeguards.
- It is built on top of existing tools such as **Dragon Medical One (DMO) and DAX** rolled out by speech recognition company Nuance Communications.
- It can be **used to draft memos and notes** in a personalised style and format.
- Besides voice-to-text transcription, the Dragon Copilot user interface also allows users to **submit prompts or use templates to create AI-generated notes**.
- Apart from documentation work, the AI assistant allows clinicians to search for general-purpose medical information from trusted sources.
- It can also be used to automate **key tasks such as conversational orders, note and clinical evidence summaries**, referral letters, and after-visit summaries, in one centralised workspace.
- It can be **accessible through a mobile app, browser or desktop**, and it integrates directly with several different electronic health records.

Ocelot Chip

Recently, Amazon unveiled a prototype of its first-ever in-house quantum computing chip called Ocelot.

About Ocelot Chip:

- It is a **new quantum computing chip** with a **nine-qubit chip** that has been internally **fabricated by Amazon**.
- It has been developed by the team at the **Amazon Web Services (AWS) Center for Quantum Computing** at the California Institute of Technology.
- AWS used a novel design for Ocelot's architecture, building error correction in from the ground up and using the '**cat qubit**'. Cat qubit is named after the famous **Schrödinger's cat**.
- It intrinsically **suppresses certain forms of errors**, reducing the resources required for quantum error correction.
- It has been designed to help Amazon **build highly efficient hardware systems**.
- **Components of Chip:**



- The Ocelot chip consists of two integrated silicon microchips with an area of roughly one square centimeter each, bonded one on top of one another in an electrically-connected chip stack.
- It has 14 core components: five data qubits (the cat qubits), five ‘buffer circuits’ for stabilizing the data qubits, and four additional qubits for detecting errors on the data qubits.
- The cat qubits store the quantum states used for computation, for which it relies on components called oscillators, which generate a repetitive electrical signal along with steady timing.

ISRO's Aditya L-1 captured its first ever image of a solar flare “Kernel”

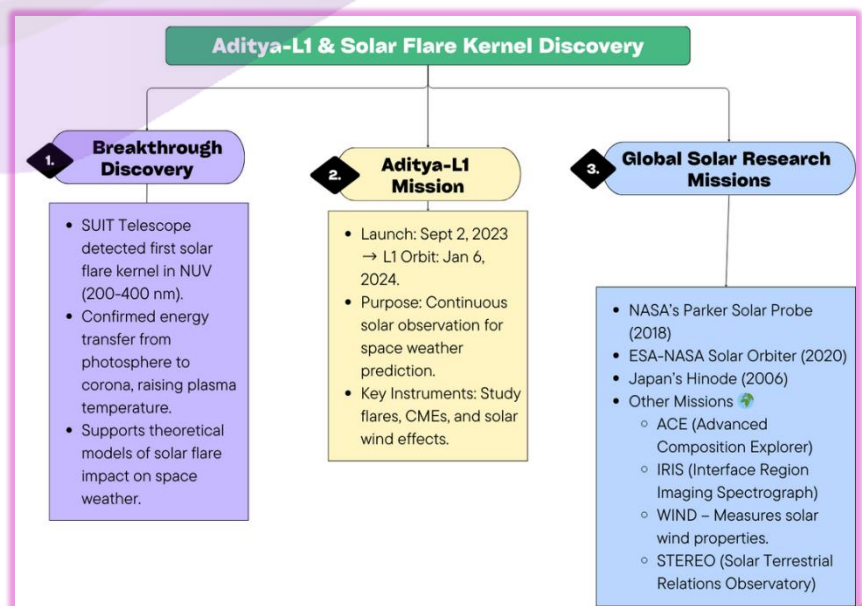
➤ Aditya-L1 Mission & Observation:

- **Aditya-L1**, launched on **September 2, 2023**, orbits **Earth-Sun Lagrange Point L1** for **continuous observation**.
- **SUIT (Solar Ultraviolet Imaging Telescope)** captured its **first solar flare kernel** in **Near Ultraviolet (NUV) wavelengths (200-400 nm)** on **February 22, 2025**.
- **X6.3-class solar flare** observed, confirming **solar energy propagation** across atmospheric layers.



➤ Aditya-L1 Mission Overview

- **Launch Date:** September 2, 2023
- **Orbit:** Reached **halo orbit** around **Earth-Sun Lagrange Point 1 (L1)** on **January 6, 2024**
- **Payload:** Equipped with scientific instruments to study **solar flares**, **coronal mass ejections**, and **solar wind behavior**



- **Mission Aim:** Continuous **Sun observation** to enhance **space weather prediction** and understand **solar activities** affecting Earth

➤ **Scientific Breakthroughs:**

- **Flare kernel imaging** at lower solar atmosphere (photosphere to chromosphere).
- Proved **energy dispersal** raises **coronal plasma temperatures**.
- **Validates theories** on solar flares & space weather effects.

➤ **Importance of Solar Research:**

- **Solar storms disrupt satellites, GPS, and power grids.**
- Helps understand **solar corona heating, solar cycles, and flare formation.**
- Aids in **space weather prediction & mitigation.**

➤ **Global Solar Research Missions:**

- **NASA's Parker Solar Probe (2018):** Studies **corona & solar wind acceleration.**
- **ESA-NASA Solar Orbiter (2020):** Investigates **solar magnetic fields.**
- **Japan's Hinode (2006):** Focuses on **magnetic activity.**
- **Ongoing missions: ACE, IRIS, WIND, STEREO** for **continuous sun monitoring.**

➤ **Significance of Aditya-L1:**

- **First Indian space-based solar observatory**, enhancing **ISRO's deep-space capabilities.**
- Strengthens **India's role in global solar research.**
- Paves the way for **future missions** (Aditya-L2, Aditya-L3) with **advanced solar studies.**

➤ **Conclusion:**

- Aditya-L1's **breakthrough in solar flare kernel imaging** marks a **major advancement in solar physics.** The mission aids in understanding **solar processes & their impact on Earth**, contributing to **future space weather forecasting & deep-space exploration.**

Blue Ghost Lunar Landing: Firefly Aerospace's Historic Moon Mission

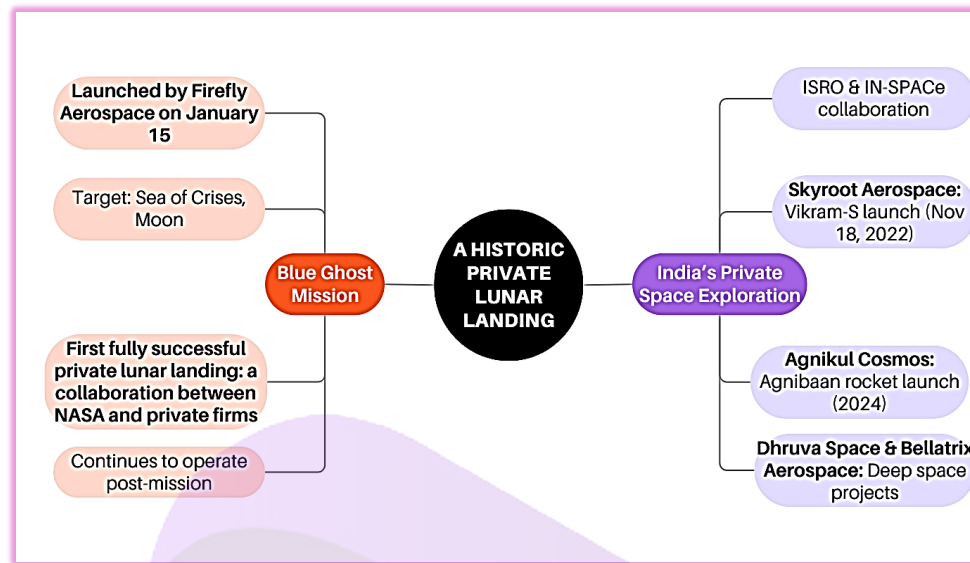
➤ **Overview**

- Firefly Aerospace's Blue Ghost successfully landed on the Moon, marking a milestone in private space exploration.
- Unlike its predecessor, Odysseus, it landed flawlessly, proving the growing role of private enterprises in space missions.
- Strengthens NASA's collaboration with commercial companies, paving the way for future advancements.

➤ **Mission Details**

- Firefly Aerospace performed the Blue Ghost launch on January 15.
- Targeted Sea of Crises, a lunar crater visible from Earth.

- The vehicle achieved its intended goal of landing and it continues to operate after completing its mission unlike previous attempts made by private companies.



➤ Significance of the Landing

- **First fully successful autonomous** lunar landing by a private company.
- Uses **advanced landing technology** developed by private firms.
- Enables **robotic and human exploration** of the Moon.

➤ Role of Private Companies in Space Exploration

- **NASA collaborates** with commercial firms to **reduce costs** and boost efficiency.
- **Competitive private sector** fosters **affordable lunar missions**.
- Opens doors for **resource extraction**, including **water for astronauts**.

➤ India's Private Sector in Space Exploration

- **ISRO & Private Sector:** Through **IN-SPACe**, India promotes **private industry participation** in space missions.
- **Similar Mission: Vikram-S by Skyroot Aerospace** – India's **first private space launch vehicle** (Nov 18, 2022).

➤ Upcoming Missions:

- **Agnibaan Rocket** (Agnikul Cosmos) – Launch planned for 2024.
- **Dhruva Space & Bellatrix Aerospace** – Developing **satellites & propulsion systems** for deep space.
- **ISRO Support:** Establishing **guidelines for private firms** in **lunar & planetary missions**.

➤ Challenges & Opportunities

➤ Challenges

- **High costs** of lunar exploration.
- Need for **advanced robotics** and **radiation protection**.

- Competition from **global private companies** like SpaceX & Firefly Aerospace.

➤ Opportunities

- **Lunar resource extraction** (water, minerals).
- **Low-cost launch vehicles** for commercial & scientific missions.
- **India's potential** to lead **global space collaborations** (e.g., Artemis Accords).

➤ Conclusion

- **Blue Ghost's success** marks a **major step** in commercial space operations.
- **Private-public collaboration** will drive **sustainable lunar exploration** and **future human space missions**.

Bellatrix Aerospace Partners with Astroscale Japan for Space Debris Removal

➤ Overview

- **Bellatrix Aerospace (India) & Astroscale Japan** signed an **MoU** to enhance **space sustainability**.
- The partnership aims at **active debris removal, satellite servicing, and in-orbit mobility solutions**.
- **Bellatrix Aerospace** contributes its **innovative propulsion** technologies.
- **Astroscale Japan** specializes in **space debris mitigation & satellite life extension**.

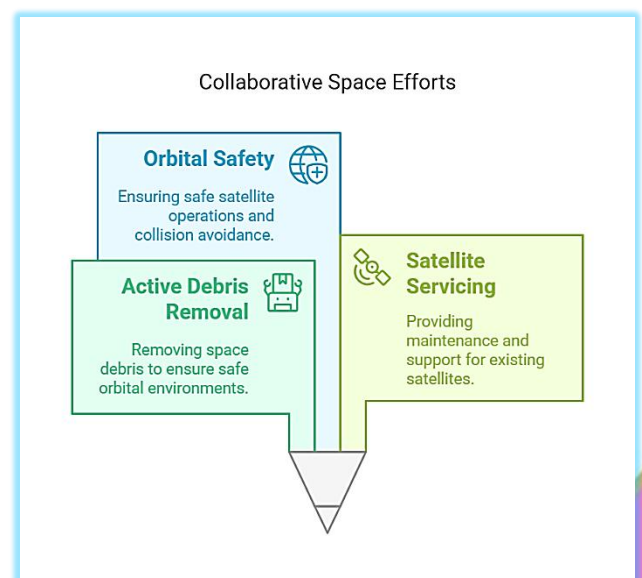


➤ Key Developments in Space Debris Management

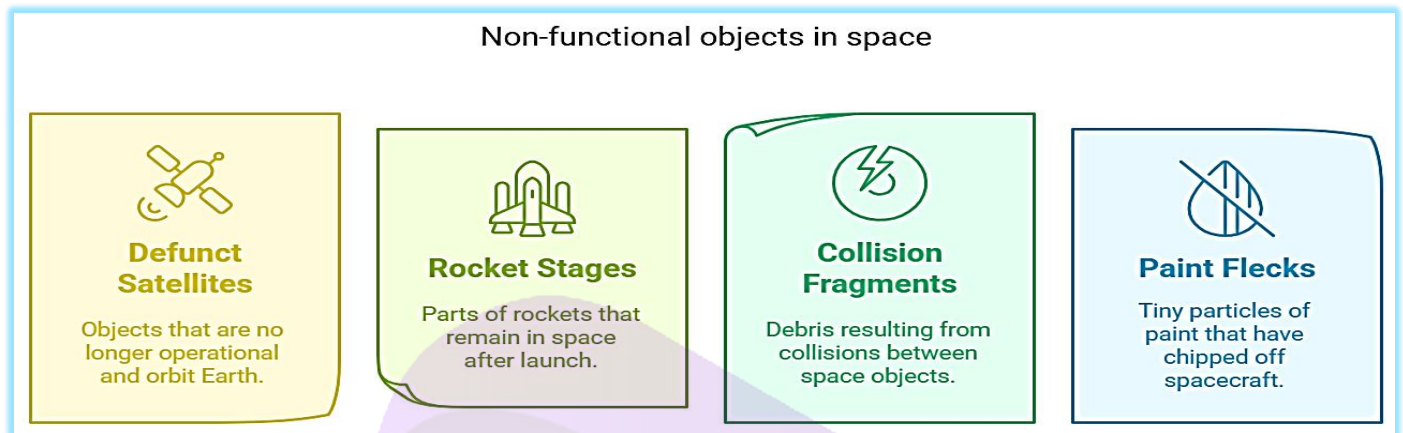
- **Astroscale operates major missions:**
 - **ELSA-d:** Space debris capture technology.
 - **ADRAS-J:** Works with JAXA & other agencies on debris removal.
- **Bellatrix Aerospace's Achievements:**
 - **Three successful spaceflights** in a year.
 - Developed **Green Propulsion & Hall-Effect Thruster technology**.
- **Strategic Expansion:** Bellatrix Aerospace gains access to **Japan's space industry**.

➤ What is Space Debris?

- **Non-functional human-made objects** in Earth's orbit (e.g., old satellites, rocket parts, paint fragments).



- **Major threat** to operational satellites & future missions.
- Accumulates mainly in:
 - **Low Earth Orbit (LEO)** (0 - 2,000 km).
 - **Geostationary Orbit (GEO)** (35,786 km).

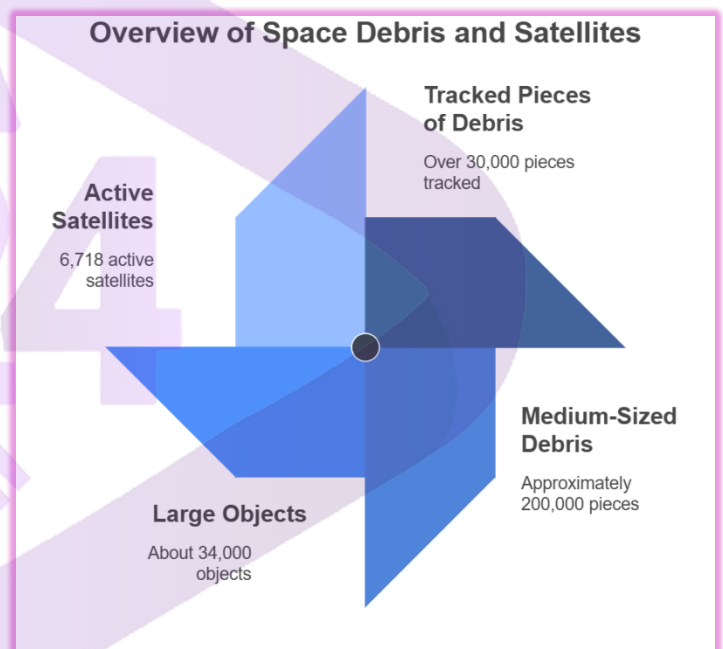


Current Status of Space Debris

- **30,000+** tracked objects in orbit.
- **200,000+** objects (1-10 cm) floating in space.
- **34,000+** debris items exceeding 10 cm.
- **6,718** active satellites, increasing by **2,000+** per year.

Causes of Space Debris

- **Rising satellite launches** (e.g., SpaceX's Starlink).
- **Decommissioned satellites** abandoned in orbit.
- **Anti-satellite (ASAT) tests** by nations like China, India, and the U.S.
- **Fragmentation** due to collisions, explosions, and aging satellites



Threats and Challenges Posed by Space Debris

- **Satellite Endangerment:** Operational satellites become damaged when they collide with space debris that is floating in orbit.
 - The Russian Cosmos-1275 satellite became destroyed after suffering an impact with space debris during 1981.
- **Kessler Syndrome:** The unpredictable sequence of destructive orbital collisions could make all orbital traffic completely unusable through Kessler Syndrome.

- **Limiting Future Space Activities:** Orbital slots for new missions will probably decrease because growing space debris continues to accumulate.
- **Threat to Space Stations:** Space debris has caused ISS operators to adjust their trajectory path 32 times since 1999.
- **Space Pollution:** results in difficulty with space operations while causing serious environmental problems.
- **Geopolitical Tensions:** Disagreements over liability and responsibility for space debris.
 - The U.S. government reported Russia to the ISS operations team because of the satellite testing event.

Space Debris Removal Efforts

International Initiatives

1. IADC (Inter-Agency Space Debris Coordination Committee) (1993)

- Global forum for **space agencies** (including ISRO).

2. UN COPUOS (Committee on Peaceful Uses of Outer Space)

- Regulates **global space activities**.

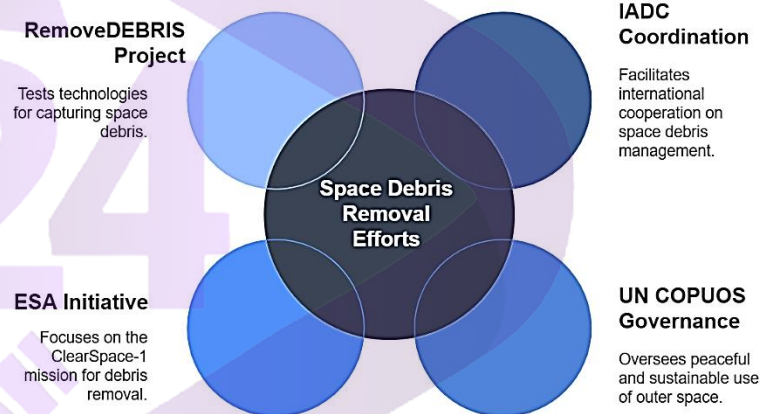
3. ESA's Clean Space Initiative

- **Clearspace-1 (2026)** mission for debris removal.

4. RemoveDEBRIS Project

- Demonstrates **debris removal tech** (e.g., nets, harpoons).

Collaborative Global Initiatives for Space Debris Management



Indian Initiatives

1. ISRO's IS4OM (Safe & Sustainable Operations Management) (2022)

- **Collision prevention** system.

2. Project Netra

- Advanced **space debris detection**.

3. ISRO SSA Control Centre (2020)

- **Monitors space situational awareness**.

4. Deorbiting of Megha Tropiques-1 (April 2023)

- **ISRO follows global debris mitigation standards**.



➤ Future Measures Needed

- **Advanced debris tracking** & observation systems.
- **Automated space traffic management** for collision prevention.
- **Use of reusable rockets** over **single-use** launch vehicles.
- **Development of debris removal tech:**
- **Harpoons, magnets, lasers, slingshots** for debris capture

➤ Conclusion

- **Space sustainability** requires **active debris management**.
- **Bellatrix Aerospace & Astroscale Japan's** partnership marks a **breakthrough in space debris removal**.
- Future **global cooperation & technology innovations** will be **key** to ensuring **safe & sustainable space operations**.

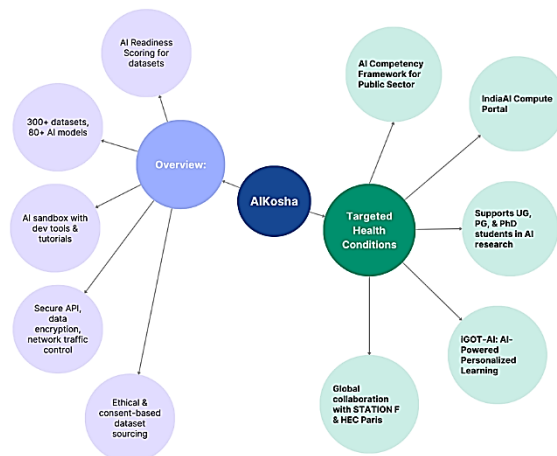
IndiaAI Mission Marks Major Milestone with the Launch of AIKosha and AI Compute Portal

- The **Ministry of Electronics and IT (MeitY)** launched **AIKosha** and the **IndiaAI Compute Portal** under the **IndiaAI Mission** to boost AI research, accessibility, and innovation.



➤ Key Initiatives

- **AIKosha:** Secure repository with **300+ datasets & 80+ AI models**, AI sandbox, and ethical data sourcing.
- **IndiaAI Compute Portal:** Cloud-based AI platform providing **affordable GPU access**, supporting startups, researchers, and government agencies.
- **AI Competency Framework:** AI training for public officials.
- **iGOT-AI:** AI-driven personalized learning for government employees.
- **Startup Acceleration:** Global mentorship program with **STATION F & HEC Paris**.
- **IndiaAI Innovation Challenge:** 900 AI solutions in healthcare, governance, and climate change.
- **FutureSkills Fellowship:** AI education & research support for students and professionals.



➤ Government Policies

- **IndiaAI Mission (Rs. 10,372 crore funding)** for AI implementation.
- **AI Safety Institute** for AI security & compliance.
- **IndiaAI Safe & Trusted Initiative** to reduce reliance on foreign AI models.
- **Global AI collaborations** with OECD, G20, and major AI economies.

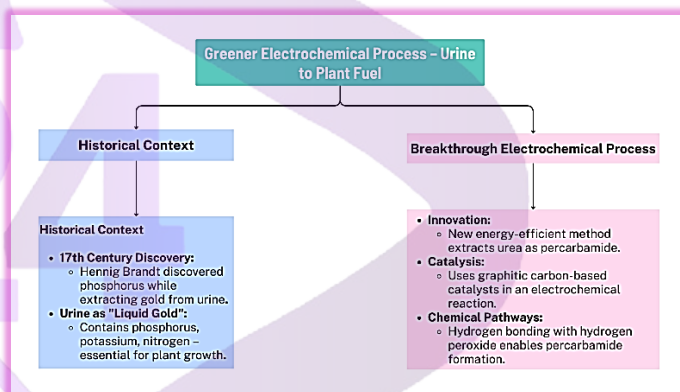
➤ Significance

- **India ranks #1 globally in AI skill penetration.**
- AI expansion supports **PM Modi's 'Viksit Bharat by 2047'** vision.
- AIKosha & Compute Portal **boost domestic AI innovation.**

➤ Conclusion

- The **IndiaAI Mission** aims to **democratize AI, drive innovation, and establish India as a global AI leader**, ensuring ethical AI development and economic growth.

New, Greener Electrochemical Process Turns Urine into Plant Fuel



- Scientists have developed an **electrochemical system** that converts urinary urea into **percarbamide**, a **slow-release nitrogen fertilizer**, offering an eco-friendly solution for **wastewater treatment** and **agricultural sustainability**.

➤ Historical Context

- 17th-century alchemist **Hennig Brandt** discovered phosphorus while extracting gold from urine.
- Urine, known as "**liquid gold**," contains **phosphorus, potassium, and nitrogen**, essential for plant growth.

➤ Breakthrough Electrochemical Process

- **Graphitic carbon catalysts** convert urea into **percarbamide solids** using **hydrogen bonding & hydrogen peroxide**.
- The method achieves **near-perfect purity** and **low energy consumption**.

➤ Agricultural & Environmental Benefits

- **Slow-release nitrogen** improves plant growth and soil oxygenation.
- Reduces **urban nitrogen pollution** while closing the **nitrogen cycle**.
- Converts **human waste into a valuable agricultural resource**.

➤ **Challenges & Future Scope**

- Requires **scaling** for widespread adoption.
- **Social stigma** around urine-based fertilizers.
- Needs **economic viability analysis** vs. synthetic fertilizers.

➤ **Significance & Government Initiatives**

- Aligns with **India's sustainability goals**:
 - **Soil Health Card Scheme** – Enhances nutrient management.
 - **One Nation One Fertilizer (PMBJP)** – Standardizes fertilizer branding.
 - **Atmanirbhar Bharat in Fertilizers** – Reduces synthetic fertilizer imports.

➤ **One Nation One Fertilizer (PMBJP)**

- **Common branding** for fertilizers under the “**Bharat**” label (e.g., **Bharat Urea, Bharat DAP**)
- **Packaging rules**: PMBJP logo covers **two-thirds of the packet**, limiting corporate branding.

➤ **Conclusion**

- This **innovative urine recycling system** integrates **waste management and agriculture**, advancing **sustainable farming** while reducing reliance on synthetic fertilizers.

AI Appu: Transforming Early Childhood Education in India

- Rocket Learning, a **Bengaluru-based ed-tech non-profit**, launched **Appu**, an **AI tutor** for children aged **3 to 6** with support from **Google.org**. This initiative aims to **transform early childhood education in India**.

➤ **Key Features**

- **Multilingual Learning**: Launched in **Hindi**, with plans to add **20 Indian languages** like Marathi and Punjabi.
- **AI-Powered Personalization**: Adapts to **individual learning needs** for better outcomes.
- **Massive Reach**: **\$1.5 million funding** from Google.org, targeting **50 million families by 2030**.
- **Integration with Schools**: Supports **Anganwadi Centers and Pre-Schools** to improve educational access.



➤ AI's Role in Education

- AI enhances **learning experiences** through:
 - **Personalized Learning Paths** – Adapts to student progress.
 - **Automated Teacher Tasks** – Reduces administrative workload.
 - **Intelligent Tutoring** – Offers real-time support and feedback.
 - **Content Creation** – Generates quizzes and study materials.
 - **AR/VR Integration** – Enhances engagement with simulations.

➤ Challenges in AI Adoption

- **AI Literacy Gap:** Teachers need training on AI tools.
- **Digital Divide:** Rural students lack access to technology.
- **Privacy Concerns:** Ensuring student data security.
- **Over-Reliance on AI:** Risk of reduced critical thinking.

➤ Bridging the Digital Divide

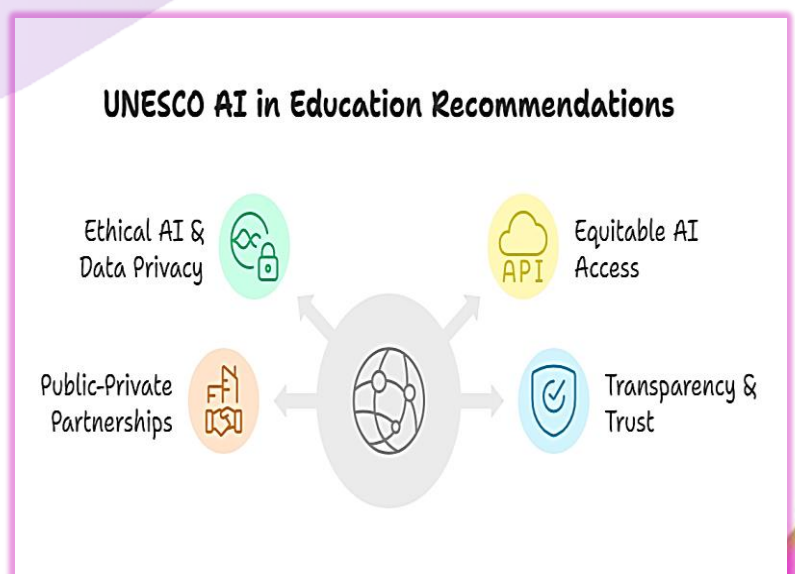
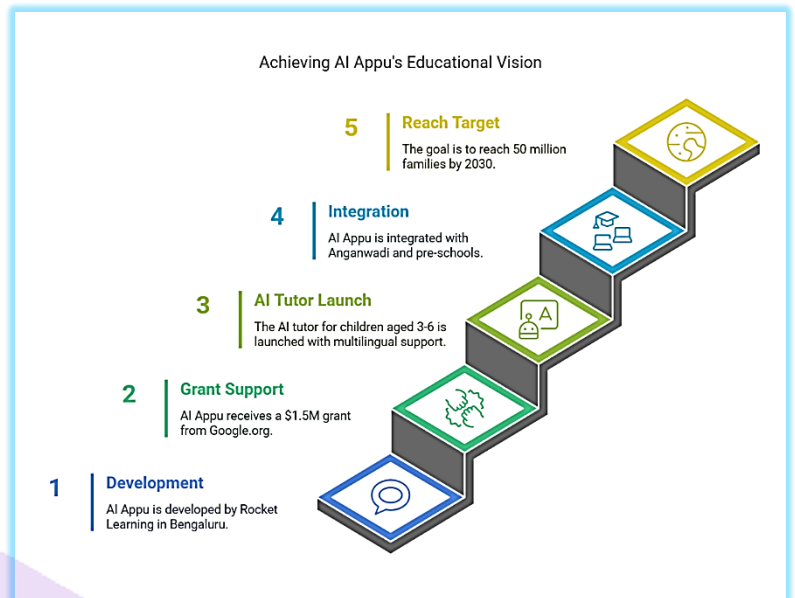
- **Government and Private Partnerships** – Invest in rural AI infrastructure.
- **Affordable AI Tools** – Make technology accessible to low-income students.
- **Teacher Training** – Educators must learn AI integration methods.

➤ UNESCO AI Education Recommendations

- **Strong Data Privacy Policies**
- **Equal AI Access for All**
- **Public-Private Partnerships for AI Growth**
- **Bias-Free Learning Algorithms**
- **Transparency and Public Trust in AI**

➤ Conclusion

- Appu marks a **significant step** in **leveraging AI for early education**, bridging **digital gaps**, and **enhancing learning quality** for India's young learners.





Sports

CHAPTER-9

ICC CHAMPIONS TROPHY 2025

ICC Champions Trophy 2025

India ended a 12-year wait to clinch a record-extending third Champions Trophy title, beating New Zealand by 4 wickets in the Champions Trophy 2025 final at the Dubai International Cricket Stadium.



About ICC Champions Trophy:

- The ICC Champions Trophy is a premier One Day International (ODI) cricket tournament featuring the world's top eight teams.
- The tournament was originally called the ICC Knockout when it began in **1998 in Dhaka (Bangladesh)**. It was renamed the ICC Champions Trophy in 2002.
- It was held every two years until 2009. After that, the event transitioned to a four-year cycle.
- **Tournament Format:**
 - The format of the competition has endured since 2006. The eight teams are divided into two groups of four teams each.
 - Each team plays once against every other team in the group.
 - And then, the top-two teams from each group advance to the semi-finals, determining the two that feature in the summit clash.
- **What made this year's team selection different?**
 - Previously the **top-eight ranked ODI sides** would feature in the Champions Trophy. But for the 2025 edition, the qualification used the results of the 2023 edition of the ICC Men's Cricket World Cup.

- The teams **that occupied the top-eight spots in the 10-team points table**, including the hosts Pakistan, sealed their place for the Champions Trophy.
- **Teams in 2025:** India, Pakistan, Bangladesh, New Zealand were in Group A while the remaining four teams — Australia, Afghanistan, England, South Africa — were in group B.

International Cricket Council (ICC):

- The International Cricket Council (ICC) is the global governing body for cricket. Representing 108 members, the ICC governs and administrates the game and works with our members to grow the sport.
- The ICC is also responsible for the staging of all ICC Events. The ICC presides over the ICC Code of Conduct, playing conditions, the Decision Review System and other ICC regulations.





Defense

CHAPTER-10



Exercise Desert Hunt 2025: India's Special Forces Joint Drill

➤ Overview

- **Joint Special Forces exercise** conducted by **Indian Air Force**.
- Held at **Air Force Station Jodhpur** from **24th to 28th February 2025**.
- Focus on **interoperability, counter-terrorism, hostage rescue, urban warfare**.

➤ Forces Involved

- **Para (SF) – Indian Army**
- **MARCOS – Indian Navy**
- **Garud Commandos – Indian Air Force**

➤ Objectives

- **Enhance joint operational capabilities** of Special Forces.
- **Improve coordination & mission execution** among Army, Navy, and Air Force.
- **Strengthen national security preparedness**.

➤ Key Operations Conducted

- **Airborne insertion & precision strikes**.
- **Hostage rescue & counter-terrorism operations**.
- **Combat free-fall & urban warfare missions**.

➤ Strategic Importance

- **Strengthens synergy** among military forces.
- **Boosts rapid response** to evolving security threats.
- **Enhances India's counter-terror & combat readiness**.

Astra MK-III Missile (Renamed Gandiva)

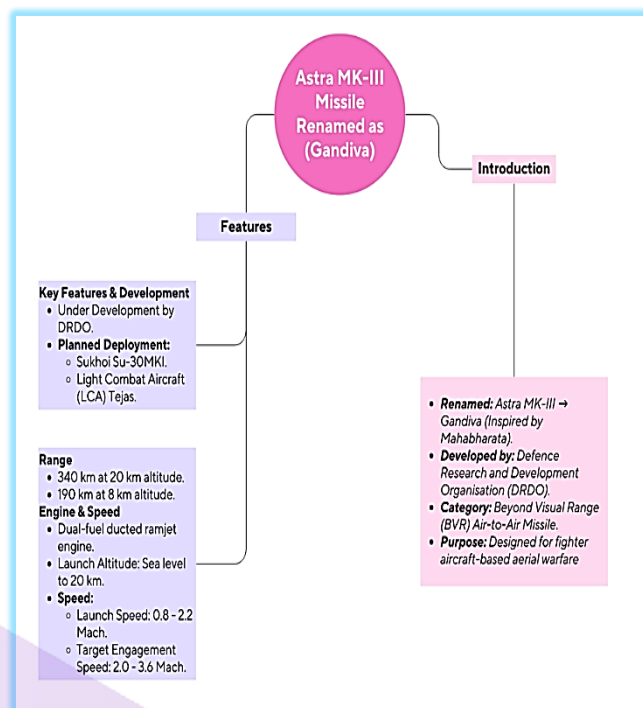
➤ Overview

- India's latest air-to-air missile renamed **Gandiva**, inspired by Mahabharata.
- Developed by **DRDO** as a **Beyond Visual Range (BVR)** missile.
- **Still under development**; planned for integration with **Sukhoi Su-30MKI** & **LCA Tejas**.



➤ Performance & Specifications

- **Range:**
 - **340 km** (at 20 km altitude).
 - **190 km** (at 8 km altitude).
- **Engine:**
 - **Dual-fuel ducted ramjet engine.**
 - **Operates from sea level to 20 km altitude.**
- **Speed:**
 - **Launch speed: 0.8 – 2.2 Mach.**
 - **Target engagement speed: 2.0 – 3.6 Mach.**
- **Targeting Capabilities:**
 - **Angle of attack up to 20°** for highly maneuverable targets.
 - **10 km altitude adjustment** for flexible targeting.



➤ Strategic Importance

- **Capable of engaging:**
 - **Enemy fighter jets, military transport aircraft, refueling planes, AWACS.**
- **Among the longest-range BVR missiles globally.**
- **Enhances India's air combat capability**, enabling precision strikes at extended ranges

India as the Second-Largest Arms Importer: A Strategic Perspective

➤ Global Arms Import Rankings (2020-24)

- **Ukraine:** Largest arms importer due to **100-fold rise** in imports amid **Russia-Ukraine war**.
- **India:** **Second-largest** arms importer despite a **9.3% decline** compared to 2015-19.

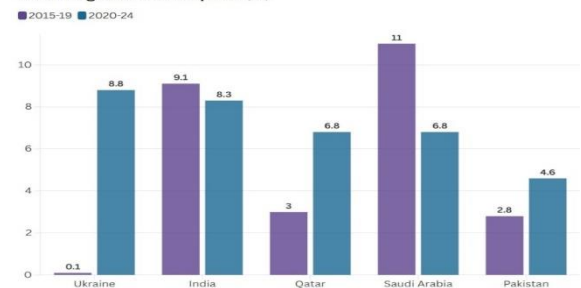


- **Saudi Arabia, Qatar, Pakistan:** Among the top 10 importers.

➤ **India's Arms Import Trends (SIPRI Data)**

- **Declining Russian dependence:**
 - **2010-14:** 72% from **Russia**.
 - **2019-23:** 36% from **Russia**, 28% from **France**.
- **France emerges as a key supplier**, providing Rafale jets & Scorpène-class submarines.
- **USA & Israel** are also **gaining prominence** in Indian arms imports.

Share of global arms imports (%)



Share in global arms exports (%)



➤ **Strategic Changes in India's Procurement**

- **Supplier Diversification:**
 - Shift towards **France, USA & Israel** to reduce reliance on **Russia**.
 - India accounts for **8.8% of global arms imports**.
- **Boosting Indigenous Defense:**
 - **'Make in India' & 'Atmanirbhar Bharat'** promoting domestic military production.
 - **₹6.81 lakh crore** defense budget (2025-26); ₹1.12 lakh crore allocated to **domestic procurement**.

➤ **Factors Influencing India's Arms Imports**

- **Regional Security Challenges**
 - **Border tensions with China & Pakistan.**
 - **Pakistan's arms imports rose by 61%**, with **China supplying 81%** of its weaponry.
- **Strategic Partnerships**
 - Strengthened defense ties with **France, USA, and Israel**.
- **Self-Reliance & Technological Constraints**
 - **Atmanirbhar Bharat** aims for domestic defense production.
 - **High-tech weaponry still requires foreign imports.**

➤ **Conclusion**

- India remains **heavily dependent on arms imports**, despite efforts to strengthen **domestic manufacturing**.
- **Diversifying suppliers** and **modernizing defense** will shape future procurement policies.
- Geopolitical shifts & security threats will continue influencing **India's defense strategy**.

VARUNA 2025: 23rd edition of the bilateral naval exercise between Indian and French navies takes place

➤ Overview

- **VARUNA 2025: 23rd edition** of the annual India-France naval exercise.
- **Dates:** 19th – 22nd March 2025.
- **Objective:** Enhancing interoperability & maritime cooperation between India & France.



➤ History & Significance

- **Started in 1993** as an Indo-French naval exercise.
- Named **VARUNA in 2001**, signifying a **strong strategic naval partnership**.

➤ Scope & Operations

- **Multi-domain exercises** across **surface, sub-surface, and aerial operations**.
- **Participating Assets:**
 - **Aircraft Carriers:** INS **Vikrant** (India) & FS **Charles de Gaulle** (France).
 - **Naval Ships:** Destroyers & Frigates from both navies.
 - **Submarines:** Indian **Scorpène-class submarine**.
 - **Other Assets:** Maritime Patrol Aircraft, Tankers, Guided Missile Frigates, Helicopters.

➤ Other India-France Military Exercises

- **VARUNA** – Naval Exercise.
- **GARUDA** – Air Force Exercise.
- **SHAKTI** – Army Exercise.
- **PEGASE** – Strategic Air Deployment Exercise.

India Successfully Concludes Participation in Sea Dragon 2025

➤ Overview

- **Sea Dragon 2025: Annual anti-submarine warfare (ASW) exercise.**
- **Host:** United States Navy's 7th Fleet.
- **Location:** Andersen Air Force Base, Guam.

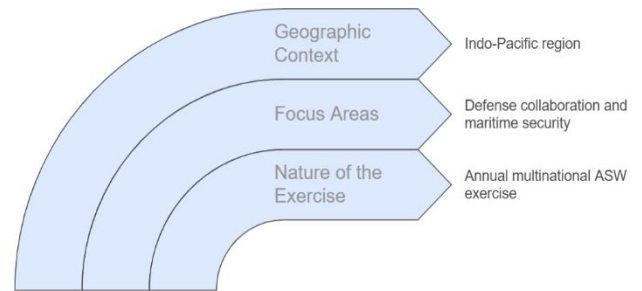


- **India's Role: Participation with P-8I Neptune aircraft (since 2021).**

Overview of Exercise Sea Dragon 2025

➤ Objective & Importance

- **Enhancing Indo-Pacific maritime security.**
- **Developing ASW capabilities: Submarine detection, tracking, & neutralization.**
- **Strengthening defense ties** with partner nations for a **free, open, and secure Indo-Pacific.**



➤ Key Features

- **Use of real U.S. Navy submarines** for ASW drills.
- **Training with MK-30 'SLED' target systems** for mobile ASW operations.
- **Competitive assessment of ASW effectiveness** among participating nations.
- ****Deployment of advanced Maritime Patrol and Reconnaissance Aircraft (MPRA).**



➤ Participating Nations & Assets

- **India – P-8I Neptune (ASW aircraft).**
- **Australia – RAAF P-8A Poseidon.**
- **Japan – JMSDF Kawasaki P-1.**
- **South Korea – ROKN P-3 Orion.**
- **United States – VP-16 & VP-47 squadrons with P-8A Poseidon.**

➤ Conclusion

- India reaffirmed its commitment to regional maritime security & defense cooperation.
- ASW training strengthened India's operational expertise & strategic partnerships.
- Future participation will further India's role in ensuring Indo-Pacific stability.

Tavasya: A New Indigenous Frigate Strengthening India's Naval Power

➤ Overview

- **Tavasya:** Second frigate under Project 1135.6 Additional Follow-on Ships.
- **Built by:** Goa Shipyard Limited (GSL) under Russian technology transfer.
- **Purpose:** Enhances naval self-reliance & India's maritime security.



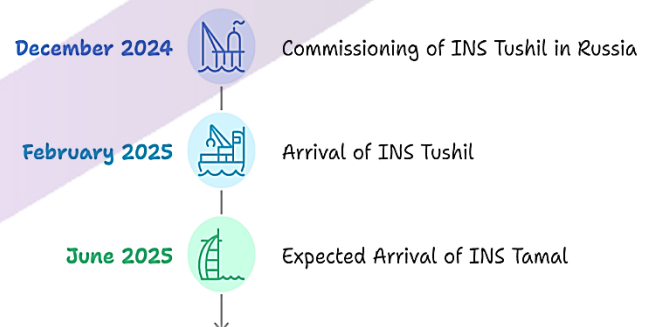
➤ Key Features & Capabilities

- **Symbolism:** Named after Bhima's mace (**Tavasya**), signifying strength.
- **Multi-role operations:** Surface, underwater & aerial combat.
- **Stealth technology:** Integrated with modern detection & weapon systems.
- **Specifications:**
 - **Length:** 125 meters | **Draught:** 4.5 meters | **Displacement:** 3,600 tons.
 - **Speed:** Max 28 knots.

➤ Project 1135.6 & Indo-Russia Cooperation

- **Defense agreement signed in 2019** for two follow-on frigates.
- **Tavasya follows Tripud** (launched in July 2023).
- **\$1 billion Indo-Russian naval agreement**, with GSL gaining **\$500 million** for indigenous shipbuilding.

Upcoming Naval Commissions and Arrivals



- **Engines supplied by Ukraine's Zorya-Mashproekt Corporation.**

➤ Aatmanirbhar Bharat & Indigenous Manufacturing

- **Increased use of indigenous components** boosts self-reliance.
- **Supports large-scale employment & domestic defense industries.**
- **Strategic Importance & Future Developments**
- **Strengthens Indian Navy's maritime dominance & naval modernization.**
- **GSL establishes itself as a leader in warship development.**

➤ **Future Arrivals:**

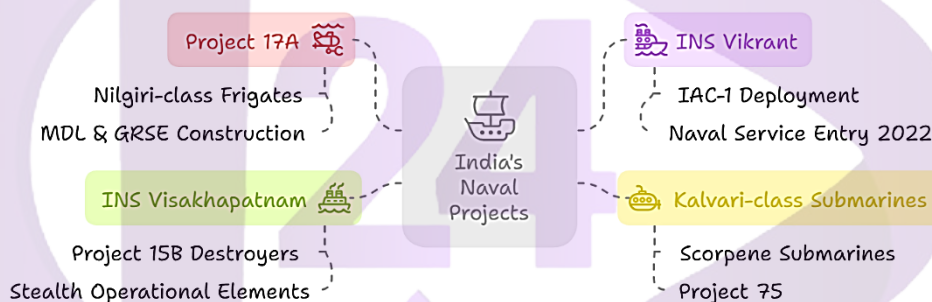
- **INS Tushil** – Arrived in Feb 2025 (commissioned in Dec 2024, built in Russia).
- **INS Tamal** – Expected by June 2025.
- **Remaining frigates to be delivered by 2026.**

➤ **Similar Indian Naval Projects**

- **Project 17A (Nilgiri-class Frigates) – Stealth frigates under MDL & GRSE.**
- **INS Vikrant (IAC-1) – India's first indigenous aircraft carrier (2022).**
- **Project 75 (Kalvari-class Submarines) – Scorpene submarines built at MDL.**
- **Project 15B (INS Visakhapatnam Destroyers) – Advanced stealth destroyers.**

Ship Name	Project Name	Built By	Status	Features
INS Tushil	Project 11356 (Krivak IV)	Yantar Shipyard, Russia	Under construction (as of 2024)	BrahMos missiles, stealth design, advanced sensors
INS Tamala	Project 11356 (Krivak IV)	Yantar Shipyard, Russia	Under construction	Similar specs to INS Tushil
INS Himgiri (not official name)	Project 11356 (Krivak IV)	Goa Shipyard Limited (GSL), India	Under construction	Equipped with Indian weapons/sensors
INS Dunagiri (not official name)	Project 11356 (Krivak IV)	Goa Shipyard Limited	Under construction	Enhanced indigenous content

India's Naval Projects and Their Contributions



Indian and Russian Navies set for the 14th Edition of Maritime Bilateral Exercise – Indra 2025

➤ **Date & Location:**

- **March 28 – April 2, 2025**
- **Off Chennai, Bay of Bengal**

➤ **Historical Importance:**

- **Started in 2003** to strengthen India-Russia naval ties.
- Enhances **maritime security, operational coordination, and defense cooperation.**

➤ **Participating Naval Assets:**

- **Indian Navy:** INS Rana, INS Kuthar, P-8I Patrol Aircraft.
- **Russian Navy:** RFS Pechanga, RFS Rezkiy, RFS Aldar Tsydenzhapov.



➤ **Objectives & Significance:**

- Strengthen **interoperability** between both navies.
- Reinforce **Indo-Pacific strategic partnership**.
- Exchange **best naval tactics & operational expertise**.
- Improve **defensive strategies against piracy & maritime threats**.

➤ **Other India-Russia Joint Exercises:**

- **AVIAINDRA** (Air Force)
- **INDRA Tri-Service** (Army, Navy, Air Force)
- **INDRA Army** (Army-specific)
- **TSENTR** (Russia-led strategic drills)

Exercise Bongosagar 2025

The India-Bangladesh naval exercise 'Bongosagar 2025' and a 'Coordinated Patrol (CORPAT)' took place in the Bay of Bengal recently.

About Exercise Bongosagar:

- It is a **bilateral naval exercise** between **India and Bangladesh**.
- It is designed to develop high-level interoperability and operational expertise through a broad spectrum of maritime operations.
- **Commenced in the year 2019**, Bongosagar 2025 is the **fifth edition** of the exercise.
 - The exercise saw **participation of INS Ranvir** from the Indian Navy and **BNS Abu Ubaidah** from **Bangladesh Navy**.
 - The exercise enhanced interoperability between the two navies, facilitating **collaborative responses** to shared maritime security challenges.
 - The exercise involved a range of complex operations encompassing surface firing, tactical manoeuvres, underway replenishment, Visit-Board-Search-Seizure (VBSS) cross boarding, communication drills, quiz for Ops team and junior officers on professional topics, and steam past.
 - The exercise provided the opportunity for both navies to develop closer links in tactical planning, coordination, and information sharing for undertaking seamless maritime operations.



Key Facts about INS Ranvir:

- It is a **Rajput-Class guided missile destroyer** which has undergone upgrade with state-of-art weapons and sensors, majority being indigenous.

- It is the fourth of the five Rajput-class destroyers built for the Indian Navy, which was commissioned on 28 October 1986.

Assam Rifles

Union Home Minister has recently announced the relocation of Assam Rifles battalions to Mizoram.

About Assam Rifles

- Assam Rifles is one of the six **Central Armed Police Forces** (CAPFs) that come under the MHA's administrative control.
- It conducts counterinsurgency operations in north-eastern India and other areas where deemed necessary.
- Its **operational control is with the Indian Army**, with an officer of the rank of Lieutenant General commanding the force.
- The headquarters of the Director-General of Assam Rifles (DGAR) is in **Shillong** unlike other Central paramilitary forces, all of which have their headquarters in New Delhi.



Assam Rifles History

- Assam Rifles has its origins in 1835 as a militia called the '**Cachar Levy**' to protect British tea estates and their settlements against tribal raids.
- It later became the '**Frontier Force**' conducting punitive expeditions across the borders of Assam.
- In 1870, the existing elements were merged into three Assam Military Police Battalions, sending over 3,000 men as part of the British Army to Europe and West Asia.
- In 1917, the name was changed to Assam Rifles.
- The force has evolved post-Independence, from combat roles during the Sino-India War 1962 to being a part of the Indian Peace Keeping Force (IPKF) in Sri Lanka in 1987, besides performing peacekeeping roles in north-eastern India. From 17 battalions in 1960 it has grown to 46 battalions today.

KHANJAR-XII

The 12th edition of the India-Kyrgyzstan Joint Special Forces Exercise Khanjar-XII is set to take place in Kyrgyzstan.

About KHANJAR:

- It is an **annual exercise conducted alternatively in India-Kyrgyzstan**. It was first initiated in December 2011, in Nahan, India.
- It is the **12th edition** of the annual India-Kyrgyzstan Joint Special Forces Exercise.



- The Indian contingent is represented by troops from the Parachute Regiment (Special Forces), and the Kyrgyzstan contingent is represented by the Kyrgyz Scorpion Brigade.
- The primary objective of the exercise is to **exchange expertise in counterterrorism operations and special forces' tactics**, particularly in mountainous and high-altitude environments.
- Training modules will include advanced sniping, close-quarters combat, complex building interventions, and mountain warfare techniques.
- In addition to military drills, the exercise will **foster cultural ties** through engagements such as **celebrating Nowruz, the Kyrgyz New Year festival**.





Science & Tech

CHAPTER-11



Bose Metal – A New Quantum State of Matter

➤ Why in the News?

- **Bose metal state** found in **Niobium Diselenide** (NbSe_2).
- **Discovered by:** A team of **Chinese and Japanese** researchers.
- **Significance:** Challenges established **condensed matter theories**.
- **Key Aspect:** Exists between **metallic** and **superconducting** states.



➤ What is a Bose Metal?

- **Intermediate phase** between a **normal metal** and a **superconductor**.
- **Electron pairing occurs**, but quantum fluctuations prevent full superconductivity.
- **Exhibits some conductivity**, but retains measurable resistance.
- **Observed in:** Ultra-thin superconducting films under **magnetic fields**.

➤ Key Features of Bose Metals

- **Electron Pairing:** Pairs form but don't establish long-range coherence.
- **Higher Conductance than Metals:** But still retains some resistance.
- **Phase Fluctuations:** Prevent Cooper pairs from forming a superconducting state.
- **Hall Resistance Disappearance:** Suggests charge transport via electron pairs, not single electrons.

➤ Connection to Bose-Einstein Condensate (BEC)

- **What is BEC?** A state where **bosons** behave as a single quantum entity at near **absolute zero**.
- **Predicted by:** **Albert Einstein (1924-1925)**, based on **Satyendra Nath Bose's** work.
- **First BEC Experiment:** **Cornell & Wieman (1995)** at **University of Colorado, Boulder**.

➤ BEC Characteristics:

- **Macroscopic Quantum State:** Particles act as a **single wave-like entity**.
- **Superfluidity:** Flows with **zero resistance**.
- **Requires Extreme Cooling:** Formed using **laser cooling & magnetic traps**.

Hantavirus Pulmonary Syndrome (HPS): Symptoms, Risks, and Prevention

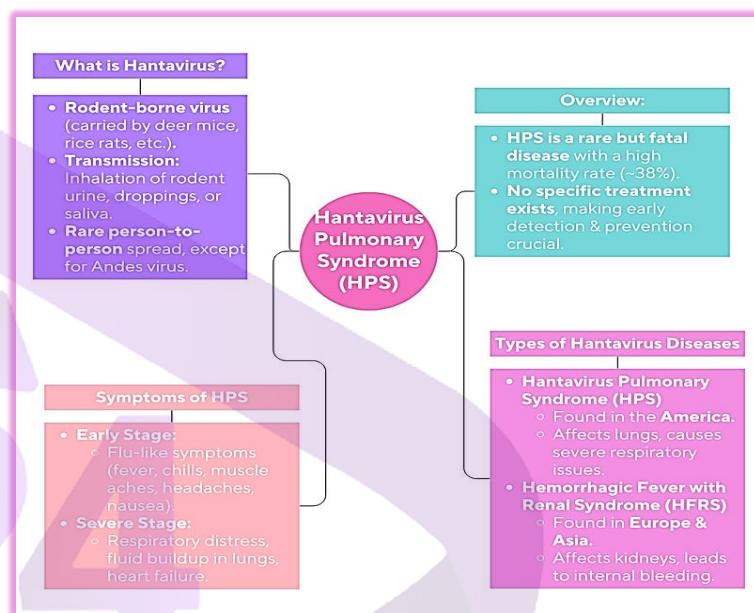
➤ Hantavirus Pulmonary Syndrome (HPS)

- **Cause:** Inhalation of airborne particles from **rodent urine, droppings, or saliva**.
- **Symptoms:** Starts with **fever, fatigue, muscle aches** → Progresses to **severe lung failure**.
- **Fatality Rate:** ~38%, no specific cure, early medical intervention is critical.
- **Rare but deadly:** Cases reported in the U.S.; no human-to-human spread except for **Andes virus** in South America.



➤ Public Health Concerns & Prevention

- **Rodent Control:** Seal home entry points, maintain cleanliness.
- **Protective Measures:** Wear gloves & masks while cleaning rodent-affected areas.
- **Awareness Needed:** More public education to prevent exposure.



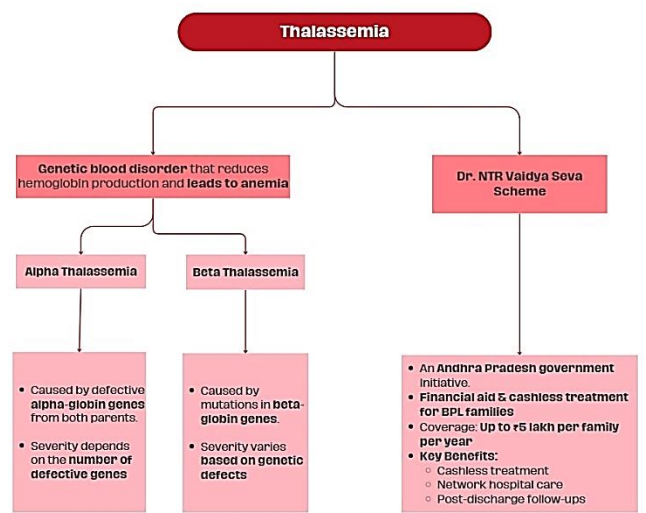
Tackling Thalassemia: Government Considerations for Enhanced Support

➤ Thalassemia & Its Impact

- **Genetic blood disorder** causing **low hemoglobin**, leading to **anemia**, delayed growth, jaundice, and facial deformities.
- **Types:**
 - **Alpha Thalassemia** – Caused by defective **alpha-globin genes**.
 - **Beta Thalassemia** – Caused by **beta-globin gene mutations**, varying in severity.
- **Global Cases:** **280 million** affected worldwide, **4.4 per 10,000** live births.

➤ Andhra Pradesh Government Initiative

- **Current Pension:** ₹10,000/month for thalassemia patients.
- **Proposed Change:** Increase pensions & extend benefits to **Above Poverty Line (APL)** families.



➤ **Why? High blood transfusion & medication costs.**

- **Dr. NTR Vaidya Seva Scheme**
- **Healthcare support for BPL families.**
- **Annual coverage:** ₹5 lakh per family.
- **Benefits:** Free treatment, hospital access, & post-treatment care.

India's First CAR T-Cell Therapy

What is CAR T-Cell Therapy?

- **Chimeric Antigen Receptor (CAR) T-cell therapy** modifies patient T-cells to **fight cancer**.
- Targets **blood cancers** like **acute lymphoblastic leukemia & large B-cell lymphoma**.

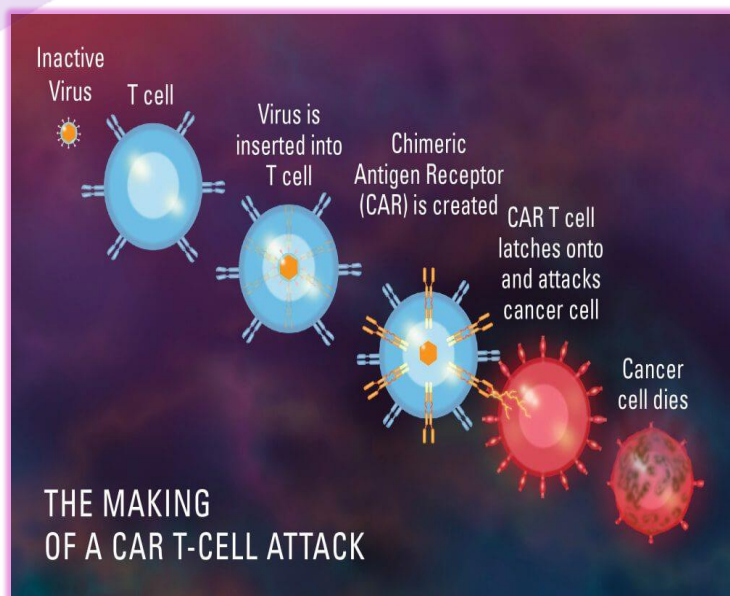
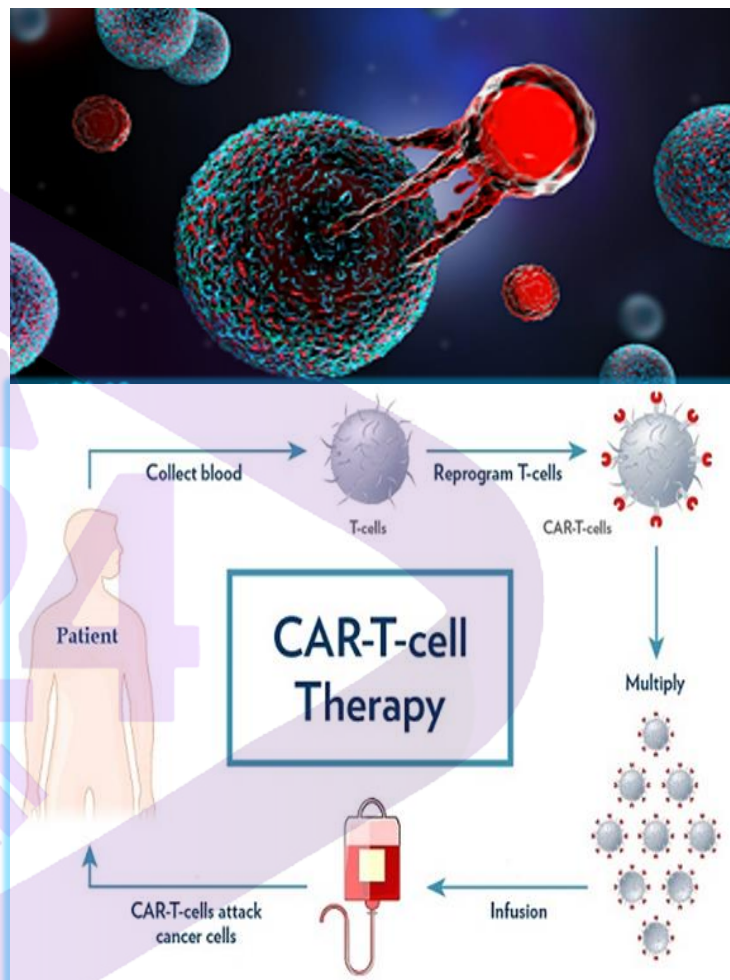
➤ **Clinical Trial & Efficacy**

- **Response rate:** 73% across trials.
- **Survival periods:** 6 months (leukemia), 4 months (lymphoma) without disease progression.
- **Severe side effects:**
 - Anemia (61%), thrombocytopenia (65%), neutropenia (96%).
 - 12% developed immune disorder haemophagocytic lymphohistiocytosis.

➤ **Significance for India**

- **Medical Advancement:** Positions India as a leader in cancer research.
- **Cost:** \$30,000 in India vs. \$373,000–\$475,000 abroad.
- **Self-Reliance:** Reduces **foreign biotech dependency**, supporting Atmanirbhar Bharat.
- **Improved Cancer Care:** Expands treatment access for Indian patients.

➤ **Challenges & Risks**



- **\$30,000 cost** remains **high for most Indians**.
- **Severe complications** pose a risk.
- **Long-term monitoring (15 years)** required by ImmunoAct.
- Requires **dedicated hospitals & skilled medical teams** for implementation.

➤ Global & Ethical Perspective

- India joins **USA, UK, Japan, China** in offering CAR T-cell therapy.
- **Ethical concerns:** Rushed approvals raise **safety & testing** issues.
- India's **affordable model** can benefit **low- & middle-income nations**.

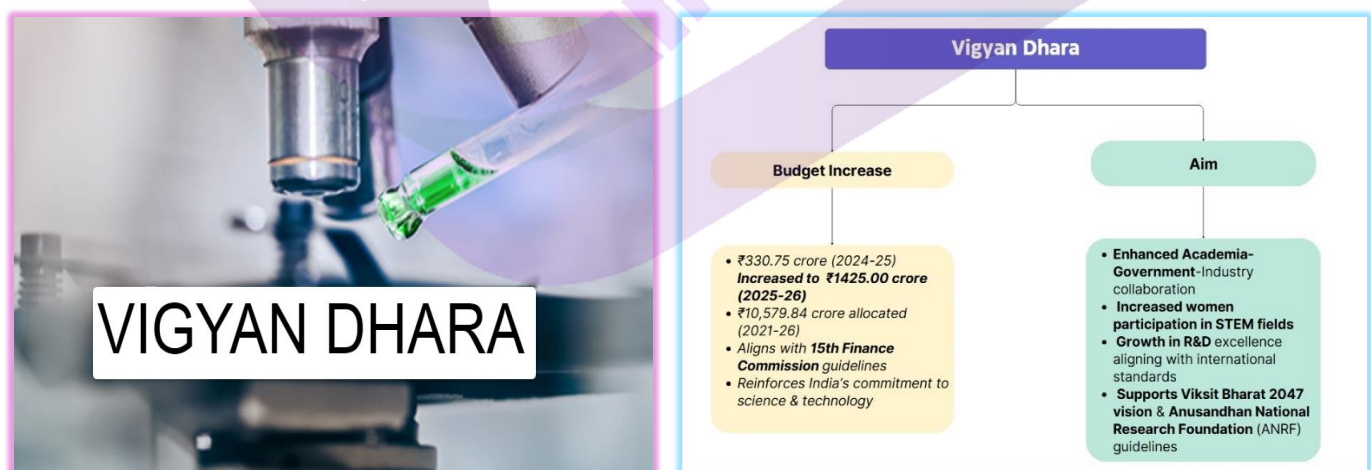
➤ Future Prospects

- **Expansion** beyond Apollo, Fortis, Amrita, & Max hospitals.
- **Potential application to solid tumors** in future.
- **Govt-private partnerships** needed for cost reduction & accessibility.
- Strengthens **India's biotech sector & pharmaceutical research**.

➤ Conclusion

- India's first **CAR T-cell therapy** is a **breakthrough in cancer treatment**, offering **affordable, cutting-edge care**. Moving forward, **cost reduction & managing side effects** will be key to **wider adoption** and **long-term success**. With continued **government & industry investment**, India is set to become a **global leader in immunotherapy**.

Vigyan Dhara: A Catalyst for India's Scientific Progress



➤ Vigyan Dhara Budget Expansion

- **Massive budget increase:** ₹330.75 crore (2024-25) → **₹1,425 crore (2025-26)**.
- **Total funding:** ₹10,579.84 crore (2021-26) under **15th Finance Commission** framework.
- Reinforces **science & technology (S&T)** as a foundation for national progress.

➤ Objectives of Vigyan Dhara

- **Capacity Building**

- Strengthen **research labs in academic institutions**.
- Support **faculty & student research**.
- Encourage **global scientific collaborations**.

- **Research & Development (R&D)**

- Advance **sustainable energy & water research**.
- Enable **international access to mega research facilities**.

- **Innovation & Technology Development**

- Promote **startups, tech deployment & commercialization**.
- Drive **public-private partnerships**.

- **Gender Inclusion in STEM**

- Boost **female participation** in science & tech fields.

- **International Collaboration**

- Facilitate **joint research projects** & global knowledge exchange.

- **Key Impacts**

- **Stronger academia-industry-government partnerships.**
- **Increased women participation in S&T.**
- **Enhanced R&D to meet global standards & national priorities.**
- **Supports Viksit Bharat 2047 vision** through Anusandhan National Research Foundation (ANRF)

- **Encouraging Innovation: INSPIRE-MANAK Program**

- **57,869 students (ages 10-15)** participated in **March 2025**.
- **State-Level Success:** Telangana reached **4,002 beneficiaries** (₹3.3 crore utilized by March 2025).

- **Nationwide Scientific Awareness**

- **Mass media, digital platforms & a dedicated web portal** promote Vigyan Dhara.
- **Stakeholder engagement programs** for knowledge sharing.
- **Boosting Scientific Publications & Research**
- **Scientific publications on the rise** (as per the National Science Foundation).
- **ANRF Act 2023 established research funding.**

- **Focus areas:**

- Clean energy, water, nanotechnology, cyber-physical systems, quantum science, biotechnology, geospatial & industrial technologies.

Xenotransplantation

Researchers in China successfully transplanted a gene-modified pig liver into a human diagnosed with brain death to evaluate its survival and function.

What is Xenotransplantation?

- **Xenotransplantation** refers to the **transplantation, implantation, or infusion of live cells, tissues, or organs** from animals into a human recipient.
- It can also involve **human cells, tissues, or organs** that have had prior **ex vivo (outside the body) contact** with non-human animal cells or tissues.
- **First attempts** at xenotransplantation involving the **human heart** were made in the **1980s**.
- **Genetic modifications** are required in animal organs to prevent **immune rejection** by the human body.
- **Post-transplantation monitoring** is crucial to ensure **organ functionality** and detect **immune responses**.



Why Are Pigs Used for Xenotransplantation?

- **Pig heart valves** have been successfully used for human valve replacements for over 50 years.
- **Anatomical and physiological similarities** between pigs and humans make pigs ideal organ donors.
- Pigs are widely farmed, making organ availability **cost-effective and scalable**.
- The variety of pig breeds allows **organ size** to be matched with specific human requirements.

Recent Advancements in Xenotransplantation

- **First Genetically Modified Pig Heart Transplant (2022):** A **genetically modified pig heart** was **successfully transplanted** into a human for the first time.
 - The experiment demonstrated **the potential of genetically modified pig organs** for human transplantation.
- **Gene-Modified Pig Liver Transplantation (2025):** Chinese researchers from the **Fourth Military Medical University, Xi'an** successfully transplanted a **gene-edited pig liver** into a **brain-dead human recipient**.
- **Key Genetic Modifications:**
 - **Six genes** are edited to **prevent immune rejection**.
 - **Human transgenes** are **inserted** to enhance compatibility.
- **Observations Over 10 Days:**
 - The **pig liver produced bile and albumin**, indicating basic functionality.

- **Stable blood flow** was maintained.
- **No signs of rejection** were observed due to **immunosuppressants**.
- The **study was published in Nature**.
- **Potential Use:** Gene-modified pig livers could serve as a "**bridge therapy**" for patients awaiting human organ transplants.
 - However, **long-term viability and full liver functionality remain uncertain**.

Gene Bank

Government to set up second National Gene Bank to ensure future food security

Why in the News?

- The **Government of India** has announced the establishment of the **Second National Gene Bank** to **conserve 10 lakh crop germplasm** for ensuring **future food and nutritional security**.
- This initiative is part of the "**Investing in Innovations**" theme of the **Union Budget 2025-26**.



What is a Gene Bank?

- A **Gene Bank** is a **storage facility** that preserves **seeds, pollen, and plant tissues** to **protect plant species from extinction** and ensure their availability for future use.
- These stored samples help in **crop breeding, scientific research, and biodiversity conservation**.
- Gene banks play a crucial role in maintaining **genetic diversity**, essential for **climate resilience and food security**.

India's First National Gene Bank

- It was **established in 1996** by the **Indian Council of Agricultural Research - National Bureau of Plant Genetic Resources (ICAR-NBPGR)** in **New Delhi**.
- **Current Status:**
 - **Second-largest Gene Bank globally** after the Svalbard Global Seed Vault in Norway.
 - Houses **4,71,561 accessions** of **2,157 species**.
 - Provides plant genetic resources for use by both the **public and private sectors** involved in **crop improvement and genetic conservation**.

National Bureau of Plant Genetic Resources (NBPGR)

- **Apex Institution** under the **Indian Council of Agricultural Research (ICAR)**.
- **Objective:** Conservation, evaluation, and utilization of **plant genetic resources** for **sustainable agriculture and food security**.
- **Headquarters:** **New Delhi**.

National Gene Fund

- Established under **Section 45** of the **Protection of Plant Varieties and Farmers' Rights Act, 2001 (PPVFR Act)**.
- **Objective:**
 - Ensures **fair distribution** of benefits derived from **genetic resources**.
 - Supports **conservation efforts** and promotes **sustainable farming practices**.
 - Provides **financial incentives** to **farmers and institutions** engaged in biodiversity conservation

Plastic Ice

Scientists have confirmed the existence of a fourth form of water, Plastic Ice VII, an exotic phase of ice that forms under extreme conditions.

About Plastic Ice:

- Under normal conditions, water exists in three phases: solid (ice), liquid (water), and gas (vapour or steam). Unlike ordinary ice, Plastic Ice VII allows water molecules to **rotate freely within a rigid crystalline structure**.
- This phase was first **predicted in 2008**, but scientists have now provided solid evidence of its existence using advanced neutron-scattering experiments at the Institut Laue-Langevin in France.
- The unique structure of Plastic Ice VII forms at pressures exceeding three gigapascals (GPa), about **30,000 times atmospheric pressure on Earth**, and temperatures above 450 Kelvin (177°C).



How Was It Discovered?

- Researchers used **quasi-elastic neutron scattering (QENS)** and diamond-anvil cells to study tiny high-pressure samples. These techniques allowed them to analyze molecular motion at the atomic scale.
- Their findings confirm that while Plastic Ice VII retains a crystalline structure, its molecules rotate in specific, preferred directions.

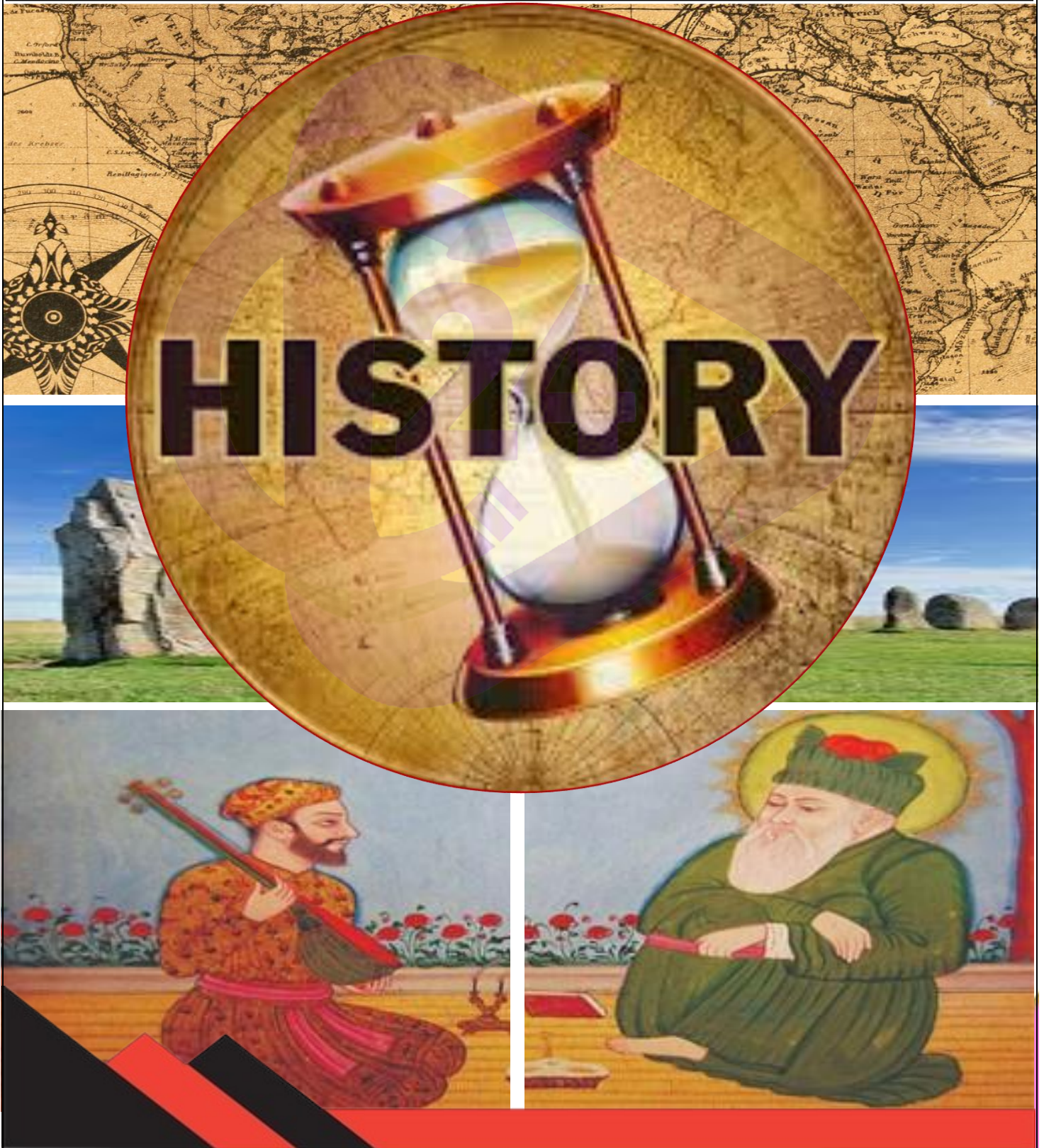
Significance of Plastic Ice Discovery:

- This discovery has profound implications for **planetary science**. Ice VII, an earlier known phase, exists deep inside the icy moons of Jupiter and Saturn, such as Callisto, Ganymede, and Titan.
- Now, the confirmation of Plastic Ice VII suggests that **water in extreme environments** behaves in even more complex ways than previously thought.
- Understanding this exotic ice could help scientists explore whether extreme planetary conditions could support life and how water influences the structure of celestial bodies.
- Scientists believe this discovery could lead to new insights in **materials science**, planetary exploration, and even the development of futuristic technologies that use extreme pressure conditions.



History

CHAPTER-12



Vikramshila University

A decade after Nalanda University came up in the foothills of Rajgir, work is on to revive another ancient centre of learning in Bihar — Vikramshila.

Why in the News?

- The Archaeological Survey of India (ASI) is currently developing the ancient site of Vikramshila University to boost tourism.
- The Bihar government has identified 202.14 acres in Antichak village, Bhagalpur, for establishing a Central University at the historic site.
- The project was approved by the Centre in 2015 with an initial budget of ₹500 crore, but progress was delayed due to land acquisition issues.



About Vikramshila University

- **Location:** Vikramshila University was situated in Bhagalpur, Bihar, along the banks of the river Ganges, making it a prominent historical site in eastern India.
- **Founder:** The university was established by King Dharmapala of the Pala Dynasty during the late 8th to early 9th century AD, as a response to the perceived decline in educational standards at Nalanda University.
- **Significance:**
 - Vikramshila University emerged as a leading hub for Tantric Buddhism and Vajrayana Buddhism, playing a pivotal role in the spread of these traditions.
 - The university distinguished itself by specializing in tantric and occult studies, setting it apart from Nalanda University, which offered a broader curriculum.
 - During King Dharmapala's reign, Vikramshila exerted influence over Nalanda's affairs, highlighting its administrative and academic dominance at the time.
 - It drew over 1000 students and 100 teachers from across India and beyond, reflecting its international reputation as a center of learning.
 - The institution produced renowned scholars like Atisa Dipankara, who significantly contributed to establishing Buddhism in Tibet.
- **Features:**
 - Vikramshila University boasted a central stupa encircled by 208 cells, designed to house student-monks engaged in study and meditation.

- It included a library equipped with a unique cooling system, channeling water from a nearby reservoir to preserve delicate manuscripts.
- The curriculum encompassed a wide range of subjects, such as theology, philosophy, grammar, metaphysics, logic, and tantras, showcasing its academic diversity.
- The university's administration was overseen by a Kulpati or Mahasthvir, a distinctive leadership role that ensured its smooth functioning.
- **Decline:**
 - **Vikramshila University met its end when it was destroyed by Muhammad Bin Bakhtiyar Khalji around 1203 AD**, an event that also marked the downfall of Nalanda University.

Mudumal Megalithic Menhirs

The Mudumal Megalithic Menhirs in Telangana's Narayanpet district, dating back 3,500 to 4,000 years, have been added to India's Tentative UNESCO World Heritage Sites list.

About Menhirs

- **Menhirs are large upright standing stones, often part of megalithic burial or ritual sites.**
- **Found across Europe, Africa, and Asia, they are most numerous in Western Europe.**
- They vary in size, are often uneven and squared, and sometimes taper towards the top.
- Menhirs are arranged in circles, semicircles, ellipses, or parallel rows.
- The most famous alignment is the Carnac Stones in France, with 2,935 menhirs.
- Some menhirs feature engravings, possibly linked to fertility rites and seasonal cycles.



What are Megaliths?

- **Megaliths are stone structures used as burial sites or commemorative (non-sepulchral) memorials.**
- **Burial Megaliths:**
 - Dolmenoid cists (box-shaped burial chambers).
 - Cairn circles (stone circles marking graves).
 - Capstones (mushroom-shaped burial chambers, mainly in Kerala).
- **Non-burial Megaliths:** Menhirs serve as memorials or astronomical markers.
- **Megalithic Culture in India:** Most megaliths in India date back to the Iron Age (1500–500 BCE).
 - Concentrated in **Maharashtra, Karnataka, Tamil Nadu, Kerala, Andhra Pradesh, and Telangana.**

Significance of Mudumal Menhirs

- **Archaeological importance:** Considered one of South India's largest megalithic-era burial sites.
- **The site covers 80 acres and contains:**
 - 80 tall menhirs (10-14 feet high).
 - 3,000 alignment stones in rows (20-25 feet apart), likely linked to ancient funerary rites.
- **Astronomical Significance:** Likely served as an ancient astronomical observatory.
 - Menhir alignments coincide with solar events such as:
 - **Equinoxes (day and night are equal).**
 - **Solstices (longest and shortest days of the year).**
 - A unique menhir with cup marks is considered the earliest known depiction of a **constellation in South Asia (Ursa Major/Saptarshi Mandal).**
- **Cultural and Religious Significance:** The local population worships some menhirs, calling them "Niluralla Thimmappa" (Thimmappa of the Standing Stones).
 - A particular menhir is revered as **Goddess Yellamma, reflecting living cultural traditions.**

Mudumal's UNESCO Tentative List Status

- Telangana currently has only one UNESCO World Heritage Site—Ramappa Temple, inscribed in 2021.
- Added to the UNESCO Tentative List in 2025, along with:
 - **Kanger Valley National Park (Chhattisgarh).**
 - **Ashokan Edict Sites (Multiple States).**
 - **Chausath Yogini Temples (Madhya Pradesh & Odisha).**
 - **Gupta Temples (Multiple States).**
 - **Palace-Fortresses of the Bundelas (Madhya Pradesh & Uttar Pradesh).**
- India now has 62 sites on its Tentative UNESCO List, a mandatory step before full inscription.

Amir Khusrau: A Flag-Bearer of India's Pluralistic Sufi Tradition



During the 25th anniversary of Jahan-e-Khusrau Prime Minister Narendra Modi participated in the Sufi music festival at New Delhi to honor the poet-musician Amir Khusrau from the 13th century. Through his poetry and musical achievements Khusrau made enduring contributions that nurture the syncretic Ganga-Jamuni culture of India.

Key Contributions of Amir Khusrau

➤ Historical Context & Patronage

- Served five Delhi Sultans: Muizuddin Qaiqabad, Jalaluddin Khalji, Alauddin Khalji, Qutbuddin Mubarak Shah, and Ghiyasuddin Tughlaq.
- Born in Patiyali, Uttar Pradesh, of Turkish and Indian Muslim descent.
- Migrated to India due to Mongol invasions in Transoxiana.

➤ "Parrot of India" – Cultural Synthesis

- Titled *Tuti-yi-Hind* (Parrot of India) for his poetic brilliance.
- Bridged Persian, Turkic, and Indian traditions.
- Promoted Indo-Persian cultural unity.

➤ Poet of the Sultans

- Began writing poetry at age 20 at the Delhi court.
- Combined Persian and Hindavi in royal praise poetry.
- Awarded the noble rank of "Amir" by Jalaluddin Khalji.

➤ Sufism & Nizamuddin Auliya

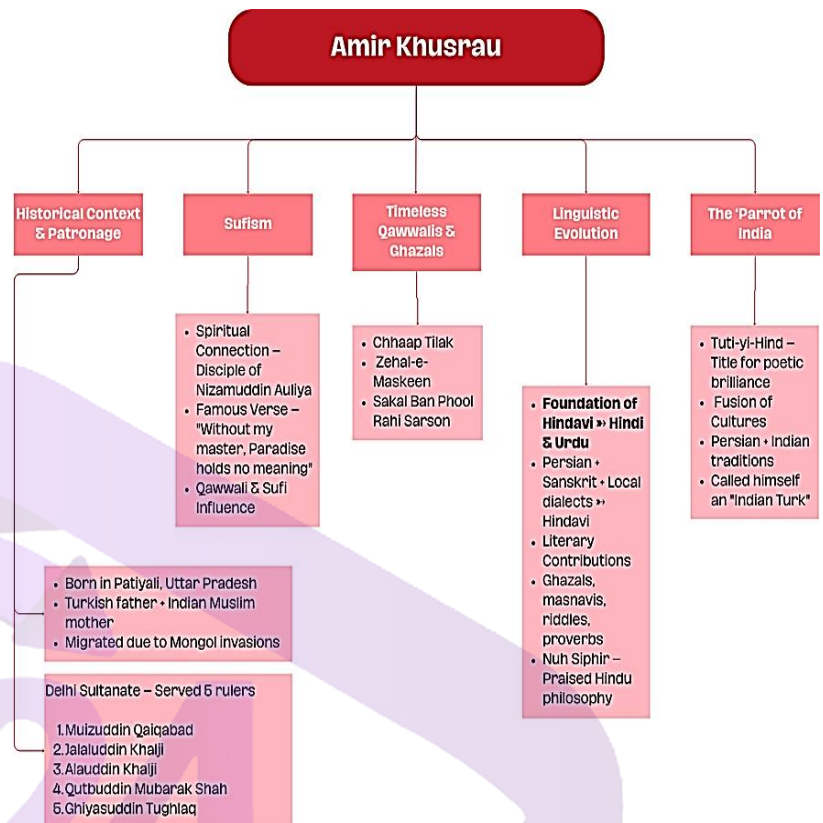
- Devoted disciple of Sufi saint Nizamuddin Auliya.
- Wrote spiritual poetry and qawwalis integral to Sufi traditions.

➤ Foundation of Hindavi – Early Urdu & Hindi

- Fused Persian, Sanskrit, and local languages to develop Hindavi.
- Influenced early Urdu & Hindi literature through ghazals, masnavis, riddles, and proverbs.

➤ Musical Legacy – Father of Qawwali & Indian Classical Music

- Innovated Hindustani music with new ragas, khayal, and bol-bant styles.



- Credited (though debated) with inventing the sitar and tabla.

➤ **Enduring Influence – From Sufi Shrines to Bollywood**

- Famous qawwalis: *Chhaap Tilak*, *Zehal-e-Maskeen*, *Sakal Ban Phool Rahi Sarson*.
- His music remains central to Sufi dargahs and modern Indian music.

➤ **Legacy & Recognition**

- Buried near Nizamuddin Auliya's dargah.
- The *Jahan-e-Khusrau* festival honors his syncretic vision and Sufi mysticism.
- President's Visit to Dholavira: A Celebration of India's Ancient Heritage

➤ **Overview & Importance**

- Dholavira, a UNESCO World Heritage Site (2021), is a key Harappan Civilization site.
- President Droupadi Murmu praised the Archaeological Survey of India (ASI) for preserving its remains.
- Recognized for advanced **urban planning, trade, water management, and architecture**.

➤ **Significance of Dholavira**

- One of the best-preserved Harappan sites.
- Demonstrates **urban planning, water reservoirs, and defensive structures**.
- ASI excavations (1990–2005) revealed seven chronological phases (3000 BCE – 1500 BCE).

➤ **3. Key Features of Dholavira**

• **Location & Trade Importance**

- Located on **Khadir Bet Island**, Great Rann of Kachchh, Gujarat.
- Strategically placed along **the Tropic of Cancer** for trade with **Mesopotamia & Oman**.

• **Archaeological Discoveries**

- **Artifacts:** Terracotta pottery, beads, gold & copper ornaments, seals, tools, animal figurines.
- **Stone Inscriptions:** **Ten large Indus script inscriptions**, possibly the world's **earliest signboard**.
- **Copper Smelting:** Evidence of **advanced metallurgy**.
- **No Human Remains:** Unlike other Harappan sites.

• **Architectural & Engineering Marvels**

- **Cascading Water Reservoirs:** Advanced **rainwater harvesting & storage system**.
- **Nine Gates with Defensive Designs:** Well-planned **fortifications**.
- **Funerary Architecture:** **Tumulus-like structures**, similar to Buddhist stupas.
- **Multi-purpose Grounds:** **Trade, festivals, public gatherings**.

- **Extensive Stone Construction:** Unlike other Harappan cities, which relied more on bricks.

➤ Decline of Dholavira

- **Climate Change & Water Scarcity:** Drying of **Saraswati River**.
- **Decline of Mesopotamian Trade:** Economic downfall of local industries.
- **Geographical Changes:** **Rann of Kachchh** became a **muddy flat**, disrupting trade routes.
- **Migration:** Harappans moved to **Ganges Valley, South Gujarat, and Maharashtra**.

➤ Other Important Harappan Sites in Gujarat

- **Lothal:** Major **port city**, dockyard, copper work, 21 skeletons in a cemetery.
- **Rangpur (Surendranagar):** First excavated Harappan site in Gujarat.
- **Rojdi (Rajkot):** Early Harappan settlement.
- **Prabhas (Gir Somnath):** Harappan trade evidence.
- **Lakhabaval (Jamnagar) & Deshalpar (Bhuj):** Small Harappan towns.

➤ Other UNESCO Heritage Sites in Gujarat

- **Ahmedabad – Historic City**
- **Rani ki Vav (Patan)**
- **Champaner-Pavagadh Archaeological Park**

The PEPSU Muzhara Movement: Agrarian Struggle for Land Rights

➤ Overview

- **Date of Historic Struggle:** March 19
- **Objective:** Tenant farmers (*Muzharas*) fought for **land ownership rights**.
- **Peak Period:** **1940s–1950s**
- **Outcome:** **1952 Land Reforms** granted ownership rights to tenants.
- **Symbolism:** Represents **resistance against feudal oppression**.



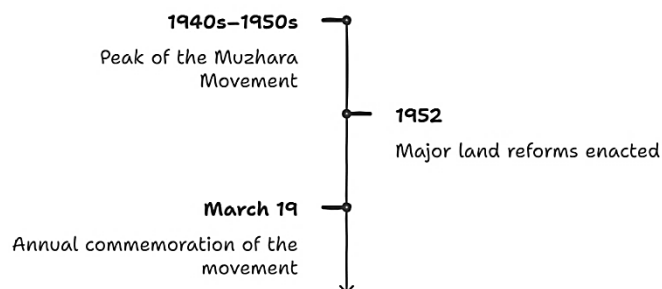
➤ What was the Muzhara Movement?

- Tenant farmers protested against **exploitative landlords** at the *biswedari* level in Punjab.
- Started as **small protests in Patiala (1930s)**, later spread widely.
- Reached **784 villages** across **Punjab & Haryana** (Patiala, Barnala, Mansa, Sangrur, Bathinda, Mohali, Fatehgarh Sahib, Faridkot, Jind).

➤ Causes of the Movement

- **Feudal Exploitation:** Muzharas lost **one-third of their produce** to landlords.
- **Heavy Taxation:** Princely rulers & British taxation worsened farmer conditions.
- **Land Grabbing:** Small landowners lost **ancestral lands** to landlords.
- **Post-1947 Exploitation:** Despite independence, landlords continued extracting agricultural produce.

The Muzhara Movement: A Timeline of Agrarian Resistance



➤ Key Leaders

- **Jagir Singh Joga:** United farmers through mass mobilization.
- **Buta Singh:** Advocated **land redistribution** & tenant rights.
- **Teja Singh Sutantar:** Linked the movement to **wider peasant struggles**.
- **Sewa Singh Thikriwala:** Inspired anti-feudal activism.

➤ Forms of Resistance

- **Initial Stage:** Peaceful protests demanding land rights.
- **Later Stage:** Farmers resorted to **armed self-defense** against repression.
- **Mass Mobilization:** Large public gatherings & collective action against exploitation.

Progression Towards Land Ownership Rights

Demand Land Rights

Farmers advocate for legal recognition of land ownership.

Challenge Feudal System

Farmers confront and resist feudal landlords.

Tenant Farmers Uprising

Farmers unite to challenge oppressive systems.



➤ Outcome & Legacy

- **1952 Land Reforms:** Granted **tenant farmers** ownership rights.
- **Symbol of Peasant Resistance:** Inspired future land reform struggles.
- **Annual Commemoration (March 19):** Celebrates sacrifices & achievements.

Aurangzeb: His Reign, Legacy, and Modern Controversies

➤ Overview

- **Full Name:** Muhi-ud-Din Muhammad Aurangzeb (Alamgir I)
- **Born:** November 3, 1618, in Dahod, Gujarat
- **Parents:** Shah Jahan & Mumtaz Mahal
- **Reign:** 1658-1707 (**Longest-ruling Mughal emperor** – 49 years)

- **Death:** March 3, 1707, in Ahmednagar



➤ Administration & Governance

- **Military Expansion:** Doubled Mughal territory (4+ million sq km)
- **Centralized Administration:** Direct control over ministers, reducing their autonomy
- **Revenue System:** Declined due to **corruption & inefficiency**
- **Legal Reforms:** Appointed *Muhtasibs* to enforce **Sharia law & morality**

➤ Contributions

- **A. Art & Architecture**
 - **Badshahi Mosque (1673)** – Lahore's grand mosque
 - **Bibi Ka Maqbara (1678)** – Aurangabad's mausoleum, resembling the Taj Mahal
 - **Idgah in Mathura** – Built after suppressing Jat rebellions
- **B. Literature & Education**
 - **Fatawa-e-Alamgiri** – Islamic law compilation
 - **Patronized Persian & Arabic scholars**
 - **Hand-copied the Quran** as an act of devotion

➤ Religious Policies & Controversies

- **Jizya Tax (1679)** – Reimposed tax on non-Muslims
- **Temple Destruction** – Ordered targeted demolitions (viewed as both political & religious)
- **Execution of Guru Tegh Bahadur (1675)** – For resisting forced conversion & Sikh expansion

➤ Legacy & Debate

- **Pros:** Military strength, administrative reforms, cultural patronage
- **Cons:** Religious intolerance, over-centralization, economic strain
- **Modern Impact:** His legacy remains politically and socially **divisive in India**.



State

CHAPTER-13



Delhi Government's Mahila Samriddhi Scheme: Rs 2,500 Monthly Payout for Women

- The Mahila Samriddhi Scheme, a key BJP election promise, will launch on March 8 (International Women's Day), as confirmed by Prime Minister Narendra Modi. The scheme provides Rs 2,500 per month to eligible women for financial empowerment.



➤ Eligibility Criteria

- Women aged 18-60 with an annual income below Rs 3 lakh.
- Non-taxpayers and non-government employees only.
- Excludes recipients of widow or old-age pensions.

➤ Expected Beneficiaries

- 15-20 lakh women based on government estimates.
- Data verification through Aadhaar, tax records, and BPL lists.

➤ Implementation & Registration

- Online registration portal linked to Aadhaar for verification.
- Automated screening to prevent duplicates and ineligible applicants.

➤ Financial Allocation

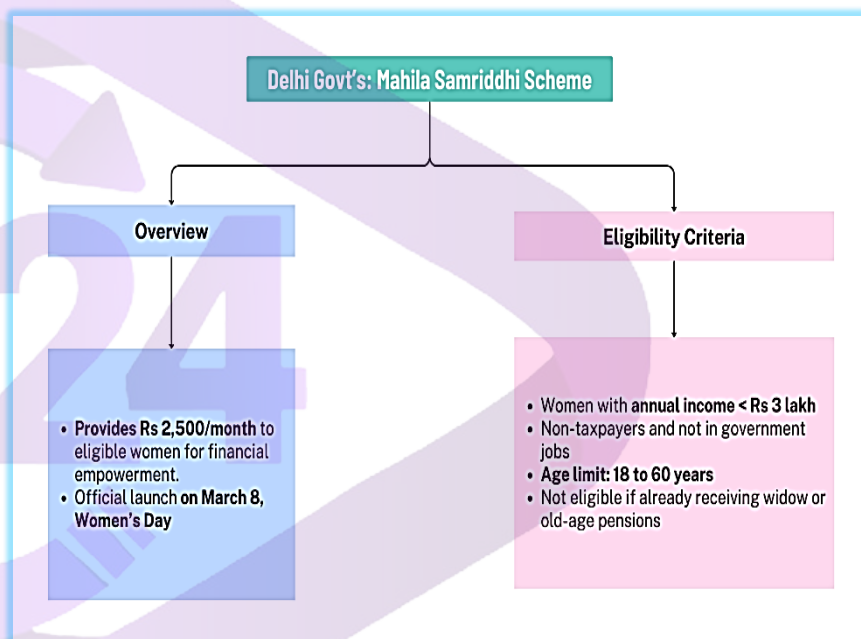
- Rs 1,000 crore allocated under the previous AAP government.
- Increased budget planned under BJP leadership from the next fiscal year.

➤ Launch & Rollout

- March 8 launch event with first payments disbursed.
- Ongoing enrollment after launch for more beneficiaries.

➤ Conclusion

- The Mahila Samriddhi Scheme aims to provide financial stability and empowerment for women in Delhi. With digital verification and a structured rollout, the initiative seeks to ensure efficient and transparent implementation.



Identities and Symbols: On Tamil Nadu and the 'ரூ'

- The Tamil Nadu government sparked a **national debate** by using the Tamil letter 'Roo' ('ரூ') instead of the Indian currency symbol '₹' in its **State Budget logo**. While some see it as an assertion of Tamil identity, officials clarify that **both '₹' and 'ரூ'** are used in documents for **linguistic inclusivity** rather than a **political statement**.



➤ Symbolic Representation vs. Political Intent

- **DMK government's decision** to feature 'ரூ' on budget materials drew criticism for prioritizing local identity.
- **State officials clarify** that Tamil Nadu uses 'Rs', '₹', and 'ரூ' together to respect linguistic diversity.
- **Article 29 of the Indian Constitution** grants states the right to preserve cultural and linguistic heritage.

➤ Economic Survey Highlights

• Economic Growth & Industrial Trends

- Tamil Nadu is projected to sustain **8%+ GDP growth** from 2024-25.
- Key industries: **Automobiles, IT, textiles, leather exports**.
- Among India's **leading economic contributors** to national GDP.

• Climate Challenges & Sustainability

- Rising **sea levels and extreme weather** threaten coastal districts.
- **Water conservation & disaster resilience** are policy priorities.
- **Renewable energy** is crucial for future economic stability.

• Demographic & Socio-Economic Concerns

- **Declining population growth** raises concerns about workforce availability.
- **Gaps in education, employment, and income equality** among **Scheduled Castes (SCs) & Scheduled Tribes (STs)** need focused policy action.

Tamil Nadu Budget 2025-26

Key takeaways

Budget at a glance

In ₹ crores

Revenue receipts	3,31,569
Revenue expenditure	3,73,204
Revenue deficit	41,635
Capital expenditure	57,231
Net loans & advances	8,102
Fiscal deficit (% of GSDP)	3%
Outstanding debt	26.07%
GSDP	35,67,818

Source: Tamil Nadu Budget 2025

THE HINDU

➤ Inter-State Economic Comparisons

- **Multiple states** now publish **Economic Surveys** for targeted policymaking.
- Comparative studies help recognize **best practices** and **growth strategies**.

➤ Way Forward

- **Future surveys** should address **socio-economic inequalities** in greater detail.
- **Sustainability efforts** must integrate **renewable energy, water conservation, and disaster preparedness**.
- **Balancing regional identity and national unity** is key to inclusive governance.

➤ Conclusion

- The 'Roo' vs. '₹' debate reflects **regional vs. national identity dynamics**, but **linguistic diversity should not threaten unity**.
- Tamil Nadu's **Economic Survey** offers valuable insights but requires **deeper analysis of socio-economic disparities**.
- States adopting Economic Surveys contribute to a **more comprehensive national economic outlook**.

Karnataka Forest Department to 'soft-release' captured elephants into Bhadra sanctuary

- The **Karnataka Forest Department** has launched a **wild elephant capture and rehabilitation** initiative in **Hassan, Chikkamagaluru, and Kodagu** to address rising **human-elephant conflicts**. The program involves a **soft-release** approach within



Bhadra Wildlife Sanctuary, allowing elephants to adapt before reintroducing them into the wild.

➤ Reason for the Initiative

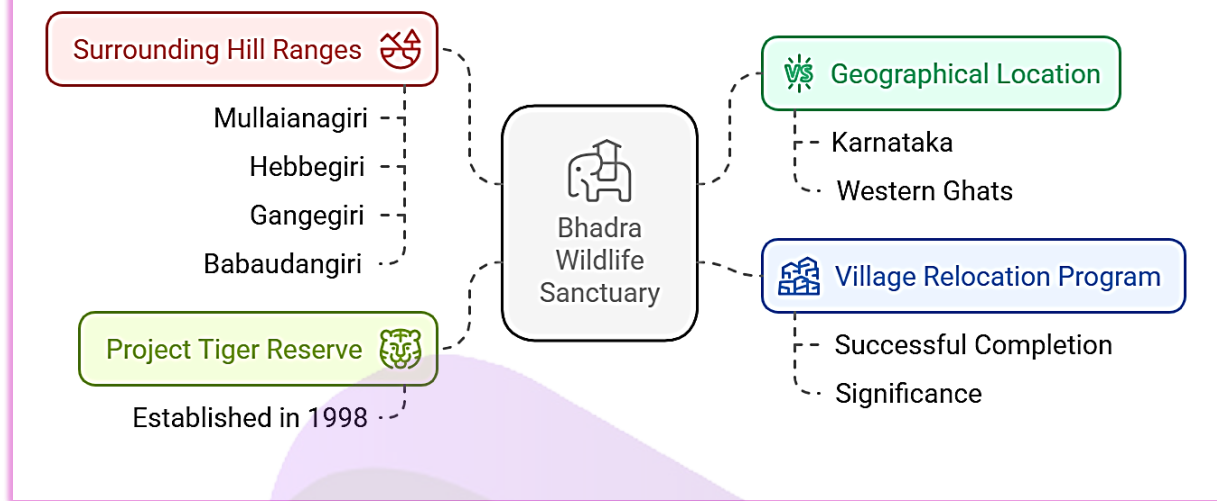
- Increased **human-elephant conflicts** in affected districts.
- Need for a **structured rehabilitation process** to reintegrate problem elephants into their natural habitat.

➤ Soft-Release Strategy

- **20 sq. km enclosed area** within **Bhadra Wildlife Sanctuary** will temporarily house relocated elephants.
- **Continuous monitoring** and **adaptive care** will be provided before **gradual rewilding**.

➤ About Bhadra Wildlife Sanctuary

Bhadra Wildlife Sanctuary: Features and Achievements



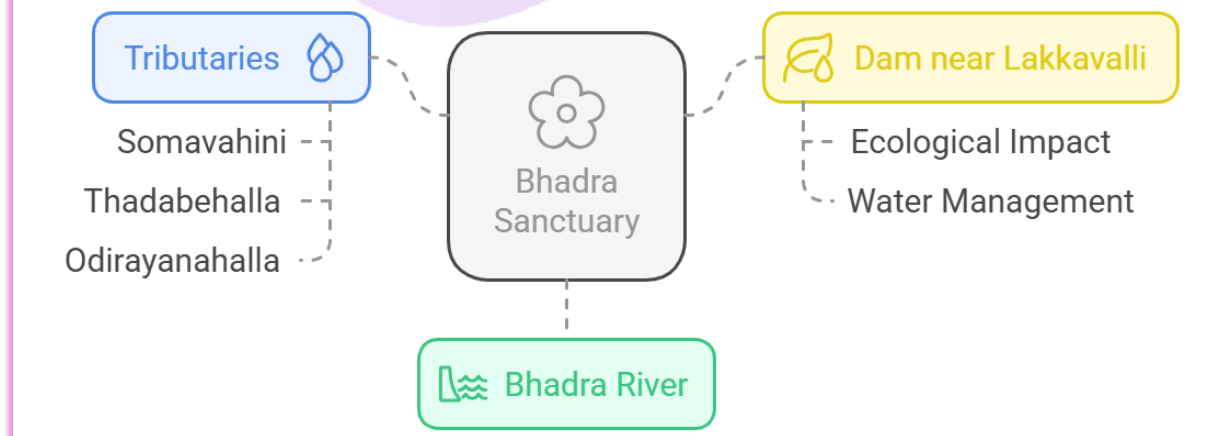
➤ Overview

- Located in the **Western Ghats, Karnataka**, across **Mullaianagiri, Hebbegiri, Gangegiri, and Babaudangiri hill ranges**.
- Declared **India's 25th Project Tiger Reserve** in **1998**.
- First tiger reserve to successfully conduct a **village relocation initiative**.

➤ Geographical & Ecological Significance

- **Bhadra River & tributaries (Somavahini, Thadabehalla, Odirayanahalla)** sustain the ecosystem.
- **Lakkavalli Dam** supports biodiversity conservation.

Ecological and Geographical Relationships of the Bhadra Sanctuary



➤ Vegetation & Wildlife

- **Forests:** Southern & Northern Tropical Dry Deciduous, Dry Bamboo Brakes, Scrub Forest.

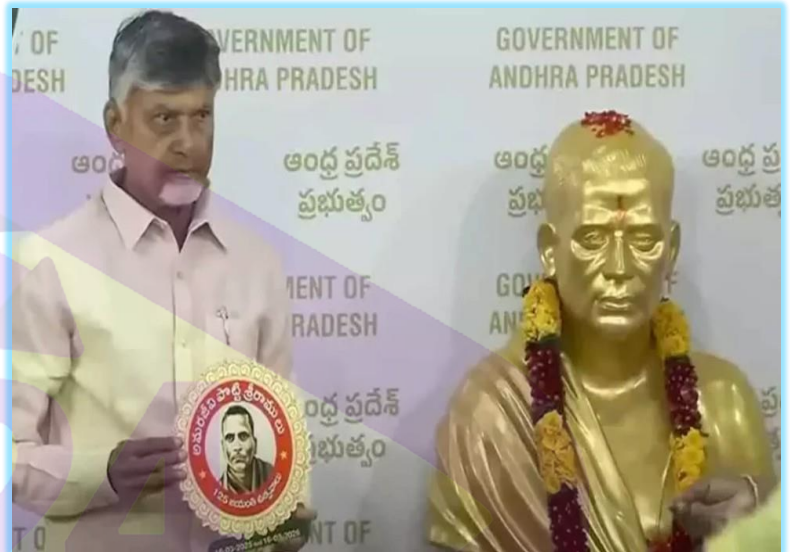
- **Flora:** Teak, Rosewood, Mathi, Honne, Nandi, medicinal plants.
- **Fauna:** Tigers, leopards, dholes, Gaur, sambar deer, barking deer, and Indian civets.

➤ Conclusion

- The **soft-release program** in **Bhadra Wildlife Sanctuary** is a **pioneering effort** to **mitigate human-wildlife conflict** and **enhance elephant conservation**. This initiative strengthens Karnataka's **wildlife management efforts** while setting an example for **rehabilitation-based conservation across India**.

Potti Sriramulu: The Architect of Linguistic States in India

The Andhra Pradesh Chief Minister announced the installation of a 58-ft statue of Potti Sriramulu in Amaravati, commemorating his 58-day hunger strike for the formation of Andhra State.



➤ Introduction

- **Potti Sriramulu (1901-1952)** was an **Indian freedom fighter and social reformer**, best known for his **crucial role in the formation of Andhra State**. His **sacrifice through a 56-day hunger strike** led to the first state in **independent India** formed on **linguistic lines**, paving the way for the **States Reorganisation Act of 1956**.

➤ Key Contributions

➤ Role in the Indian Independence Movement

- Participated in the **Salt Satyagraha (1930)** and the **Quit India Movement (1942)**.
- Imprisoned multiple times for **anti-British activities**.
- A **staunch follower of Mahatma Gandhi**, he lived at **Gandhi Ashram in Komaravolu**, founded by **Yerneni Subrahmanyam**.

➤ Fight for Andhra State & Linguistic Reorganization

- Advocated for a **separate Telugu-speaking state** from the **Madras Presidency**.
- Began a **hunger strike on October 19, 1952**, demanding Andhra State.
- Died on **December 15, 1952**, after **56 days of fasting**, sparking **nationwide protests**.
- **Prime Minister Jawaharlal Nehru** announced the creation of **Andhra State on December 19, 1952**.
- **Andhra State was officially formed on October 1, 1953**, with **Kurnool as its capital**.

➤ Social Reforms

- Advocated for **Dalit rights** and **temple entry reforms**.
- Undertook a **hunger strike** to allow Dalits into the **Venu Gopala Swamy Temple in Moolapeta, Nellore**, leading to their eventual entry.

➤ **Impact of His Sacrifice**

- Led to the formation of the **States Reorganisation Commission (1953)**.
- Directly influenced the **States Reorganisation Act of 1956**, leading to **linguistic states** like **Maharashtra, Karnataka, Gujarat, and Tamil Nadu**.

➤ **Conclusion**

- Potti Sriramulu's **unwavering commitment** to linguistic identity and social justice made him a **pivotal figure in India's state reorganization**. His sacrifice **not only shaped Andhra State but also redefined India's political map** through the creation of **linguistic states**, ensuring governance in **regional languages**.

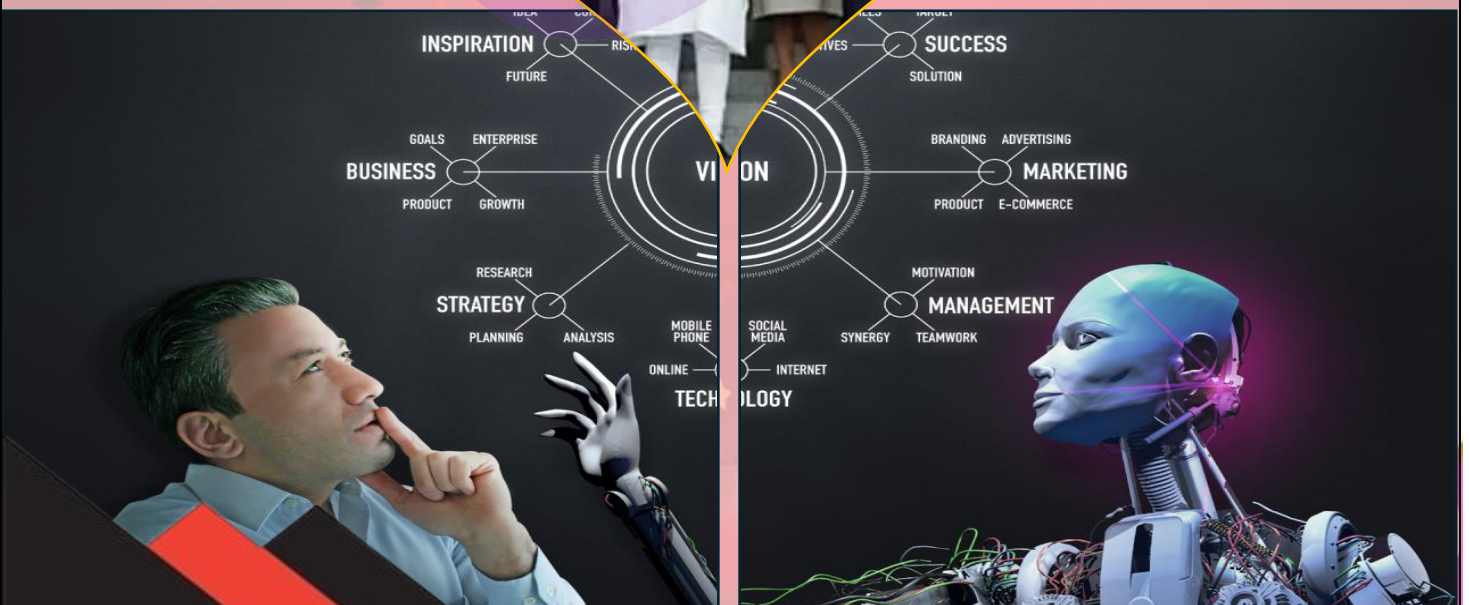




Events

CHAPTER-14

EVENTS



New Delhi to Host 20-Nation Security Meet: Key Agendas and Implications

Overview

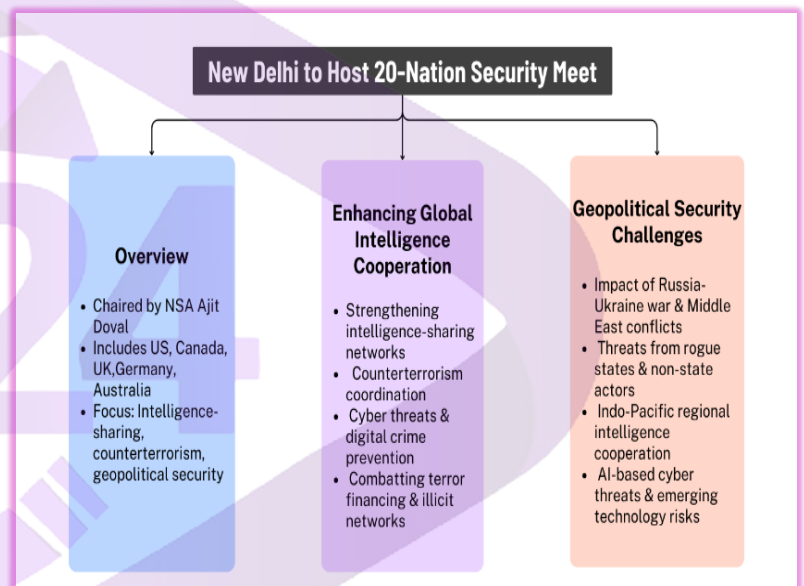
- A crucial **security conference** in **New Delhi** brings together **intelligence officials** from **20 nations**, including the **US, Canada, Australia, Germany, and New Zealand**.
- Led by **NSA Ajit Doval**, the event will focus on **counterterrorism, transnational crimes, and geopolitical tensions** like the **Russia-Ukraine war** and **Middle East conflicts**.



Key Discussion Points

1. Strengthening Global Intelligence Cooperation

- **Enhanced information sharing** to combat terrorism and organized crime.
- **Cybersecurity discussions** to counter digital threats and cybercrime.
- **Preventing terror financing** by tracking illicit monetary networks.



2. Geopolitical Security Challenges

- **Impact of global conflicts** on international security.
- **Threats from non-state actors** and rogue nations.
- **Indo-Pacific intelligence cooperation** for regional stability.
- **AI-based cyber threats** and emerging security risks.

3. High-Level Diplomatic Engagements

- **US Intelligence Chief Tulsi Gabbard** to attend the **Raisina Dialogue**.
- **NSA Doval's bilateral meetings** with key global intelligence leaders.
- **Collaborations on intelligence training and capacity-building**.

4. India-Canada Diplomatic Tensions

- **Daniel Rogers' participation** amid strained India-Canada relations.

- **Hardeep Singh Nijjar case's impact** on intelligence-sharing.
- **Discussions on diplomatic expulsions** and future cooperation.
- **India's Strategic Role in Global Security**
 - **Key intelligence hub** for international security cooperation.
 - **Vital counterterrorism partner** with deep intelligence networks.
 - **Strengthened Indo-Pacific security** through QUAD partnerships.
 - **Cyber defense leadership** in tackling digital threats and financial crimes.
- **Future Prospects for Intelligence Collaboration**
 - **Expanding QUAD intelligence-sharing** with the US, Japan, and Australia.
 - **Enhanced maritime security** and prevention of illegal activities.
 - **Growing security partnerships** with **Europe and Southeast Asia**.
- **Conclusion**
 - The **New Delhi security conclave** underscores **India's leadership** in **global intelligence collaboration**. As security challenges evolve, **rapid intelligence-sharing** and **diplomatic coordination** remain crucial for global stability.