



# Weekly Current Affairs

CURRENT AFFAIRS 24 MARCH 2025 TO 30 MARCH 2025



*The Indian* **EXPRESS**



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## INDIA – NEW ZEALAND JOINT STATEMENT

### WHY IN THE NEWS?

New Zealand’s Prime Minister Christopher Luxon is on his first official visit to India at PM Narendra Modi’s invitation to strengthen bilateral ties. Key highlights include launching Free Trade Agreement (FTA) negotiations, signing a Defence Cooperation MoU, and enhancing collaboration in trade, investment, education, and security. Discussions also covered regional and global issues like Indo-Pacific stability, the Ukraine war, and counterterrorism. PM Luxon is the Chief Guest at the 10th Raisina Dialogue, delivering the Inaugural Keynote Address. This visit marks a significant step in deepening India-New Zealand relations.



### INDIA AND NEW ZEALAND TIES

- 1. ECONOMIC & TRADE:** Restarted FTA talks under NZ’s “Opening Doors to India” policy. Signed AEO-MRA to ease trade.
- 2. DEFENSE & SECURITY:** Signed Defense MoU focusing on joint exercises, maritime security & counter-terrorism. NZ supports the Indo-Pacific Oceans Initiative (IPOI).
- 3. GLOBAL COOPERATION:** NZ backs India’s UNSC bid & NSG entry. Shared commitment to free, open Indo-Pacific & UNCLOS.
- 4. EDUCATION & DIASPORA:** Renewed Education MoU, expanding student & academic exchanges. Indian diaspora forms 6% of NZ’s population.
- 5. Climate Cooperation:** NZ supports India’s ISA, CDRI & Paris Agreement, aiding India’s clean energy transition.



### EVALUATIONS OF INDIA AND NEW ZEALAND

Aspect	Strengths & Opportunities	Challenges & Weaknesses	Future Prospects
<b>Trade &amp; Economy</b>	Renewed push for FTA Enhanced economic partnerships	FTA deadlock over dairy & tariffs Low trade volume (\$1.75 billion)	Sign an interim FTA like India-Australia ECTA Boost sector-specific trade deals
<b>Strategic &amp; Security</b>	A shared vision for a free & open Indo-Pacific Defense MoU & IPOI collaboration	NZ’s reliance on China could limit deeper strategic ties	Strengthen defence & maritime security cooperation Joint military exercises & intelligence sharing

Aspect	Strengths & Opportunities	Challenges & Weaknesses	Future Prospects
<b>Education &amp; Workforce</b>	India is NZ's largest source of skilled migrants. The 2nd-largest source of international students	– Recognition of Indian degrees and work rights needs improvement	Expand student exchanges & research partnerships Strengthen vocational training programs
<b>Climate &amp; Sustainability</b>	NZ's expertise in green tech & renewable energy Supports India's clean energy goals	– Limited joint projects despite alignment	Collaborate on climate tech, sustainable farming, & disaster resilience
<b>Cultural &amp; Diaspora</b>	Strong Indian diaspora (6% of NZ's population) Cultural & sports ties improving	Concerns over pro-Khalistan activities in NZ	Promote Indian culture & heritage events in NZ Strengthen diaspora engagement
<b>Market &amp; Innovation</b>	NZ's tech & innovation ecosystem offers potential	– India sees NZ primarily for tourism, ignoring tech & innovation potential	Boost business delegations, trade fairs & workshops Enhance digital economy & AI collaborations

## AREAS OF COOPERATION BETWEEN INDIA AND NEW ZEALAND

- 1. Trade & Economy:** Negotiations for a Free Trade Agreement (FTA) under NZ's Opening Doors to India Policy. Authorized Economic Operators (AEO) Agreement to ease the movement of goods. Potential for collaboration in agriculture, dairy, digital economy, and pharmaceuticals.
- 2. Defense & Security:** Defense MoU signed for military exercises, naval visits, and joint training. NZ's interest in India's Indo-Pacific Oceans Initiative (IPOI). Scope for enhancing maritime security, intelligence sharing, and counter-terrorism efforts.
- 3. Education & Workforce:** Renewed Education Cooperation Agreement to strengthen academic and vocational ties. India is NZ's largest source of skilled migrants and the second-largest source of international students. Opportunities to expand student exchange pro-

grams and research collaborations.

- 4. Climate & Sustainability:** NZ supports India's membership in the International Solar Alliance (ISA) & Coalition for Disaster Resilient Infrastructure (CDRI). Joint cooperation on UN Sustainable Development Goals (SDGs) & Paris Climate Agreement. Potential for climate tech, renewable energy, and sustainable farming partnerships.
- 5. Sports & Cultural Exchange:** Sports MoU signed to enhance sporting collaborations. Plans to celebrate 100 years of India-NZ sports relations in 2026. Recognition of the Indian diaspora (6% of NZ's population) in strengthening ties.
- 6. Technology & Innovation:** NZ's expertise in AI, fintech, and digital economy complements India's booming IT sector. Potential for collaboration in agritech, biotech, and clean energy technology. Expansion of startup ecosystems and digital commerce partnerships.

## SIGNIFICANCE OF NEW ZEALAND FOR INDIA INDO- PACIFIC

- 1. Strategic Partner in the Indo-Pacific:** Supports India's vision for a free, open, and inclusive Indo-Pacific. Potential collaboration in maritime security, freedom of navigation, and regional stability.
  - 2. Maritime Security & Defense Cooperation:** New Zealand's strategic location in the South Pacific complements India's Indo-Pacific strategy. Defense MoU paves the way for joint exercises, naval visits, and intelligence sharing. Enhancing cooperation under the Indo-Pacific Oceans Initiative (IPOI).
  - 3. Economic & Trade Opportunities:** Expanding trade relations through negotiations on a Free Trade Agreement (FTA). NZ's expertise in agritech, dairy, and sustainable farming can support India's agricultural sector. Strengthening the digital economy and fintech collaborations.
  - 4. Climate & Sustainable Development:** Partnering in renewable energy and climate resilience under the International Solar Alliance (ISA) and Coalition for Disaster Resilient Infrastructure (CDRI). Joint initiatives for clean energy, disaster management, and carbon neutrality.
  - 5. People-to-People & Cultural Ties:** The Indian diaspora constitutes 6% of NZ's population, fostering deep cultural and economic ties. Strengthening educational exchanges, student mobility, and tourism.
  - 6. Balancing China's Influence:** India-NZ cooperation can help counterbalance China's growing influence in the Pacific region. Potential for collaboration on infrastructure projects and supply chain diversification.
- 2. Non-Tariff Barriers (NTBs):** Indian exports (e.g., grapes, okra, mangoes) face strict Sanitary and Phytosanitary (SPS) restrictions in New Zealand. Lack of Mutual Recognition Arrangement (MRA) for standards and certifications.
  - 3. Low Trade Volumes:** Bilateral trade remains limited, amounting to only USD 1.75 billion (2023-24), with an imbalance in exports and imports.
  - 4. Limited Market Awareness:** New Zealand sees India mainly as a tourism market, while India underutilizes NZ's strengths in technology, innovation, and sustainability.
  - 5. Geopolitical Differences:** New Zealand's foreign policy is aligned with Western allies (Australia, the US) and is economically dependent on China, sometimes leading to differences with India.
  - 6. Pro-Khalistan Activities:** India has raised concerns about certain extremist elements in New Zealand promoting anti-India sentiments.
  - 7. Lack of Defense Engagement:** Despite recent agreements, defence and security cooperation remain limited compared to India's engagements with Australia and the US.

## WAY FORWARD

- 1. Revive FTA Negotiations:** Resolve trade barriers, particularly in dairy and agriculture, through sector-specific agreements. Explore an Early Harvest Agreement or interim trade pact similar to the India-Australia ECTA. Enhance Market Access & Trade Relations
- 2. Fast-track Mutual Recognition Arrangements (MRA) for standards and certifications:** Reduce Non-Tariff Barriers (NTBs) to facilitate smoother trade in agriculture, pharma, and technology. Organize trade fairs, business delegations, and awareness campaigns for better market understanding.
- 3. Deepen Defense & Security Cooperation:** Strengthen maritime security collaboration under the Indo-Pacific Oceans Initiative (IPOI). Conduct joint military exercises, intelligence sharing,

## AREAS OF CONCERN

- 1. Stalled FTA Negotiations:** Free Trade Agreement (FTA) talks started in 2010 but stalled due to India's high tariffs on dairy and agricultural products.

and naval visits for regional stability Enhance counter-terrorism efforts to address extremism concerns.

#### 4. Leverage Climate Change & Sustainability

**Expertise:** Collaborate on clean energy projects, sustainable agriculture, and disaster resilience under initiatives like CDRI and ISA. Use New Zealand's climate tech and renewable energy expertise to support India's green transition.

#### 5. Expand Education & Skill Development

**Ties:** Strengthen academic partnerships, research collaborations, and student exchange programs. Utilize New Zealand's vocational training to enhance skill development in India

#### 6. Boost Cultural & Diaspora Engagement:

Celebrate 100 years of sports relations in 2026 to enhance people-to-people ties. Ensure the safety and welfare of the Indian diaspora, students, and tourists in New Zealand.

#### 7. Enhance Strategic Cooperation in the Indo-Pacific:

Work together on rules-based maritime order, regional stability, and UNCLOS compliance. Leverage India's growing presence in the Indo-Pacific for mutual security and economic interests.

### CONCLUSION

India and New Zealand share a growing partnership across trade, defence, education, climate action, and cultural exchange. While challenges such as stalled FTA negotiations, trade barriers, and geopolitical differences persist, both nations have strong potential to deepen cooperation. Strengthening economic ties through a trade agreement, enhancing defence engagement under the Indo-Pacific framework, and leveraging climate and technology partnerships can significantly boost relations. A proactive approach, including sector-specific trade agreements, deeper maritime collaboration, and people-to-people exchanges, will help unlock new opportunities. By addressing concerns like market awareness and security cooperation, India and New Zealand can build a long-term, resilient, and mutually beneficial relationship in the evolving Indo-Pacific landscape.

### PRELIMS QUESTIONS

**Q. Which of the following statements are correct about India-New Zealand relations?**

1. India and New Zealand have signed a Free Trade Agreement (FTA).
2. New Zealand supports India's Indo-Pacific Oceans Initiative (IPOI).
3. The Indian diaspora forms about 6% of New Zealand's population.

**Select the correct answer using the code given below:**

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**Answer: B**

### MAINS QUESTIONS

**Q. India and New Zealand have strong historical and cultural ties, but economic relations remain underdeveloped. Discuss the key challenges in India-New Zealand trade relations and suggest measures to enhance bilateral trade.**

**(250 words, 15 marks)**

### FINANCE BILL VS. MONEY BILL VS. ORDINARY BILL

#### WHY IN THE NEWS?

Senior Congress leader Shashi Tharoor has criticized the Finance Bill, calling it a "classic case of patchwork solutions" amid India's serious structural economic challenges. Speaking in Lok Sabha, he pointed out that growth targets were being revised downward, with even 6% growth becoming difficult to achieve. Tharoor also highlighted the fiscal disparity between the Centre and southern states, arguing that despite their significant contribution to the economy, they were not receiving a fair share

of funds. Additionally, he flagged concerns over sectoral imbalances, noting that while agriculture's workforce has grown, manufacturing has shrunk to 15% of GDP—the lowest this century. He also pointed to stagnating exports and rising financial strain even on higher-income earners.



## WHAT IS A FINANCE BILL?

The Finance Bill is a legislative proposal introduced annually in the Indian Parliament to implement the government's financial policies, including taxation, expenditures, and borrowings for the upcoming fiscal year. Once approved, it becomes the Finance Act, giving legal effect to these financial proposals.

### Key Highlights from the Union Budget 2025-2026:

- 1. Income Tax Reforms: New Tax Regime Adjustments:** The exemption threshold has been raised, with income up to ₹12 lakh now tax-free, up from the previous ₹7 lakh limit. Tax slabs under the old regime remain unchanged. Wikipedia
- 2. Support for Non-Governmental Organizations (NGOs):** Under Section 12A, the validity period for tax exemptions has been extended from 5 to 10 years for institutions with an income of ₹5 crore and below in both preceding years.
- 3. International Financial Services Centre (IFSC):** The commencement date for IFSC unit operations eligible for tax exemptions has been extended to March 31, 2030, providing a longer window for businesses to benefit from these incentives.
- 4. Startup Tax Incentives:** The eligibility period for income tax exemptions for startups has

been extended. Startups incorporated up to April 1, 2030, can avail of tax benefits for three consecutive years within their first ten years of operation.

- 5. Customs Duty Adjustments:** Reductions in customs duties have been implemented for specific items to encourage imports and support domestic industries.

### 6. Tax Deducted at Source (TDS) and Tax Collected at Source (TCS):

**TDS Limit:** The annual threshold for TDS has been increased to ₹6 lakh.

**TCS Limit:** The threshold for remittances has been raised from ₹7 lakh to ₹10 lakh.

**Compliance Mechanism Enhancements:** The time limit for assessments has been extended from 2 to 4 years. Penalties are structured at 60% for the third year and 70% for the fourth year, encouraging timely compliance.

## CONSTITUTIONAL PROVISIONS

- 1. Article 110: Money Bill Definition:** The Finance Bill is a Money Bill, as it deals with taxation, borrowing, and expenditures from the Consolidated Fund of India. Money Bills can only be introduced in the Lok Sabha and require the Rajya Sabha's recommendations, but the Upper House cannot reject them.
- 2. Article 112: Annual Financial Statement (Union Budget):** The Union Budget, which includes the Finance Bill, is presented under this article. It outlines the government's estimated revenues and expenditures for the upcoming financial year.
- 3. Article 117: Financial Bills:** While all Money Bills are Financial Bills, not all Financial Bills are Money Bills. Financial Bills must be introduced in Lok Sabha first, but they require approval from both Houses of Parliament.
- 4. Article 265: No Tax Without Authority of Law:** No tax can be levied or collected unless it is authorized by law, making the passage of the Finance Bill crucial for implementing tax policies.

**COMPONENTS OF FINANCE BILL**

- 1. Taxation Provisions:** Modification of existing tax rates (e.g., changes in Income Tax slabs, GST, Customs, and Excise Duties). Continuation of existing taxes beyond their approved period
- 2. Government Borrowings:** Provisions related to government loans, bonds, and other borrowing mechanisms. Authorization for raising funds to meet budgetary deficits
- 3. Revenue and Expenditure Policies:** Allocation of government revenues for various schemes and projects. Guidelines on public expenditure management
- 4. Tax Exemptions and Incentives:** Special relief measures for specific sectors, businesses, or individuals. Exemptions for startups, industries, and NGOs (as seen in recent Finance Bills)
- 5. Customs and Excise Duties Adjustments:** Import/export duty modifications to boost or restrict trade in specific sectors. Tariff changes to protect domestic industries
- 6. Compliance and Penalty Mechanisms:** Extension or revision of assessment timelines for tax compliance. Introduction of new penalties for tax evasion or delayed payments
- 7. Amendments to Existing Financial Laws:** Modifications to laws like the Income Tax Act, GST Act, and Customs Act. Legal provisions to streamline taxation and revenue collection

**COMPARISON TABLE: FINANCE BILL VS. MONEY BILL VS. ORDINARY BILL**

Feature	Finance Bill	Money Bill	Ordinary Bill
<b>Definition</b>	A bill that contains financial provisions like taxation, fund allocation, and amendments to tax laws.	A bill that only deals with taxation, government borrowing, and expenditure from the Consolidated Fund of India.	A bill that deals with general legislative matters, not necessarily financial.
<b>Constitutional Basis</b>	Article 117	Article 110	No specific article, covered under the general legislative process.
<b>Scope</b>	Covers financial proposals, tax amendments, and fund allocations.	Strictly deals with government revenue, expenditure, taxation, and borrowing.	Covers all other legislative matters such as education, health, infrastructure, etc.
<b>Introduction</b>	Only in Lok Sabha	Only in Lok Sabha	Can be introduced in either Lok Sabha or Rajya Sabha
<b>Rajya Sabha's Role</b>	Can recommend amendments, but Lok Sabha has the final say.	Can suggest changes, but Lok Sabha can reject them.	Can amend, reject, or approve the bill.
<b>Approval Process</b>	Must be passed by both Houses of Parliament.	Must be passed by Lok Sabha and sent to Rajya Sabha, but Rajya Sabha cannot reject it.	Must be passed by both Houses of Parliament.
<b>President's Approval</b>	Required	Required	Required

Feature	Finance Bill	Money Bill	Ordinary Bill
Example	Union Budget Finance Bill, which includes tax slab changes, GST amendments, etc.	A bill imposing a new tax or increasing government borrowing.	Bills related to education, health, employment, infrastructure, etc.

**IMPORTANCE OF FINANCE BILL**

- 1. Legal Framework for Taxation:** Serves as the legal foundation for the Union Budget, detailing proposed tax changes.
- 2. Authority for Revenue Collection:** Grants the government the legal power to collect taxes, including income tax, customs duties, and excise duties.
- 3. Amendments to Tax Laws:** Enables modifications to existing tax laws, ensuring they align with government financial policies.
- 4. Covers Financial Matters:** Addresses key financial aspects such as revenue, expenditure, borrowings, and fiscal policies.
- 5. Implementation of Budget Proposals:** Acts as the mechanism for executing the government’s financial proposals.
- 6. Parliamentary Approval:** Requires approval from Parliament, ensuring transparency and legal validation of financial changes.
- 7. Becomes Finance Act:** Once passed, it transforms into the Finance Act, legally enforcing tax and financial provisions.

**CONCLUSION**

The Finance Bill plays a crucial role in shaping India’s financial landscape by outlining taxation policies, revenue collection mechanisms, and expenditure plans. As a Money Bill, it ensures that the government’s financial proposals are legally enforced while maintaining fiscal discipline. With constitutional backing under Articles 110, 112, 117, and 265, it serves as the backbone of economic governance, supporting taxation reforms, government borrowings, and financial incentives.

**PRELIMS QUESTIONS**

**Q. With reference to the Finance Bill, consider the following statements:**

1. The Finance Bill is always a Money Bill as per Article 110 of the Indian Constitution.
2. The Finance Bill includes provisions related to taxation, borrowings, and expenditure of the government.
3. Once passed by Parliament, the Finance Bill becomes the Finance Act, giving legal effect to tax changes.

**How many of the above-given statements are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**Answer: B**

**MAINS QUESTIONS**

**Q. Discuss the significance of the Finance Bill in India’s economic governance. How does it differ from a Money Bill and an Ordinary Bill?**

**(250 words, 15 marks)**

**MAKE IN INDIA POWERS DEFENCE GROWTH**

**WHY IN THE NEWS?**

India’s defence production has achieved an unprecedented milestone by reaching a record ₹1.27 lakh crore in FY 2023-24, representing a remarkable 174% increase compared to ₹46,429 crore in FY 2014-15. This rapid growth highlights

the success of the “Make in India” initiative in the defence sector, where the country is transitioning from being a major importer to becoming a rising hub for indigenous defence manufacturing.

### WHAT IS MAKE IN INDIA – THE PROGRAMME

Launched in 2014, the Make in India initiative aims to transform India into a global manufacturing hub by promoting domestic production across various sectors, reducing import dependency, and fostering innovation. This flagship programme seeks to create jobs, boost exports, and contribute to economic growth by encouraging investments from both domestic and foreign entities. The defence sector, a critical pillar of national security and technological prowess, has emerged as a focal point of the Make in India drive, with an emphasis on indigenisation and self-reliance.

#### Key aspects include:

1. Enhancing infrastructure to support indigenous manufacturing.
2. Providing financial incentives and tax benefits to attract investment.
3. Simplifying regulatory processes to ease the business environment for defence manufacturers.

### MAKE IN INDIA IN THE DEFENCE SECTOR

India’s defence manufacturing has witnessed remarkable progress under the Make in India initiative. Historically dependent on foreign suppliers for critical military equipment, the country is now steadily reducing its reliance on imports by building indigenous capabilities. Strategic policy interventions, increased budget allocations, and partnerships with the private sector have driven this transformation, placing India on the path to becoming a global defence manufacturing hub. Key developments in India’s defence sector include the design and production of advanced military platforms such as the Light Combat Aircraft (LCA) Tejas, Main Battle Tank (MBT) Arjun, Advanced Towed Artillery Gun System (ATAGS), Akash Missile System, and naval assets like indigenous aircraft carriers and submarines.

#### Additional achievements:

1. Increased focus on research and development (R&D) to foster technological innovation.
2. Enhanced collaboration between Defence Public Sector Undertakings (DPSUs) and private entities.
3. Expansion of defence manufacturing capabilities through industrial corridors and clusters.

### RECENT SURGE IN DEFENCE SELF-RELIANCE

India’s indigenous defence production has reached new heights, achieving a record value of ₹1.27 lakh crore in FY 2023-24, up by 174% from ₹46,429 crore in 2014-15. This surge is driven by government policies encouraging private participation, innovation, and modernisation.

#### Key highlights include:

1. 65% of defence equipment is now manufactured domestically, compared to the earlier import dependency of 65-70%.
2. A robust defence industrial base, comprising 16 Defence Public Sector Undertakings (DPSUs), over 430 licensed companies, and approximately 16,000 MSMEs, contributes to indigenous production.
3. Increased focus on manufacturing critical technologies, including missile systems, artillery guns, and electronic warfare systems. Modernisation efforts have also been bolstered by the Cabinet Committee on Security’s approval of significant procurement deals, such as 307 ATAGS artillery guns and 327 High Mobility Gun Towing Vehicles, developed by DRDO in collaboration with Bharat Forge and Tata Advanced Systems.

### UNPRECEDENTED GROWTH IN DEFENCE EXPORTS

India’s defence exports have seen exceptional growth, expanding from ₹686 crore in FY 2013-14 to ₹21,083 crore in FY 2023-24 — a 30-fold increase in a decade. This surge reflects India’s growing footprint in the global defence manufacturing landscape.

**Key milestones include:**

1. Exporting defence equipment to over 100 countries, with the USA, France, and Armenia emerging as top buyers.
2. A diverse export portfolio comprising bullet-proof jackets, Dornier Do-228 aircraft, Chetak helicopters, fast interceptor boats, lightweight torpedoes, and even 'Made in Bihar' boots used by the Russian Army.
3. Development of defence attaché network to promote exports and identify market opportunities. To further boost exports, the government has set an ambitious target of achieving ₹50,000 crore in defence exports by 2029.

**GOVERNMENT STEPS TO PROMOTE SELF-RELIANCE IN DEFENCE TECHNOLOGY**

A series of policy measures and initiatives have been implemented to enhance self-reliance and encourage domestic manufacturing in the defence sector:

1. **Innovations for Defence Excellence (iDEX):** Launched in 2018, iDEX engages startups, MSMEs, R&D institutions, and academia to develop cutting-edge technologies. As of February 2025, 430 iDEX contracts have been signed, with grants up to ₹25 crore provided for critical technologies like AI, quantum technology, and autonomous systems. Creation of Defence Innovation Hubs to provide mentorship and infrastructure to startups. Organisation of defence challenges to promote innovation in key areas.
2. **SRIJAN Portal:** Launched in August 2020, SRIJAN facilitates the indigenisation of imported items by DPSUs and the Armed Forces. Over 14,000 items have already been indigenised. Enhanced tracking system to monitor progress and identify more items for indigenisation. Increased participation from private sector vendors and suppliers.
3. **Positive Indigenisation Lists (PILs):** These lists mandate the domestic procurement of over 5,500 items, of which more than 3,000 have

been successfully indigenised as of February 2025. Implementation of phased timelines for indigenisation to encourage timely domestic production. Regular updates to the lists to include emerging technologies and systems.

4. **Defence Industrial Corridors (DICs):** Two corridors in Uttar Pradesh and Tamil Nadu aim to boost defence manufacturing by attracting investments. As of February 2025, 253 MoUs have been signed, with potential investments exceeding ₹53,439 crore. Development of specialised clusters for specific defence technologies, such as aerospace and armaments. Provision of common testing facilities and infrastructure support.
5. **Ease of Doing Business (EoDB):** The government has streamlined licensing processes, extended the validity of defence licences, and introduced an end-to-end digital export authorisation system, enhancing efficiency. Reduction in the timeline for obtaining clearances and approvals. Simplification of tax structures to encourage domestic and foreign investment.
6. **MAKE Projects:** These projects promote indigenous design and development under three categories: MAKE-I (government-funded), MAKE-II (industry-funded), and MAKE-III (manufactured under Technology Transfer). Increased funding support for prototype development. Emphasis on collaborative projects involving academia, industry, and the armed forces.

**SIGNIFICANCE OF SELF-RELIANCE IN DEFENCE TECHNOLOGY**

Achieving self-reliance in defence technology is crucial for enhancing national security, reducing vulnerability to geopolitical disruptions, and fostering economic growth. Indigenous manufacturing strengthens India's strategic autonomy, reduces the defence import bill, and generates employment. Additionally, it boosts innovation and technological advancements, positioning India as a key player in the global defence market.

**Additional benefits include:**

1. Strengthened supply chain resilience to mitigate disruptions in global markets.
2. Increased export potential, contributing to foreign exchange reserves.
3. Greater control over the lifecycle management of critical defence platforms.

**STILL, CHALLENGES PERSIST**

Despite the remarkable progress, challenges remain in achieving full self-reliance:

1. **Technological Gaps:** India still relies on imports for certain critical technologies, such as jet engines and high-end sensors.
2. **R&D Funding:** Defence R&D expenditure, though increasing, needs to be scaled up further to match global standards.
3. **Private Sector Participation:** While private sector contributions are growing, more needs to be done to foster greater participation and collaboration.
4. **Export Competitiveness:** Indian defence exports face stiff competition from established global players, necessitating sustained efforts to enhance quality and cost competitiveness.
5. **Integration of Emerging Technologies:** Ensuring the timely adoption of disruptive technologies like AI, cyber warfare, and hypersonic systems remains a challenge.

**WAY FORWARD**

To address these challenges and achieve greater self-reliance, India can take the following steps:

1. **Increase R&D Investment:** Enhance funding for defence R&D to develop cutting-edge technologies domestically.
2. **Strengthen Public-Private Partnerships (PPPs):** Foster deeper collaboration between DPSUs, private companies, and startups.
3. **Focus on High-End Technologies:** Prioritise the development of advanced technologies like AI, cyber warfare, hypersonic missiles, and quantum computing.

4. **Expand Export Markets:** Strengthen diplomatic and trade relations to explore new export markets and diversify India's defence export portfolio.
5. **Skill Development:** Invest in training and upskilling the workforce to meet the growing demand for skilled professionals in the defence sector.
6. **Boost Infrastructure Development:** Develop state-of-the-art manufacturing facilities and testing ranges to enhance production capabilities.

**CONCLUSION**

The Make in India initiative has transformed India's defence manufacturing landscape, propelling the country toward self-reliance and global prominence. With sustained policy support, technological innovation, and private sector engagement, India is well on its way to becoming a global defence manufacturing powerhouse. While challenges remain, the path forward is clear — a future where India's defence forces are equipped with state-of-the-art, indigenously manufactured technologies, ensuring both national security and economic prosperity.

**PRELIMS QUESTIONS:**

**Q.What is the primary objective of the Make in India initiative?**

- A. Encourage foreign imports in the defence sector
- B. Increase outsourcing of manufacturing to other countries
- C. Transform India into a global manufacturing hub and promote self-reliance
- D. Focus solely on private sector exports.

**ANSWER: C**

**MAINS QUESTIONS:**

**Q."Indigenisation in defence manufacturing strengthens national security and boosts the economy." Evaluate the impact of defence export growth under the Make in India initiative. (250 words, 15 marks)**

## INDIA'S HOLISTIC STRATEGY INTEGRATES FORESTS, FOOD, AND LIVELIHOODS

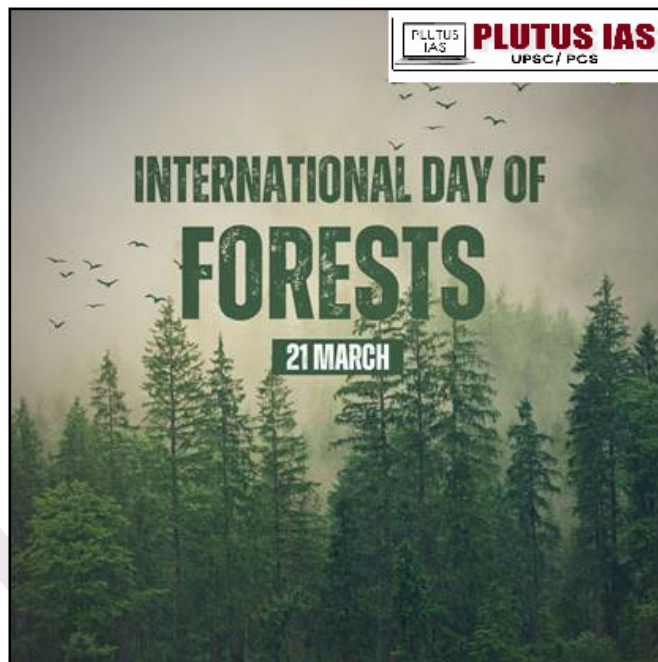
### WHY IN THE NEWS?

Forests are the lifelines of our planet, providing oxygen, food, medicine, and livelihoods to millions. Beyond their ecological significance, forests are pillars of global food security, offering essential resources such as fruits, seeds, roots, and wild meat, which support indigenous and rural communities. Every year on March 21, the world celebrates the International Day of Forests to celebrate all types of forests, recognize the importance of trees and forests, and take action to protect them.

### WHAT IS INTERNATIONAL FOREST DAY?

International Day of Forests, observed on March 21 each year, is a global event established by the United Nations General Assembly (UNGA) in 2012 to raise awareness about the importance of forests and trees. It highlights the vital role forests play in maintaining ecological balance, supporting biodiversity, and contributing to human well-being. The day promotes actions such as tree planting,

conservation efforts, and sustainable forest management to protect these crucial ecosystems. Various organizations, governments, and individuals worldwide participate in activities and discussions that emphasize the need for forest preservation and restoration to combat climate change and ensure a greener future.



### FOREST STATISTICS OF INDIA

Category	Details
<b>Total Forest &amp; Tree Cover</b>	8,27,357 sq km (25.17% of India's area)
<b>Forest Cover</b>	7,15,343 sq km (21.76% of total area)
<b>Tree Cover</b>	1,12,014 sq km (3.41% of total area)
<b>Increase in Green Cover (Since 2021)</b>	1,445 sq km
<b>Forest Cover Increase</b>	156 sq km
<b>Tree Cover Increase</b>	1,289 sq km
<b>Top States (Forest &amp; Tree Cover Increase)</b>	Chhattisgarh (684 sq km), Uttar Pradesh (559 sq km), Odisha (559 sq km), Rajasthan (394 sq km)
<b>Top States (Forest Cover Increase)</b>	Mizoram (242 sq km), Gujarat (180 sq km), Odisha (152 sq km)
<b>Largest Forest &amp; Tree Cover (Area-wise)</b>	1. Madhya Pradesh (85,724 sq km) 2. Arunachal Pradesh (67,083 sq km) 3. Maharashtra (65,383 sq km)
<b>Largest Forest Cover (Only)</b>	1. Madhya Pradesh (77,073 sq km) 2. Arunachal Pradesh (65,882 sq km) 3. Chhattisgarh (55,812 sq km)

Category	Details
<b>Highest Forest Cover (Percentage of State's Area)</b>	1. Lakshadweep (91.33%) 2. Mizoram (85.34%) 3. Andaman & Nicobar Islands (81.62%)

**GOVT POLICIES FOR FOREST PROTECTION IN INDIA**



### Objectives of National Agroforestry Scheme

- ▶ Expanding tree plantations alongside crops to improve farm productivity and income.
- ▶ Ensuring the availability of Quality Planting Material (QPM) such as improved seeds, seedlings, clones, and hybrid varieties.
- ▶ Popularizing agroforestry models suited for different regions and land-use conditions.
- ▶ Creating a database and knowledge system for research and farmer guidance.
- ▶ Strengthening market linkages for agroforestry products like timber, biofuels, fiber, silk, and medicinal plants.
- ▶ Promoting value addition and processing to enhance profitability.
- ▶ Using modern technology such as geo-tagging, AI, and satellite imagery for monitoring plantations.

Category	Details
<b>National Agroforestry Scheme</b>	Encourages farmers to adopt agroforestry for climate resilience, environmental conservation, and economic benefits.
<b>Implementation Strategy</b>	Focuses on Quality Planting Material (QPM) through nurseries and tissue culture units. ICAR-Central Agroforestry Research Institute (CAFRI) is the nodal agency. Collaborates with ICFRE, CSIR, ICRAF, and State Agricultural Universities for technical support and training.
<b>Market &amp; Economic Support</b>	Provides price guarantees and buy-back options for farm-grown trees. Encourages private sector participation in marketing and processing agroforestry products. Aligns with India's promotion of millets, which thrive in tree-based farming systems.
<b>Funding &amp; Support</b>	Government offers financial assistance for nurseries and research projects.
<b>Green India Mission (GIM)</b>	A key initiative under India's National Action Plan on Climate Change (NAPCC) aimed at expanding, restoring, and enhancing forest cover to combat climate change.
<b>Mission Start Year</b>	2015-16 (FY)

Category	Details
<b>Mission Goals</b>	Expand forest/tree cover by 5 million hectares (MHA). Improve the quality of another 5 mha of forest & non-forest land. Enhance carbon storage, water management, and biodiversity. Improve livelihoods for 3 million households through forest-based income.
<b>Sub-Missions of GIM</b>	<ol style="list-style-type: none"> <li><b>1. Enhancing Forest Cover:</b> Improving forest quality and ecosystem services.</li> <li><b>2. Ecosystem Restoration:</b> Reforesting and increasing forest cover.</li> <li><b>3. Urban Greening:</b> Planting more trees in cities and surrounding areas.</li> <li><b>4. Agroforestry &amp; Social Forestry:</b> Boosting biomass and creating carbon sinks.</li> <li><b>5. Wetland Restoration:</b> Reviving and conserving critical wetlands.</li> </ol>

### FOREST DEGRADATION IN INDIA

- 1. Deforestation & Land Use Change:** Large-scale clearing of forests for agriculture, infrastructure, and urbanization reduces forest cover and biodiversity.
- 2. Illegal Logging & Timber Extraction:** Unregulated tree felling for timber, fuelwood, and commercial purposes leads to habitat destruction.
- 3. Encroachment & Habitat Fragmentation:** Human settlements, farming, and industrial expansion result in fragmented forests, impacting wildlife movement and ecosystem balance.
- 4. Forest Fires:** Both natural and human-induced fires destroy vast forest areas, reducing biodiversity and increasing carbon emissions.
- 5. Mining & Industrial Activities:** Open-cast mining, quarrying, and industrial pollution degrade soil quality and disturb forest ecosystems.
- 6. Climate Change Impacts:** Rising temperatures, erratic rainfall, and extreme weather events stress forests, leading to tree mortality and biodiversity loss.
- 7. Invasive Species:** Non-native plant species, such as Lantana and Parthenium, outcompete native flora, altering forest composition.
- 8. Overgrazing & Unsustainable Agriculture:** Livestock overgrazing and shifting cultivation practices lead to soil erosion and loss of vegetation.

### WAY FORWARD TO PROMOTE FOREST PROTECTION

- 1. Strengthen Afforestation & Reforestation Initiatives:** Expand programs like the Green India Mission (GIM) and Compensatory Afforestation Fund Management and Planning Authority (CAMPA).
- 2. Enhance Legal and Policy Framework:** Strengthen enforcement of the Forest Conservation Act, 1980, and Wildlife Protection Act, 1972. Implement stricter penalties for illegal deforestation and encroachments.
- 3. Sustainable Forest Management (SFM):** Adopt community-based Joint Forest Management (JFM) programs. Encourage eco-tourism and non-timber forest product (NTFP) industries for sustainable livelihoods.
- 4. Community Participation & Indigenous Knowledge:** Involve tribal and forest-dwelling communities in conservation efforts. Recognize traditional ecological knowledge for forest protection. Strengthen the implementation of the Forest Rights Act of 2006 to balance conservation and community rights.
- 5. Strict Control on Forest Degradation & Land Use Change:** Implement policies to curb deforestation due to urbanization and mining. Promote land reclamation techniques for degraded forests. Enforce sustainable infrastructure development

with minimal ecological damage.

6. **Forest Fire Prevention & Control Measures:** Use early warning systems and satellite monitoring to detect forest fires. Train local communities for fire prevention and control strategies. Establish fire lines and deploy fire-resistant species in vulnerable areas.
7. **Restoring Degraded Lands & Wetlands:** Strengthen programs for watershed management and soil conservation. Restore wetlands, mangroves, and riparian forests for climate resilience.
8. **Promote Agroforestry & Sustainable Agriculture:** Scale up the National Agroforestry Policy to integrate trees into farmlands. Support farmers with incentives for agroforestry-based practices.

## CONCLUSION

Forest protection is critical for maintaining ecological balance, combating climate change, and sustaining livelihoods. By integrating scientific innovations, legal frameworks, and sustainable practices, India can enhance its forest conservation efforts while ensuring economic and ecological benefits. Multi-stakeholder collaboration, strict enforcement of policies, and community-driven approaches will be essential to safeguarding India's forests for future generations.

## PRELIMS QUESTIONS

**Q. With reference to forest protection initiatives in India, consider the following statements:**

1. The Green India Mission (GIM) is one of the eight missions under the National Action Plan on Climate Change (NAPCC).
2. The National Agroforestry Policy aims to integrate trees into farmlands to promote climate resilience and biodiversity.
3. The Forest Conservation Act, 1980, primarily focuses on granting land rights to forest-dwelling communities.

**How many of the above-given statements are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**Answer: B**

## MAINS QUESTIONS

**Q. Discuss the major causes of forest degradation in India and suggest measures to promote forest conservation and sustainable management.**

**(250 words, 15 marks)**

## NATIONAL FOOD SECURITY AND NUTRITION MISSION

### WHY IN THE NEWS?

During 2024-25, the National Food Security Mission (NFSM) has been renamed as National Food Security & Nutrition Mission (NFSNM), and the Department of Agriculture and Farmers Welfare (DA&FW) is implementing NFSNM to increase the production of pulses, Nutri cereals, rice, wheat and coarse cereals in the country. Under NFSNM, the incentives are provided to the farmers, through the States/UTs, on crop production and protection technologies, cropping system-based demonstrations, production & distribution of certified seeds of newly released varieties/hybrids, integrated nutrient and pest management techniques, capacity building of farmers through training during cropping season etc.

### WHAT IS THE NATIONAL FOOD SECURITY AND NUTRITION MISSION?

Launched in 2007, NFSM is a centrally sponsored scheme aimed at increasing the production of rice, wheat, pulses, coarse cereals, and nutri cereals. It focuses on enhancing productivity, restoring soil fertility, creating employment, and boosting farm profits. Strategies include quality seed distribution,

technology demonstrations, and farm machinery support.

### **POSHAN Abhiyaan (National Nutrition Mission):**

Launched in 2018, this mission aims to improve nutrition among children, pregnant women, and lactating mothers. It targets reducing stunting, undernutrition, anaemia, and low birth weight by promoting inter-ministerial collaboration and community engagement.

### **KEY OBJECTIVE OF NATIONAL FOOD SECURITY AND NUTRITION MISSION**

- 1. Increased Production:** Boosts rice, wheat, pulses, and coarse cereals through expanded cultivation and improved productivity.
- 2. Sustainable Practices:** Promotes eco-friendly farming for long-term food security.
- 3. Soil Health:** Focuses on restoring soil fertility for better crop yields.
- 4. Farmer Empowerment:** Enhances farm incomes to improve livelihoods and food security.
- 5. Targeted Approach:** Directs resources to high-potential districts for maximum impact.
- 6. Nutritional Security:** Encourages cultivation and consumption of diverse, nutritious crops.

### **MAJOR COMPONENTS AND IMPLEMENTATION STRATEGY**

- 1. Defining Goals & Objectives:** Align with vision and mission. Set SMART goals and define KPIs to measure success.
- 2. Research & Analysis:** Conduct SWOT and competitive analysis. Assess financial, human, and technological resources.
- 3. Risk Management:** Identify potential risks and assess impact. Develop mitigation strategies to minimize disruptions.
- 4. Milestones & Timelines:** Set a phased timeline with key milestones. Monitor progress and adjust as needed.
- 5. Roles & Responsibilities:** Clearly define tasks and accountability. Delegate based on expertise.

- 6. Resource Allocation:** Ensure budget, workforce, and tech support. Optimize resources and plan for contingencies.
- 7. Communication & Engagement:** Maintain clear communication with stakeholders. Gather feedback and foster engagement.
- 8. Monitoring & Evaluation:** Track performance against KPIs. Adapt and continuously improve the strategy.

### **KEY ACHIEVEMENTS OF THE MISSIONS**

- 1. Increased Food Production:** Boosted yields of rice, wheat, pulses, and coarse cereals, ensuring national food security.
- 2. Sustainable Agriculture:** Promoted climate-smart farming, water conservation, and soil fertility management.
- 3. Farmer Support:** Supplied quality seeds, fertilizers, machinery, and training to enhance productivity.
- 4. Regional Development:** Focused on backward districts, expanded irrigation, and improved access to resources.
- 5. Employment & Rural Growth:** Created jobs, strengthened agro-industries, and improved farmer incomes.
- 6. Technology & Innovation:** Encouraged modern farming techniques, precision agriculture, and digital tools.
- 7. Nutritional Security:** Promoted bio-fortified crops and diversified food production to improve diets.
- 8. Policy & Infrastructure Development:** Strengthened supply chains, warehousing, and market access for farmers.

### **WHY NUTRITION COMPONENTS IS ADDED**

The inclusion of nutrition in the National Food Security & Nutrition Mission (NFSNM) acknowledges the critical link between food security and nutritional well-being. Despite increased food grain production, malnutrition, micronutrient deficiencies, and diet-related health issues persist in India. By integrating nutrition-focused interventions, the mission aims to:

- 1. Improve Dietary Quality:** Encourage bio-fortified and nutrient-rich crop production.
- 2. Reduce Malnutrition:** Address stunting, undernutrition, and anaemia, especially in women and children.
- 3. Promote Diversified Cropping:** Shift focus from staple grains to pulses, Nutri-cereals, and vegetables.
- 4. Strengthen Food Systems:** Improve access to nutritious food through better supply chains and awareness programs.

### WHAT ARE THE ISSUES OF FOOD SECURITY AND NUTRITION IN INDIA?

- 1. High Malnutrition Rates:** Despite food availability, stunting, undernutrition, and anaemia remain major concerns.
- 2. Dietary Imbalance:** Over-reliance on staple grains leads to micronutrient deficiencies (iron, zinc, vitamin A).
- 3. Post-Harvest Losses:** Poor storage and distribution result in food wastage and supply gaps.
- 4. Climate Change Impact:** Unpredictable weather affects crop production and agricultural sustainability.
- 5. Economic & Social Inequality:** Limited access to nutritious food for marginalized and low-income groups.
- 6. Food Safety & Quality Issues:** Adulteration, pesticide overuse, and lack of proper food fortification.

### WAY FORWARD

- 1. Diversify Agriculture:** Promote climate-resilient crops, organic farming, and smart irrigation.
- 2. Improve Food Distribution:** Strengthen PDS, reduce post-harvest losses, and support local food production.
- 3. Enhance Nutrition Programs:** Expand POSH-AN Abhiyaan, encourage food fortification, and raise awareness.

- 4. Strengthen Policies & Farmer Support:** Ensure inter-sectoral coordination, support small farmers, and enforce food safety.
- 5. Leverage Technology:** Use AI, blockchain, and digital tools for efficient monitoring and farmer education.

### CONCLUSION

The transition from NFSM to NFSNM reflects a holistic approach to food security, integrating both agricultural growth and nutritional well-being. While India has made significant progress in increasing food production, addressing malnutrition and ensuring dietary diversity remain key challenges. Strengthening sustainable farming, efficient food distribution, and awareness programs will be crucial for achieving long-term food and nutrition security.

### PRELIMS QUESTIONS

**Q. Consider the following statements about the National Food Security & Nutrition Mission (NFSNM):**

1. It is a centrally sponsored scheme focused solely on increasing food production.
2. It includes measures for soil fertility, nutritional security, and farmer support.

**Which of the statements given above is/are correct?**

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**Answer: B**

### MAINS QUESTIONS

**Q. Discuss the significance of integrating nutrition with food security policies in India. What steps can be taken to ensure both food availability and improved nutritional outcomes?**

**(250 words, 15 marks)**

## INDIA'S BIO-ECONOMY SOARS 16-FOLD IN A DECADE, REACHING \$165.7 BILLION IN 2024

### WHY IN THE NEWS?

India's bio-economy has achieved a remarkable 16-fold growth over the past decade, surging from \$10 billion in 2014 to \$165.7 billion in 2024. This milestone was announced by Union Minister Dr Jitendra Singh during the release of the India Bioeconomy Report 2025 (IBER 2025) at the BIRAC Foundation Day ceremony. The exponential growth reflects India's strategic focus on biotechnology as a key driver of economic expansion, with the sector now contributing 4.25% to India's GDP, exceeding initial expectations. India had initially set a bio-economy target of \$150 billion by 2025, but the sector has already surpassed it a year ahead of schedule. With a Compound Annual Growth Rate (CAGR) of 17.9% over the past four years, India is reinforcing its potential as a global biotech leader.



### WHAT IS BIO-ECONOMY?

Bio-economy refers to an economic system that utilizes biological resources, biotechnology, and bio-based innovations to create sustainable solutions for industries such as healthcare, agriculture, energy, and manufacturing. It focuses on using renewable biological materials to replace fossil-based resources, enhancing environmental sustainability and economic growth.

#### Key Components of Bio-Economy:

- 1. Biotechnology:** Used in healthcare (vaccines, bio-pharmaceuticals), agriculture (genetically modified crops, bio-fertilizers), and industry (biofuels, biodegradable plastics).

- 2. Bio-Resources:** Renewable biological materials like plants, microorganisms, and bio-waste used in food, fuel, and chemicals.
- 3. Sustainable Development:** Reducing reliance on non-renewable resources and promoting circular economy practices.

### COMPONENT OF BIO-ECONOMY

- 1. Biotechnology & Biopharma:** Involves the development of vaccines, biosimilars, gene therapies, and advanced bio-manufacturing techniques to improve healthcare and disease management.
- 2. Bio-Agri & Agri-Tech:** Focuses on genetically modified (GM) crops, bio-fertilizers, bio-pesticides, and precision farming to enhance agricultural productivity and sustainability.
- 3. Bio-Industrial & Bio-Manufacturing:** Includes the production of biofuels, biodegradable plastics, bio-chemicals, and sustainable packaging to reduce environmental impact and promote green alternatives.
- 4. Bio-Energy & Bio-Fuels:** Covers the development of renewable energy sources like ethanol, biodiesel, biogas, and waste-to-energy technologies to reduce dependence on fossil fuels.
- 5. Bio-IT & Digital Bio-Economy:** Integrates AI, Big Data, and bioinformatics in genomics, drug discovery, and precision medicine to accelerate scientific advancements.
- 6. Marine & Environmental Bio-Economy:** Utilizes marine bio-resources for pharmaceuticals, cosmetics, and food while also focusing on bio-remediation and climate change mitigation.
- 7. Bio-Waste Management:** Converts organic waste into bio-energy, bio-compost, and eco-friendly materials, contributing to a circular economy and sustainable waste disposal.
- 8. Bio-Economy Policy & Investments:** Includes government policies, funding programs, and global collaborations to promote biotech startups, research, and innovation in the sector.

## GROWTH OF BIO-ECONOMY IN INDIA

India's bio-economy has witnessed remarkable growth over the past decade, expanding from \$10 billion in 2014 to \$165.7 billion in 2024. This rapid rise represents a 16-fold increase and a Compound Annual Growth Rate (CAGR) of 17.9%. The sector now contributes 4.25% to India's GDP, highlighting its role as a key pillar of economic development. Key factors driving this growth include advancements in biopharma, agriculture, bio-manufacturing, bio-energy, and digital biotech innovations. India has also established itself as a global hub for vaccine production, biosimilars, and biotech startups, reinforcing its leadership in the biotechnology sector.

## GOVT INITIATIVES TO PROMOTE BIO-ECONOMY

- 1. Biotechnology Industry Research Assistance Council (BIRAC):** A key government initiative that supports biotech startups, provides funding and promotes innovation in biotechnology.
- 2. National Biotechnology Development Strategy (NBDS):** A long-term strategic framework aimed at making India a global leader in biotechnology by strengthening research and industry collaboration.
- 3. Atal Innovation Mission (AIM):** Encourages entrepreneurship and innovation in biotechnology through funding, incubation centres, and startup support.
- 4. Biopharma Mission:** Focuses on developing next-generation biopharmaceuticals, strengthening India's position in global biopharma markets.
- 5. Production Linked Incentive (PLI) Scheme for Biotech Sector:** Offers financial incentives to boost domestic biotech manufacturing and reduce dependency on imports.
- 6. Bio-Saarthi Initiative:** A newly launched global mentorship program designed to support biotech startups through structured guidance and networking.
- 7. Waste-to-Wealth Mission:** Encourages bio-waste management, bio-energy production, and circular economy practices to promote sustainability.
- 8. Agri-Biotech Initiatives:** Supports research and development in genetically modified crops, bio-fertilizers, precision agriculture, and climate-resilient farming techniques.

## IMPORTANCE OF BIO-ECONOMY

- 1. Boosts Economic Growth and Employment:** The bioeconomy plays a crucial role in GDP growth, providing millions of jobs in biotech research, bio-manufacturing, and healthcare.
- 2. Enhances Food Security and Agricultural Sustainability:** Biotechnology helps improve crop yields, develop climate-resistant crops, and promote sustainable farming practices.
- 3. Revolutionizes Healthcare and Medicine:** The sector enables the development of vaccines, biosimilars, personalized medicine, and cutting-edge healthcare solutions.
- 4. Supports Environmental Sustainability:** Bio-based innovations reduce dependence on fossil fuels, encourage the use of renewable energy, and promote bio-waste management.
- 5. Strengthens India's Global Leadership in Biotechnology:** The rapid expansion of India's bio-economy positions the country as a key player in global biotech innovation and trade.

## CHALLENGES TO HARNESS THE POTENTIAL OF BIO-ECONOMY IN INDIA

- 1. Regulatory Barriers and Policy Gaps:** The complex and lengthy approval process for biotech innovations slows down research and commercialization.
- 2. Limited Funding and Private Sector Investment:** While government support is increasing, private-sector investments in biotech R&D are still not at par with global standards.
- 3. Inadequate Infrastructure and Skilled Workforce:** There is a need for more biotech research labs, world-class manufacturing facilities, and trained professionals to support industry growth.
- 4. Public Awareness and Acceptance Issues:** Misinformation and resistance to genetically modified organisms (GMOs) and bio-based products hinder widespread adoption.
- 5. Intellectual Property (IP) and Patent Challenges:** Ensuring strong patent protection for biotech innovations remains a challenge,

affecting global competitiveness.

- 6. Limited Market Access and Global Competition:** Indian biotech companies need better access to international markets and stronger global trade strategies to compete with developed nations.

#### WAY FORWARD

- 1. Simplify Regulatory Frameworks:** Streamlining approval processes will encourage faster biotech innovation and commercialization.
- 2. Increase Investment in Biotech R&D:** Expanding funding opportunities for startups and research institutions will drive new discoveries and advancements.
- 3. Develop World-Class Biotech Infrastructure:** Establishing more biotech parks, incubation centres, and advanced research labs will create a strong ecosystem for growth.
- 4. Enhance Skill Development and Education:** Training professionals in bio-manufacturing, digital biotechnology, and bioinformatics will help meet industry demands.
- 5. Promote Public Awareness and Acceptance:** Educating people about the benefits of biotech innovations will encourage their adoption in agriculture, healthcare, and industry.
- 6. Strengthen International Collaborations:** Partnering with global biotech leaders will help India access cutting-edge research, expand its market reach, and enhance innovation.
- 7. Focus on Sustainability and Circular Bio-Economy:** Encouraging bio-waste management, renewable energy, and eco-friendly materials will ensure long-term environmental benefits.

#### CONCLUSION

India's bio-economy has experienced unprecedented growth, surpassing its 2025 target ahead of time. With strong government support, rising investments, and ongoing innovation, India is poised to become a global biotech powerhouse, driving economic growth, sustainability, and technological advancements. Additionally, fostering a robust biotech startup ecosystem, enhancing

public-private partnerships, and leveraging digital transformation will further accelerate India's leadership in the bio-economy sector, ensuring long-term growth and global competitiveness.

#### PRELIMS QUESTIONS

**Q. Consider the following statements regarding India's bio-economy:**

1. India's bio-economy contributes 4.25% to its GDP.
2. The Bio-Saarthi Initiative is a global mentorship program for biotech startups.
3. The Production Linked Incentive (PLI) scheme is exclusively for bio-manufacturing.

**Which of the statements is/are correct?**

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

**Answer: A**

#### MAINS QUESTIONS

**Q. Discuss the growth, significance, and challenges of India's bio-economy. Suggest measures to strengthen this sector.**

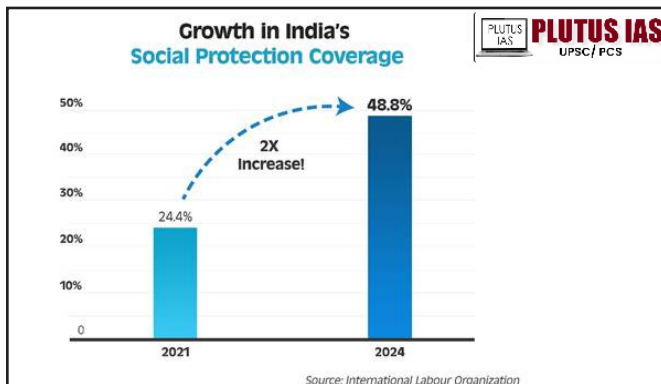
**(250 words, 15 marks)**

#### INDIA'S SOCIAL SECURITY COVERAGE DOUBLES

#### WHY IN THE NEWS?

India's social protection coverage has seen a remarkable rise, doubling from 24.4% in 2021 to 48.8% in 2024, as per the International Labour Organization's (ILO) World Social Protection Report (WSPR) 2024-26. This significant expansion is attributed to key government initiatives that have broadened access to health insurance, pensions,

and employment support for millions. According to the Ministry of Labour and Employment, nearly 920 million people (65% of the population) are now covered by at least one form of social protection, marking a major milestone in India's welfare landscape. This progress has also contributed to a 5-percentage point increase in global social protection coverage, highlighting India's role in shaping international welfare outcomes.



## SOCIAL SECURITY COVERAGE IN INDIA

The World Social Protection Report is a comprehensive assessment published periodically by the International Labour Organization (ILO), a specialised agency of the United Nations dedicated to labour rights and social justice. The report evaluates social protection systems globally, examining their coverage, effectiveness, and progress in ensuring social security for diverse populations. By offering a detailed analysis of policies and trends, it serves as a key resource for governments, policymakers, and researchers working towards stronger and more inclusive welfare systems.



The 2024–26 edition of the report is centred on universal social protection for climate action and a just transition. For the first time, it incorporates trend data, providing a more dynamic perspective on global progress. It presents an extensive set of global, regional, and country-level statistics on social protection coverage, benefits provided, and public expenditure. Additionally, a regional companion report for Asia and the Pacific supplements the global findings by offering a deeper analysis of social protection developments in the region. This companion report highlights key challenges, priorities, and the intersection of social protection and climate action, considering the unique socio-economic and environmental conditions of Asia and the Pacific.

## EXPANDING SOCIAL SECURITY

- Ayushman Bharat:** As of March 26, 2025, 39.94 crore Ayushman Cards have been issued under Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), offering free health coverage of up to ₹5 lakh per family. The scheme is accessible at 24,810 empanelled hospitals nationwide.
- Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY):** Launched to address economic hardships caused by the COVID-19 pandemic, the scheme provides free food grains to vulnerable populations. As of December 2024, 80.67 crore people are receiving free food grains, close to the intended coverage of 81.35 crore beneficiaries.
- EShram Portal:** Introduced on August 26, 2021, to create a National Database of Unorganised Workers (NDUW), this initiative offers a Universal Account Number (UAN) to workers for enhanced social security. As of March 3, 2025, over 30.68 crore unorganised workers have registered, with 53.68% of them being women.
- Atal Pension Yojana (APY):** Launched on May 9, 2015, APY aims to provide universal social security, particularly for the poor, underprivileged, and unorganised sector workers. Along with Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Pradhan Mantri Suraksha Bima Yojana (PMSBY), it strengthens

the country's social security system. As of December 31, 2024, 7.25 crore beneficiaries have enrolled in APY, with a total accumulated corpus of ₹43,369.98 crore.

- Poverty Reduction:** Over the past decade, 24.8 crore people have escaped multi-dimensional poverty due to several social security measures, reflecting the far-reaching impact of government interventions.

### IMPORTANCE OF SOCIAL SECURITY

- Financial Protection Against Uncertainties:** Provides financial assistance during retirement, unemployment, disability, or illness. Helps individuals and families sustain their livelihoods in difficult times.
- Poverty Reduction and Economic Stability:** Protects vulnerable populations from falling into extreme poverty. Encourages economic stability by ensuring basic income security.
- Access to Quality Healthcare:** Reduces financial burden on families by covering medical expenses. Government schemes like Ayushman Bharat provide free health coverage to millions.
- Food Security for Vulnerable Populations:** Ensures access to essential nutrition through programs like Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY). Reduces malnutrition and improves overall public health.
- Empowerment of Unorganised Workers:** Initiatives like EShram Portal provide social security coverage to unorganised workers. Ensures protection and benefits for daily wage earners, gig workers, and self-employed individuals.
- Encourages Savings and Retirement Planning:** Schemes like Atal Pension Yojana (APY) and Employees' Provident Fund Organisation (EPFO) help people save for the future. Ensures financial independence in old age.
- Promotes Inclusive Growth and Development:** Helps bridge the gap between different socio-economic groups. Ensures that all citizens, regardless of income level, have access to essential services.

- Strengthens National Productivity:** A healthy and financially secure population contributes to a stronger economy. Reduces dependency on government aid and promotes self-sufficiency.
- International Recognition and Development Goals:** Aligns with United Nations Sustainable Development Goals (SDGs), focusing on poverty reduction, healthcare, and decent work. Strengthens India's position as a socially responsible and progressive nation.

### ISSUE RELATED TO SOCIAL SECURITY IN INDIA

- Limited Coverage & Exclusion Errors:** Many unorganised workers, migrant labourers, and daily wage earners lack access to formal social security due to inadequate documentation and identification issues.
- Fragmented Implementation:** Multiple schemes under different ministries create inefficiencies, duplication, and difficulties in tracking beneficiaries due to a lack of centralized data.
- Financial Constraints:** Insufficient funding and delayed disbursements lead to inadequate benefits and hinder the effective implementation of welfare programs.
- Inadequate Pension & Insurance Coverage:** Many informal workers lack pension (EPFO, APY) and insurance (PMJJBY, PMSBY) coverage due to low awareness and accessibility.
- Challenges in eShram & Aadhaar Integration:** Digital illiteracy, lack of internet access, and Aadhaar authentication issues prevent many unorganised workers from registering and availing benefits.
- Corruption & Leakages:** Middlemen, bureaucratic delays, and ghost beneficiaries cause fund leakages in schemes like MGNREGA and food distribution programs.
- Inadequate Support for Migrant Workers:** Limited portability of welfare benefits across states restricts migrant workers' access to ration, healthcare, and employment schemes despite ONORC.

**8. Low Awareness & Digital Divide:** Many, especially in rural areas, remain unaware of entitlements due to digital illiteracy, language barriers, and poor access to technology.

### WAY FORWARD

- 1. Develop a Universal Social Security System:** Create an inclusive framework ensuring seamless and portable benefits across all employment sectors.
- 2. Strengthen Digital & Data Infrastructure:** Establish a centralized database for efficient tracking, reducing duplication, and ensuring transparency.
- 3. Enhance Financial Support & Timely Disbursement:** Increase budgetary allocations and ensure the prompt release of funds to improve benefit delivery.
- 4. Expand Pension & Insurance Coverage:** Boost awareness and simplify access to pension (EPFO, APY) and insurance (PMJJBY, PMSBY) schemes.
- 5. Improve eShram & Aadhaar Accessibility:** Address digital literacy challenges, provide offline registration options, and resolve authentication issues.
- 6. Curb Corruption & Leakages:** Strengthen monitoring mechanisms, promote transparency, and use technology to eliminate fund misappropriation.
- 7. Support Migrant Workers with Portable Benefits:** Strengthen ONORC and other welfare schemes to ensure accessibility across states.
- 8. Bridge the Digital & Awareness Gap:** Conduct outreach programs, improve internet connectivity, and offer multilingual, user-friendly platforms.

### CONCLUSION

India's strides in expanding social protection reflect a strong commitment to inclusive welfare and economic security. The doubling of coverage,

as highlighted in the International Labour Organization's World Social Protection Report 2024–26, underscores the impact of key initiatives such as Ayushman Bharat, PMGKAY, and the eShram portal in ensuring financial stability, healthcare, and food security for millions. The launch of the Social Protection Data Pooling Exercise further strengthens these efforts by enhancing data-driven policymaking and addressing gaps in existing assessments. As India continues to refine its social security framework in collaboration with the ILO, its approach serves as a model for balancing welfare expansion with economic growth.

### PRELIMS QUESTIONS

**Q. With reference to social security schemes in India, consider the following statements:**

1. Ayushman Bharat (PM-JAY) provides free health insurance coverage of up to ₹10 lakh per family.
2. EShram Portal aims to register workers from the organized sector to provide them with financial benefits.
3. Atal Pension Yojana (APY) is a pension scheme specifically designed for workers in the unorganized sector.

**How many of the above-given statements are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**Answer: B**

### MAINS QUESTIONS

**Q. Discuss the key challenges in India's social security system and suggest measures to ensure universal coverage.**

**(250 words, 15 marks)**

## INDIA STRENGTHENS DEFENCE MIGHT WITH NAG MISSILE SYSTEM PROCUREMENT

### WHY IN THE NEWS?

The Ministry of Defence has signed a ₹2,500 crore contract for the procurement of the Nag Missile System (NAMIS) and 5,000 light vehicles, marking a significant step in bolstering India's defence capabilities. The deal, signed in the presence of Defence Secretary Rajesh Kumar Singh, aims to enhance indigenisation and strengthen the Indian defence manufacturing sector. NAMIS, an advanced fire-and-forget anti-tank weapon system, will modernise the Indian Army's anti-tank capabilities, while the new light vehicles—designed for enhanced mobility and payload capacity—will improve the operational readiness of the Armed Forces across diverse terrains. The contract also supports employment generation, particularly in the MSME sector, by encouraging local manufacturing of components.



### WHAT IS A NAG MISSILE?

The **Nag Missile** (meaning “Cobra” in Sanskrit) is an **Indian third-generation, fire-and-forget, anti-tank guided missile (ATGM)** developed by the **Defence Research and Development Organisation (DRDO)** under the **Integrated Guided Missile Development Program (IGMDP)**. It is designed to destroy heavily armoured enemy tanks and other military vehicles.

### KEY FEATURES OF NAG MISSILE

- 1. Fire-and-Forget Technology:** Uses an Imaging Infrared (IIR) seeker to autonomously track and destroy targets without requiring further input from the operator.
- 2. Tandem-Charge Warhead:** Equipped with a high-explosive anti-tank (HEAT) warhead capable of penetrating the Explosive Reactive Armor (ERA) of modern tanks.
- 3. Multiple Variants:** Includes NAMICA (land-based), HELINA (air-launched), MPATGM (man-portable), and a millimetric-wave (mmW) seeker version for enhanced tracking.
- 4. All-Weather, Day & Night Capability:** Can function in extreme weather conditions, including deserts, fog, and low-visibility scenarios.
- 5. High Accuracy & Hit Probability:** Achieves a 90% single-shot hit probability, ensuring high effectiveness on the battlefield.
- 6. Multiple Attack Modes:** Can execute Top-Attack (penetrating the weaker top armour of tanks) and Direct Attack modes for flexible engagement strategies.
- 7. Extended Operational Range:** Land-based variant has a range of 500 meters to 4 km, while the helicopter-launched version (HELINA) extends up to 7-10 km.
- 8. Advanced Guidance System:** Uses real-time image processing, CCD camera integration, and digital autopilot for improved tracking and accuracy.
- 9. Multiple Launch Platforms:** Can be launched from NAMICA (Nag Missile Carrier), helicopters (HELINA/Dhruvastra), and future air-launched platforms.

### GOVT. INITIATIVE TO PROMOTE SELF-RESILIENCE IN DEFENCE TECHNOLOGY

- 1. Aatmanirbhar Bharat in Defence:** 75% of ₹1 lakh crore defence budget reserved for domestic procurement in 2023-24.

2. **Defence Acquisition Procedure (DAP) 2020:** Prioritizes Indigenously Designed, Developed, and Manufactured (IDDM) products & simplifies private sector entry.
3. **Positive Indigenisation Lists:** 509 defence items (missiles, UAVs, helicopters) were banned from import to boost local production.
4. **Defence Industrial Corridors (DICs):** ₹20,000+ crore investment in Tamil Nadu & UP, fostering 150+ defense industries.
5. **Make in India & Make-II:** Encourages local manufacturing & private sector involvement in defence production.
6. **Innovations for Defence Excellence (iDEX):** ₹500 crore fund to support 300+ startups in AI, drones, and robotics.
7. **FDI Policy in Defence:** FDI limit raised to 74% (automatic) and 100% (with approval), boosting foreign investment & tech transfer.
8. **Defence Exports:** India's defense exports hit ₹16,000 crore in 2022-23, targeting ₹35,000 crore by 2025.
9. **Corporatisation of Ordnance Factories:** OFB restructured into 7 PSUs for efficiency in ammunition & arms production.
10. **Strategic Partnership Model (SPM):** Enables Indian firms & foreign defence giants to co-develop jets, submarines, & helicopters.

#### WHAT ARE THE CHALLENGES IN SELF-RESILIENCE IN DEFENCE TECHNOLOGY?

1. **Dependence on Foreign Technology:** High reliance on imports for critical components like jet engines, radars, and semiconductors.
2. **Limited R&D & Innovation:** Low defence R&D spending (less than 1% of GDP), with slow private sector participation.
3. **Complex Procurement Process:** Bureaucratic delays and regulatory hurdles slow down Indigenous defence projects.
4. **Weak Defence Manufacturing Ecosystem:** Lack of advanced infrastructure and specialized suppliers for high-tech weapons.

5. **Insufficient Private Sector Involvement:** Large defence PSUs dominate, limiting opportunities for private companies and startups.
6. **Skilled Workforce Shortage:** Need for more experts in AI, cyber warfare, aerospace, and missile technology.
7. **High Cost & Long Development Time:** Indigenous projects like Tejas Arjun Tank took decades, increasing costs and delays.
8. **Limited Export Competitiveness:** Indian defence products struggle to compete globally due to technology gaps and quality concerns.
9. **Cybersecurity & AI Risks:** Growing threats of cyber warfare and AI-based attacks require stronger indigenous digital defence systems.

#### WAY FORWARD

1. **Boost R&D Investment:** Increase defence R&D spending (currently <1% of GDP) and promote indigenous innovation through DRDO, academia, and private sector collaboration.
2. **Strengthen Defence Manufacturing:** Develop a robust domestic supply chain for critical components like jet engines, semiconductors, and avionics to reduce import dependence.
3. **Faster Procurement & Policy Reforms:** Simplify bureaucratic procedures, ensure time-bound approvals, and promote Make in India through Defence Acquisition Procedure (DAP) 2020.
4. **Encourage the Private Sector & Startups:** Provide financial incentives, ease FDI norms (currently 74% under automatic route), and foster startups under iDEX (Innovations for Defence Excellence).
5. **Focus on Emerging Technologies:** Invest in AI, cyber warfare, quantum computing, and hypersonic weapons to build next-gen defence capabilities.
6. **Improve Skilling & Talent Development:** Strengthen technical education, R&D institutions, and industry-academia collaborations to build a skilled workforce.

- 7. Enhance Defence Exports:** Achieve the target of \$5 billion in defence exports by 2025 by promoting Indian-made weapons, missiles, and aircraft in global markets.
- 8. Public-Private Partnerships (PPP):** Strengthen collaboration between DRDO, DPSUs, and private firms to accelerate indigenous development.

### CONCLUSION

Achieving self-reliance in defence technology requires a multi-faceted approach involving increased R&D investment, strong policy support, private sector participation, and a focus on emerging technologies. With sustained efforts, India can reduce import dependence, strengthen its defence ecosystem, and become a global defence manufacturing hub, ensuring long-term national security and strategic autonomy.

### PRELIMS QUESTIONS

**Q. With reference to the Nag Missile System (NAMIS), consider the following statements:**

1. It is an anti-tank guided missile (ATGM) developed by DRDO under the Integrated Guided Missile Development Program (IGMDP).
2. The Nag missile uses a semi-active laser-homing guidance system.

**Which of the statements given above is/are correct?**

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**Answer: A**

### MAINS QUESTIONS

**Q. Discuss the significance of the Nag Missile System (NAMIS) in strengthening India's defence capabilities.**

**(250 words, 15 marks)**

### ASTROSCALE JAPAN PARTNERS WITH INDIA'S DIGANTARA & BELLATRIX AEROSPACE TO TACKLE SPACE DEBRIS

#### WHY IN THE NEWS?

Japan's Astroscale, a leading space debris removal firm, has partnered with Bengaluru-based Digantara and Bellatrix Aerospace to develop orbital servicing solutions for India. The collaboration aims to provide on-orbit services for Indian government clients within the next 1-2 years, marking Astroscale's first major operation in the Asia-Pacific beyond Japan. India's space sector liberalization and growing private participation have made it an attractive market for Astroscale, which is also exploring opportunities in South Korea, Taiwan, Indonesia, and Australia. The partnership aligns with India's push for space situational awareness and satellite servicing, as the risk of orbital collisions is projected to exceed \$500 million over the next five years. This move reflects increasing India-Japan space collaboration, with other tie-ups like ispace-Skyroot and Orbital Lasers-InspeCity. The two governments are set to hold their third "space dialogue" in Tokyo soon, further strengthening bilateral cooperation.



#### WHAT IS SPACE DEBRIS?

Space debris, also known as orbital debris or space junk, refers to non-functional, human-made objects left behind in Earth's orbit. These include defunct satellites, spent rocket stages, fragments from collisions or explosions, and even lost tools from space missions. As these objects

travel at extremely high speeds—often exceeding 28,000 km/h—they pose a significant risk to active satellites, space stations, and future space missions. The accumulation of debris increases the chances of collisions, potentially triggering the Kessler Syndrome, where cascading collisions create even more fragments, making Earth's orbit dangerously cluttered. Managing space debris is crucial for ensuring the safety and sustainability of space exploration, with efforts focusing on debris tracking, removal missions, and better satellite disposal strategies.

### STATUS OF SPACE DEBRIS

Space debris has become a growing challenge due to the increasing number of satellites and space missions. According to NASA and the European Space Agency (ESA), there are over 36,000 tracked pieces of debris larger than 10 cm, 1 million pieces between 1-10 cm, and more than 130 million tiny fragments (smaller than 1 cm) orbiting Earth at high speeds.

#### Key Concerns:

1. **Rising Satellite Launches:** With thousands of satellites launched for communication, navigation, and Earth observation, space congestion is increasing.
2. **Kessler Syndrome Risk:** The risk of cascading collisions is growing, which could make certain orbits unusable.
3. **Danger to Active Satellites & ISS:** Space debris poses a constant threat to operational spacecraft, including the International Space Station (ISS) and commercial satellites.
4. **Space Debris Management Efforts:** Organizations like NASA, ESA, and private companies (e.g., Astroscale, ClearSpace-1) are developing debris removal and tracking technologies.

### IMPACT OF SPACE DEBRIS

#### 1. Threat to Satellites & Spacecraft

- **Collisions & Damage:** Even small debris travelling at 28,000 km/h can disable or destroy satellites.
- **Operational Disruptions:** Damage to solar panels, antennas, and critical systems leads to malfunctions or failure.
- **Rising Costs:** Frequent avoidance maneuvers, repairs, and replacements increase operational expenses.

#### 2. Risk to Space Missions & Astronauts

- **ISS & Crew Safety:** The International Space Station (ISS) faces collision threats, forcing astronauts to take emergency measures.
- **Spacewalk Hazards:** Floating debris can puncture astronaut suits and spacecraft, posing life-threatening risks.

#### 3. Disruptions to Global Services

- **Loss of Communication & Navigation:** Damaged satellites affect the internet, GPS, weather forecasting, and Earth monitoring.
- **Economic Impact:** Industries like finance, transport, and agriculture suffer due to satellite failures.
- **Scientific Setbacks:** Disruptions hinder climate research, disaster response, and space exploration.

#### 4. Environmental & Long-Term Dangers

- **Kessler Syndrome:** A chain reaction of collisions could make orbits unusable, threatening future missions.
- **Re-entry Hazards:** Large debris can survive atmospheric re-entry, posing risks on Earth.
- **Light & Space Pollution:** Rising debris levels disrupt astronomy and contaminate space.

## VARIOUS INTERNATIONAL MISSIONS TO CONTROL SPACE DEBRIS

Category	Mission/Initiative	Country/Agency	Objective
<b>Active Debris Removal (ADR)</b>	<b>ELSA-d</b>	Astroscale (Japan)	Demonstrated satellite docking and debris removal.
	<b>ClearSpace-1 (2026)</b>	ESA (Europe)	Plans to capture and deorbit defunct satellites.
	<b>RemoveDEBRIS (2018)</b>	UK/Surrey Space Centre	Tested debris capture using a net and harpoon system.
<b>Space Surveillance &amp; Tracking</b>	<b>Orbital Debris Program</b>	NASA (USA)	Monitors and models space debris risks.
	<b>US Space Surveillance Network (SSN)</b>	US DoD	Tracks over <b>36,000</b> objects in orbit.
	<b>ESA Space Debris Office</b>	ESA (Europe)	Develops tracking and mitigation strategies.
<b>Global Guidelines &amp; Regulations</b>	<b>UN COPUOS</b>	United Nations	Sets international guidelines for debris mitigation.
	<b>IADC</b>	Multi-agency (NASA, ESA, ISRO, etc.)	Coordinates global space debris management.
	<b>FCC Regulations</b>	USA	Enforces satellite deorbiting rules for commercial launches.
<b>Future Technologies &amp; Research</b>	<b>Electrodynamic Tether</b>	JAXA (Japan)	Uses a tether to drag debris into Earth's atmosphere.
	<b>Laser-Based Systems</b>	ESA (Europe)	Researching laser nudging to move debris.
	<b>Indian Space Debris Management</b>	ISRO, Digantara, Bellatrix (India)	Developing debris tracking and removal solutions.

### INDIA AND SPACE DEBRIS

- NETRA (Network for Space Object Tracking and Analysis):** ISRO's initiative to monitor space debris and protect Indian satellites from potential collisions.
- Project Kessler by Digantara:** A space situational awareness (SSA) program to track and analyze orbital debris, improving collision predictions.
- Bellatrix Aerospace's Propulsion Systems:** Developing advanced electric and green

propulsion systems to extend satellite lifespan and reduce space junk.

- ISRO's Space Debris Mitigation Guidelines:** Implementing policies on post-mission disposal, collision avoidance, and sustainable satellite operations.
- India-Japan Collaboration with Astroscale:** Partnering with Japanese firm Astroscale for future active debris removal (ADR) missions.

## 6. International Cooperation (IADC Membership):

India is part of the Inter-Agency Space Debris Coordination Committee (IADC), working with global agencies to improve debris management.

### WHAT ARE THE WAYS TO REDUCE AND CONTROL?

- 1. Designing Debris-Free Satellites:** Satellites and rockets should be designed for safe deorbiting at the end of their mission to prevent the accumulation of junk.
- 2. Controlled Deorbiting & Disposal:** Defunct satellites can be directed to either burn up in Earth's atmosphere or move to a "graveyard orbit" away from active space zones.
- 3. Reducing Explosions & Collisions:** Proper fuel venting, battery passivation, and structural reinforcements can prevent accidental breakups of defunct space objects.
- 4. Active Debris Removal (ADR) Technologies:**
  - **Robotic Arms & Nets:** Capturing and removing large debris pieces.
  - **Electrodynamic Tethers:** Dragging debris into Earth's atmosphere for safe disposal.
  - **Laser-Based Systems:** Using ground-based or space-based lasers to push debris out of critical orbits.
- 5. Space Situational Awareness (SSA) & Tracking:** Advanced radars and AI-powered monitoring systems help predict and prevent satellite collisions.
- 6. International Regulations & Cooperation**  
**UN Space Debris Mitigation Guidelines:** Encouraging responsible space behaviour. IADC (Inter-Agency Space Debris Coordination Committee): Coordinating global debris control efforts. National Policies (ISRO, NASA, ESA, etc.): Implementing strict deorbiting and disposal laws for new launches.

## 7. Sustainable Space Practices

**Reusable Rockets & Satellites:** SpaceX's Falcon 9 and ISRO's RLV TD reduce debris generation.

- **Green Propulsion Technologies:** Using efficient propulsion systems to minimize satellite failures and unnecessary launches.

### CONCLUSION

The growing challenge of space debris requires immediate and sustained global efforts to ensure the long-term sustainability of space activities. Nations and private companies must work together to implement effective mitigation strategies, such as active debris removal, responsible satellite disposal, and advanced tracking systems. India's increasing role in space debris management, through initiatives like NETRA, Digantara, and international collaborations with Japan's Astroscale, reflects its commitment to space sustainability. Strengthening global policies, enforcing stricter regulations, and investing in cutting-edge technologies will be essential in preserving Earth's orbit for future generations and safeguarding critical space infrastructure.

### PRELIMS QUESTIONS

**Q. Consider the following statements regarding Space Debris:**

1. Space debris consists only of defunct satellites.
2. The Kessler Syndrome refers to the increasing number of new satellites launched into orbit.
3. India's NETRA project aims to track space debris and protect Indian satellites.

**Which of the statements given above is/are correct?**

- A. 1 and 2 only
- B. 2 and 3 only
- C. 3 only
- D. 1, 2, and 3

**Answer: C**

## MAINS QUESTIONS

**Q. Analyze the growing challenge of space debris and its implications for global space security. Discuss India's initiatives in space debris management and suggest strategies for effective mitigation.**

**(250 words, 15 marks)**

## ORGANISED CRIME HIDDEN THREAT TO NATIONAL SECURITY

### WHY IN THE NEWS?

Kannada actress Ranya Rao was arrested on March 3 at Bengaluru's Kempegowda International Airport for allegedly smuggling 14.2 kilograms of gold worth ₹12.56 crore from Dubai. She had concealed the gold using bandages and tissues. The Directorate of Revenue Intelligence (DRI) has now arrested a third suspect, Sahil Sakariya Jain, a gold dealer from Ballari, for allegedly helping Ranya Rao. Digital evidence reportedly links him to the smuggling operation. He is accused of facilitating the sale of smuggled gold and sharing the proceeds. Ranya

Rao has been booked under the Customs Act and the Prevention of Smuggling Activities Act, making this case a significant breakthrough in India's gold smuggling network.

### WHAT IS ORGANISED CRIME?

Organized crime refers to highly structured groups engaged in illegal activities for financial gain. These groups operate in a systematic, coordinated, and often violent manner, maintaining control over illicit markets and engaging in criminal enterprises.

### Key Characteristics of Organized Crime:

- Hierarchy & Structure:** Led by a boss or leader, with ranks such as underbosses, lieutenants, and foot soldiers.
- Illegal Activities:** Involves crimes like drug trafficking, smuggling, extortion, money laundering, cybercrime, and human trafficking.
- Secrecy & Loyalty:** Members follow a strict code of silence (e.g., Omertà in the Mafia).
- Corruption & Influence:** These groups often bribe officials, law enforcement, and politicians to evade justice.
- Use of Violence & Intimidation:** Threats, extortion, and assassinations are common tactics.

### HOW GOLD SMUGGLING IS AN ORGANISED CRIME

Category	Key Points
<b>Gold Smuggling &amp; Crime Networks</b>	
<b>Transnational Operations</b>	Global crime syndicates use sophisticated smuggling methods.
<b>Criminal Nexus</b>	Linked to drug trafficking, human trafficking, and money laundering.
<b>Corruption</b>	Law enforcement, customs, and politicians often facilitate smuggling.
<b>Hawala Financing</b>	Informal money transfer system funds illicit gold trade.
<b>Gold &amp; Money Laundering</b>	
<b>Cash-Intensive</b>	Gold helps convert illegal cash into legitimate assets.
<b>Untraceable</b>	Easily melted and recast, making tracking difficult.
<b>High Demand</b>	Ensures quick absorption into the legal market.
<b>India: A Smuggling Hub</b>	
<b>Cultural Demand</b>	A strong preference for gold fuels both legal and illegal trade.

Category	Key Points
<b>Strategic Transit Point</b>	Close to smuggling routes from UAE, Africa, and South America.
<b>Legal Integration</b>	Smuggled gold is absorbed into jewellery manufacturing and exports.
<b>Concealment Tactics</b>	Hidden in luggage, electronics, or even body cavities.
<b>Strict Penalties</b>	Customs Act (1962) imposes 3-7 years of imprisonment

**WHY GOLD SMUGGLING IS LUCRATIVE**

- 1. High Value, Small Size:** Gold has a high value-to-weight ratio, meaning large amounts of wealth can be transported in small quantities. Unlike drugs or weapons, gold is easy to conceal, making it ideal for smuggling.
- 2. Tax Evasion & High Import Duties:** Many countries impose heavy taxes on gold imports (e.g., India levies a high import duty), creating a strong incentive for smuggling. By illegally bringing in gold, smugglers avoid duties and sell at a higher profit margin.
- 3. Global Demand & Liquidity:** Gold is a universally accepted commodity with steady demand in markets like India, China, and the Middle East. It can be quickly sold or melted down, making it an attractive asset for criminals.
- 4. Difficulty in Tracking:** Unlike cash, gold is untraceable once melted or recast. Unlike

digital transactions, which leave a trail, smuggled gold can be easily laundered into legal markets without detection.

- 5. Involvement of Organized Crime:** Laundering money by converting illicit cash into gold. Finance other illegal activities like drug trafficking and terrorism. Bribe officials for protection from law enforcement.
- 6. Use of Alternative Routes:** Gold is often smuggled through countries with lax regulations, like Dubai, Myanmar, and Sri Lanka, before reaching high-tax destinations like India. Smugglers use airports, land borders, and sea routes to move gold undetected.
- 7. Minimal Risk Compared to Drugs:** Unlike drug smuggling, which carries severe legal penalties, gold smuggling is often treated as a financial crime with lighter punishments, making it an attractive option for criminals.

**CHALLENGES POSED BY ORGANIZED CRIME TO NATIONAL SECURITY**

Category	Impact
<b>Erosion of State Authority &amp; Governance</b>	<b>Corruption:</b> Criminals infiltrate government institutions, bribing officials and weakening law enforcement.
	<b>Weakened Governance:</b> Loss of public trust leads to instability and lawlessness.
	<b>Undermining Sovereignty:</b> Criminal groups operate across borders, challenging state authority.
<b>Instability &amp; Conflict</b>	<b>Fueling Armed Conflicts:</b> Criminal gangs violently compete for illicit profits and territorial control.
	<b>Providing Resources to Conflict Parties:</b> Crime syndicates fund armed groups, prolonging wars.
	<b>Destabilizing Regions:</b> Crime-related instability discourages investment and weakens economies.

Category	Impact
<b>Financial &amp; Economic Impacts</b>	<b>Economic Costs:</b> Drug trafficking, cybercrime, and financial fraud drain national economies.
	<b>Reduced State Resources:</b> Governments spend billions combating crime instead of funding public services.
	<b>Undermining Financial Systems:</b> Money laundering and fraud weaken banking systems and digital currencies.
<b>Public Health &amp; Human Rights</b>	<b>Drug Trafficking:</b> This leads to addiction, violent crime, and public health crises.
	<b>Human Trafficking:</b> Victimizes vulnerable populations, violating human rights.
	<b>Undermining Human Rights:</b> Crimes like extortion and kidnapping create a climate of fear.
<b>Linkages with Terrorism</b>	<b>Terrorist Financing:</b> Organized crime groups fund terrorist organizations.
	<b>Weapon Smuggling:</b> Criminal networks supply weapons to terror groups.
	<b>Exploiting Vulnerabilities:</b> Crime syndicates thrive in politically unstable regions.

**GOVT. MEASURES AND POLICY TO COMBAT ORGANIZED CRIMES**

1. Strengthening Legal Frameworks MCOCA (1999), PMLA (2002), UAPA (1967),

**NDPS Act (1985), IPC, Arms Act:** Laws targeting organized crime, financial fraud, drug trafficking, and terrorism. Companies Act (2013), Wildlife Protection Act

**(1972), POCSO Act (2012):** Regulating fraud, wildlife crime, and child exploitation.

2. Specialized Law Enforcement Agencies NIA, CBI, ED, NCB, FIU-IND, State ATS & STF: Investigate and prosecute organized crime and financial offences. **DRI & Border Security Forces:** Prevent smuggling and cross-border crime.

3. Intelligence & Surveillance Strengthening **NATGRID, CCTNS, I4C, Digital Forensics:** Enhancing crime tracking and cybersecurity. **Use of AI & Big Data:** Monitoring financial fraud and online crimes.

4. International Cooperation Interpol, UN Conventions, FATF Compliance: Tackling transnational crime and money laundering. **Extradition & MLAT Treaties:** Facilitating criminal repatriation.

5. Border Security & Smuggling Prevention BSF, ITBP, Coastal Security, Drone Surveillance: Preventing illegal arms, drugs, and human trafficking.

6. Public Awareness & Community Involvement Crime Prevention Campaigns, Helpline Portals, Whistleblower Protection: Encouraging citizen participation.

7. **Judicial & Policy Reforms Fast-Track Courts, Witness Protection, Asset Seizures, Electronic Evidence:** Ensuring swift prosecution and crime prevention.

**LIMITATIONS AND CHALLENGES TO COMBAT ORGANIZED CRIMES IN INDIA**

1. **National Security vs. Human Security:** Balancing national security and human security often leads to conflicts, especially when countering organized crime through surveillance and power-enhancing laws.

2. **Excessive Police Brutality:** The fight against organized crime sometimes results in police brutality, undermining trust in law enforcement. For example, in Uttar Pradesh and Punjab, cases.
3. **Transnational Nature of Crimes:** Organized crime increasingly operates across borders, with syndicates exploiting international routes for activities like drug trafficking and human trafficking.
4. **State-Sponsored Crimes in Border Areas:** In border regions such as West Bengal and Punjab, organized crime thrives with tacit political support, complicating efforts to curb illegal activities.
5. **Gray Zone Warfare Using Cyber Technology:** The use of advanced cyber technologies by organized criminals has blurred the lines between traditional and digital crimes.
6. **Use of Advanced Technology by Criminals:** Criminals are using high-tech methods to evade detection, making it difficult for law enforcement to keep up.
7. **Lack of Effective Police Training:** Law enforcement agencies often lack specialized training and equipment to handle specific crimes such as cybercrime, human trafficking, and money laundering.
8. **Lack of Cooperation Among Agencies:** Cooperation among agencies like the CBI, Enforcement Directorate, and state police is often fragmented, which weakens efforts to tackle organized crime.
9. **Political Patronage to Criminals:** Political figures sometimes protect organized criminals, allowing them to operate with impunity.
10. **Delayed Prosecution:** Delayed legal proceedings often prevent swift justice in organized crime cases, reducing the deterrent effect. The slow pace of trials, as seen in the 1993 Bombay bombings, allows criminals to continue their operations without facing timely legal consequences.

## RECOMMENDATIONS TO COMBAT ORGANIZED CRIMES IN INDIA

1. **Strengthening Law Enforcement:** Improve intelligence-sharing, modernize investigative tools (AI-driven tracking, surveillance), and establish specialized anti-crime units.
2. **Anti-Corruption Measures:** Strengthen internal oversight in law enforcement, impose strict penalties for corrupt officials, and increase transparency in political funding.
3. **Financial Regulations & Money Laundering Controls:** Monitor hawala networks, enforce strict KYC norms in banking and gold trading, and enhance cooperation with global financial intelligence units.
4. **Border Security & Smuggling Prevention:** Upgrade surveillance at borders and ports, collaborate with neighbouring countries, and crack down on illegal gold markets.
5. **Legal Reforms & Strict Penalties:** Strengthen laws like the Customs Act, PMLA (Prevention of Money Laundering Act), MCOCA, and fast-track trials for organized crime cases.
6. **Public Awareness & Whistleblower Protection:** Run awareness campaigns on the impact of organized crime and enhance whistleblower protection programs.
7. **International Collaboration:** Strengthen ties with Interpol, FATF, and other global agencies and improve extradition treaties for criminals involved in transnational crimes.

## CONCLUSION

Organized crime, including gold smuggling, poses a significant threat to India's national security, economy, and governance. Criminal syndicates exploit corruption, weak enforcement, and international routes to evade justice. The arrest of Ranya Rao highlights the deep-rooted nature of smuggling networks and their connections to financial crimes. While India has strong legal frameworks and enforcement agencies, challenges like political patronage, technological advancements by criminals, and delayed prosecution hinder effective action. Strengthening law enforcement,

increasing international cooperation, improving financial monitoring, and enhancing border security are crucial to combating organized crime.

### PRELIMS QUESTIONS

**Q. With reference to gold smuggling and organized crime in India, consider the following statements:**

1. Gold smuggling in India is primarily driven by high import duties and tax evasion.
2. The Enforcement Directorate (ED) is the primary agency responsible for investigating gold smuggling cases.
3. Gold smuggling networks are often linked to money laundering, drug trafficking, and terrorist financing.

**How many of the above-given statements are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

Answer: B

### MAINS QUESTIONS

**Q. How does gold smuggling contribute to organized crime in India? Discuss the challenges it poses to national security and suggest measures to combat this issue.**

**(250 words, 15marks)**

### RANA SANGA: THE WARRIOR KING OF MEWAR

#### WHY IN THE NEWS?

The recent controversy surrounding Rajput ruler Rana Sanga has erupted after Samajwadi Party Rajya Sabha MP Ramji Lal Suman made remarks referring to Rana Sanga as a “traitor.” His statement has triggered widespread outrage, particularly from

Rajput organizations like the Karni Sena, which accused the MP of insulting the historical legacy of Rana Sanga. Following this, Karni Sena members allegedly vandalized Suman’s house in Agra, leading to clashes between the protestors and the police.



#### WHO WAS RANA SANGA?

Rana Sanga, also known as Maharana Sangram Singh (1482–1528), was a legendary warrior king from the Sisodia dynasty of Mewar. His name is etched in the annals of Indian history as a symbol of Rajput pride, valor, and resilience. Born into a lineage of brave warriors, Rana Sanga rose to prominence during a time when India was grappling with political instability, marked by the decline of the Delhi Sultanate and the growing threat of foreign invasions. Despite facing betrayal, losing an eye, an arm, and sustaining 80 wounds on his body during various battles, he never surrendered. Instead, he fought with indomitable spirit, driven by his vision of a unified Rajput confederacy that could resist external aggressors like the Lodis and Mughals. His reign, though tumultuous, was a golden chapter in Rajput history, characterized by military conquests, cultural patronage, and unwavering dedication to the sovereignty of Mewar.

#### MEWAR DYNASTY: ORIGIN TO 1847

The history of the Mewar dynasty, one of the oldest and most revered Rajput dynasties in India, stretches back to the 8th century CE. From its origins under Bappa Rawal to its struggle against British colonization in the 19th century, the Mewar dynasty has been a beacon of resistance, cultural excellence, and Rajput pride. Below is a timeline highlighting key rulers and their contributions to Mewar’s legacy:

Period	Ruler	Key Achievements
8th century CE	Bappa Rawal	Founder of the Mewar dynasty; established Sisodia Rajput dominance.
1179–1213 CE	Rana Samar Singh	Successfully resisted invasions by the Ghurid Empire.
1303 CE	Rawal Ratan Singh and Rani Padmini	Defended Chittor against Alauddin Khilji; known for the fabled tale of Padmini's Jauhar.
1433–1468 CE	Rana Kumbha	Constructed Kumbhalgarh Fort, a UNESCO World Heritage Site, and promoted arts and culture.
1509–1528 CE	Rana Sanga	United Rajput clans, fought against Babur in the Battle of Khanwa, resisted foreign invaders.
1572–1600 CE	Maharana Pratap	Resisted Akbar's Mughal forces in the Battle of Haldighati; symbol of Rajput independence.
1842–1847 CE	Maharana Sardar Singh	Last ruler before British colonization; presided over a declining but proud Mewar kingdom.

This long line of rulers reflects Mewar's tradition of upholding honor, sovereignty, and cultural heritage even in the face of immense challenges.

### RANA SANGA'S CONTRIBUTION TO INDIAN HISTORY

Rana Sanga's contributions to Indian history are manifold, reflecting his role as a warrior king, strategist, and unifier. His reign was marked by efforts to forge alliances among Rajput states and resist the expansion of powerful adversaries, including the Delhi Sultanate and the Mughal Empire. His contributions include:

- 1. Unifying the Rajput Clans:** At a time when Rajput states were fragmented and weakened by internal rivalries, Rana Sanga sought to unite them under a common cause—to defend Rajputana from external threats. This vision of a united Rajput confederacy was a key aspect of his legacy.
- 2. Military Victories and Territorial Expansion:** Under his leadership, Mewar expanded its territory by winning decisive battles against the Lodis, the Gujarat Sultanate, and the Sultanate of Malwa. These victories enhanced Mewar's prestige and established it as the most powerful Rajput kingdom of the time.
- 3. Resisting Mughal Expansion:** Rana Sanga's resistance to Babur's forces in the Battle of

Khanwa (1527) is one of his most notable contributions. Though he was ultimately defeated, his courage and determination inspired future generations of Rajput warriors.

- 4. Support for Local Economy and Governance:** Rana Sanga strengthened Mewar's economy by promoting trade, agriculture, and local industries. He also implemented effective governance policies to ensure justice and prosperity for his subjects.
- 5. Defender of Hindu Temples and Traditions:** Rana Sanga protected temples and religious sites from destruction, ensuring the preservation of Hindu traditions and culture.
- 6. Promoter of Rajput Pride:** His leadership instilled a sense of pride and unity among the Rajputs, which laid the foundation for future resistance movements.
- 7. Legacy of Inspiration:** His legacy inspired later Rajput leaders like Maharana Pratap, who continued the fight against Mughal domination.

### FAMOUS BATTLES AND WARS

- Rana Sanga's military career was marked by numerous battles, many of which showcased his tactical brilliance and unyielding courage. His battlefield exploits remain legendary and are often cited as examples of Rajput valor. Below are some of the most famous battles fought by Rana Sanga:

**2. Battle of Khatoli (1517 CE) Opponents:**

- **Ibrahim Lodi (Delhi Sultanate) Significance:** This battle was fought against the Sultan of Delhi, Ibrahim Lodi. Despite being heavily outnumbered, Rana Sanga led his forces to victory, capturing strategic territories and establishing Rajput dominance in northwestern India. He suffered grievous injuries, losing an arm and an eye, but his determination remained unshaken.

**3. Battle of Dholpur (1519 CE Opponents:**

- **Ibrahim Lodi Significance:** Following his earlier victory at Khatoli, Rana Sanga clashed with the Delhi Sultanate once again at Dholpur. This battle further weakened the Sultanate's hold on Rajasthan and solidified Rana Sanga's position as the most powerful Rajput king of his era.

**4. Battle of Khanwa (1527 CE) Opponents:**

- **Babur (Mughal Empire) Significance:** This was one of the most defining battles in Indian history. Rana Sanga led a coalition of Rajput chieftains against Babur, who had recently established Mughal rule after defeating Ibrahim Lodi at the First Battle of Panipat. Despite fighting bravely, the Rajput forces were defeated due to Babur's use of superior artillery and tactics, including the deployment of matchlock guns. This defeat marked the beginning of Mughal dominance in northern India.

- 5. Defending Chittorgarh:** Even after his defeat at Khanwa, Rana Sanga continued to resist Mughal influence and fortified Chittorgarh as a symbol of Rajput resistance and pride.

**6. Battle of Gagrion (1519 CE) Opponents:**

- **Mahmud Khilji II (Sultan of Malwa) Significance:** Rana Sanga defeated the Sultan of Malwa and expanded Mewar's influence, further establishing it as a dominant regional power.

- 7. Naval Defense:** Though primarily known for land battles, Rana Sanga also strengthened Mewar's defense along its water bodies, enhancing trade and security.

- 8. Tactical Innovations:** His use of cavalry, archers, and fortifications demonstrated advanced military tactics that were ahead of their time.

**ART AND CULTURE DURING RANA SANGA'S REIGN**

Rana Sanga's reign was not just about battles and wars; it was also a time of cultural flourishing. The Mewar court was known for its patronage of the arts, including literature, painting, and music. Some

**key cultural achievements during his reign include:**

- 1. Promoting Literature and Folklore:** The tales of Rajput valor, honor, and sacrifice flourished during this period. Poets and bards composed ballads and epics celebrating the heroism of Rajput warriors.
- 2. Encouraging Traditional Arts:** Rana Sanga supported traditional Rajput arts, including miniature painting, metalwork, and jewelry-making.
- 3. Patronage of Religious Activities:** Temples and religious institutions were built and maintained under his patronage, reflecting his commitment to preserving Hindu cultural and religious traditions.
- 4. Promoting Miniature Painting:** The Mewar school of miniature painting flourished during Rana Sanga's reign, depicting scenes of battles, religious themes, and daily life.
- 5. Encouraging Sanskrit and Prakrit Literature:** Scholars and poets were encouraged to write in Sanskrit and Prakrit, contributing to the region's literary heritage.
- 6. Temple Restoration:** Rana Sanga actively supported the restoration and construction of temples, which had been damaged in previous invasions.

**ARCHITECTURE: FORTS, TEMPLES, AND FORTIFICATIONS**

Mewar's architectural legacy is one of the most enduring aspects of its history. Rana Sanga continued the tradition of constructing and fortifying forts, temples, and palaces that reflected Rajput architectural excellence.

- 1. Chittorgarh Fort:** The jewel of Mewar, Chittorgarh Fort was a bastion of Rajput resistance. It was the center of Rana Sanga's military and administrative activities.
- 2. Kumbhalgarh Fort:** Though built by Rana Kumbha, it continued to play a strategic role during Rana Sanga's reign.
- 3. Temples and Stepwells:** Rana Sanga supported the construction of temples dedicated to Hindu deities, promoting spiritual and religious activities in Mewar.

### SOCIAL REFORMS AND UNITY EFFORTS

Rana Sanga was deeply committed to the welfare of his people and sought to bring unity among the diverse Rajput clans. His social reforms and unity efforts included:

- 1. Strengthening Rajput Solidarity:** He worked tirelessly to forge alliances among Rajput states, promoting the idea of a united Rajputana capable of resisting external threats.
- 2. Promoting Warrior Ethics and Values:** Rana Sanga emphasized the importance of honor, loyalty, and courage, which became central to Rajput identity and culture.
- 3. Encouraging Local Governance:** He promoted decentralized governance, empowering local leaders to administer justice and maintain law and order in their regions.
- 4. Fair Justice System:** He implemented a fair and transparent justice system, ensuring that all his subjects, irrespective of caste or class, had access to justice.
- 5. Empowering Local Communities:** By promoting local governance, Rana Sanga empowered village leaders and panchayats to administer their regions effectively.
- 6. Support for Farmers and Traders:** He provided financial support and incentives to farmers and traders, boosting Mewar's economy and ensuring food security.

### RANA SANGA'S RELATIONS WITH DELHI AND MUGHAL EMPIRE

Rana Sanga's relations with the Delhi Sultanate and the Mughal Empire were marked by conflict and resistance. He viewed both as threats to Rajput sovereignty and actively resisted their expansion into Rajasthan. His relations can be summarized as follows:

- 1. Conflict with the Delhi Sultanate:** Rana Sanga fought several battles against the Delhi Sultanate, including the Battles of Khatoli and Dholpur, to defend Mewar's independence.
- 2. Resistance to Babur's Invasion:** His opposition to Babur's forces in the Battle of Khanwa was a defining moment in his relations with the Mughal Empire. Unlike some Rajput rulers who later allied with the Mughals, Rana Sanga chose to resist them militarily.
- 3. Preserving Rajput Sovereignty:** Throughout his reign, Rana Sanga remained committed to preserving Rajput sovereignty and resisting any attempts to subjugate Mewar under foreign rule.
- 4. Alliances with Afghan Leaders:** Rana Sanga formed strategic alliances with Afghan leaders who were also opposed to the Mughal Empire, strengthening his position.
- 5. Diplomatic Efforts:** While primarily known for his military campaigns, Rana Sanga also engaged in diplomatic efforts to protect Mewar's interests.
- 6. Legacy of Resistance:** His resistance to Babur and the Delhi Sultanate set a precedent for future Rajput leaders to continue the fight for independence.

### CONCLUSION

Rana Sanga's life and legacy are a testament to the timeless ideals of courage, honor, and resistance. Despite the challenges he faced, he remained steadfast in his commitment to Rajput sovereignty and the protection of Mewar's heritage. His vision of a united Rajputana, though unfulfilled, continued to inspire future generations. In the larger context of Indian history, Rana Sanga represents the spirit of

selfless leadership, resilience, and unwavering dedication to one's people and principles.

### PRELIMS QUESTIONS

**Q. What was one of the key objectives of Rana Sanga during his reign?**

- A. Submission to the Mughal Empire
- B. Unification of the Rajput clans to resist foreign invaders
- C. Expansion of Mewar's territory into the southern Deccan
- D. Building maritime trade links with Europe

**Answer: B.**

### MAINS QUESTIONS

**Q. Discuss the role of Rana Sanga in shaping the Rajput resistance against foreign invasions in India. How did his leadership contribute to the legacy of the Mewar dynasty?**

**(250 words, 15 marks)**