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FOR UPSC CIVIL SERVICE EXAMINATION

DATE: 24/07/2025 (THURSDAY)



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1. Why Does the EU Keep Sanctioning Putin's Russia?

1. Background and Definition of Sanctions

- **Sanctions** are legal or economic penalties imposed by countries or international organizations to influence a nation's behavior.
- The **European Union (EU)** has imposed its **18th round of sanctions** on **Russia** since its **invasion of Ukraine on 24 February 2022**.
- These are among the **strictest sanctions yet**, aimed at crippling Russia's ability to sustain war and influence global geopolitics through oil and trade.

2. Key Features of the Latest EU Sanctions

- **Energy Sector:** Lowered **oil price cap** from **\$60 to \$47.60 per barrel**, imposed by G7.
- **Third-country Ban:** Bans imports of **refined petroleum products** made from **Russian crude** in third countries like **India**.
- **Financial Sector:** Bans **financial transactions** related to **Nord Stream 1 and 2 pipelines**.
- **Military Supply Chains:** Targets **military capabilities** and **anti-circumvention networks**.
- **Protection for EU Firms:** Aims to protect EU member-states from **international arbitration cases** initiated by Russia.



3. Impact on India

- India exported **\$19.2 billion** worth of petroleum products to the EU in FY24, which **fell to \$15 billion** in FY25 due to sanctions.
- Indian company **Nayara Energy Ltd**, partly owned by Russian **Rosneft**, has come under scrutiny.
- The EU's ban on petroleum products refined from Russian crude could reduce Indian exports to Europe.

4. Effectiveness and Evasion of Sanctions by Russia

- Despite sanctions, **Russia continues oil exports** to major buyers like **India, China, and Turkey**.
- Use of a **shadow fleet** of over **1,000 tankers** to bypass shipping restrictions.
- **China** supplies Russia with **high-tech goods**, while **Georgia, Kazakhstan, and Belarus** help reroute trade.
- **Russia's GDP per capita** declined from **\$16,000 (2013)** to **\$14,260**, according to the IMF.
- However, **luxury consumption** within Russia shows limited domestic impact.

5. Contradictions and Loopholes in Global Sanctions

- G7 and EU nations indirectly circumvent sanctions by **buying refined products from India**.
- **Five major economies** (Canada, Norway, Switzerland, UK, US) are **exempt** from the third-country refined oil export ban.



- These exceptions and double standards weaken the credibility and effectiveness of sanctions.

6. Legal and Constitutional Dimensions (India & International)

- **India's Position:** India has not joined the sanctions, emphasizing **energy security** and **strategic autonomy** in foreign policy.
- **International Law:** Sanctions are not always UN-mandated; **unilateral sanctions** like those from the EU and G7 are controversial in global forums.
- **Doctrine of Sovereign Equality** under the **UN Charter** often invoked by countries like India to justify trade with Russia.

Conclusion

The EU continues to sanction Russia to exert pressure over its Ukraine invasion. However, geopolitical realities, trade dependencies, and loopholes limit their effectiveness. Russia's strategic ties with non-Western powers allow it to bypass many of these curbs.

UPSC Relevance

- **GS Paper 2 (International Relations):** Global sanctions regime, India-Russia-EU strategic triangle, UN Charter principles.
- **GS Paper 3 (Economy):** Impact of geopolitical sanctions on India's oil trade and energy security.
- **GS Paper 4 (Ethics):** Ethical dilemmas in international diplomacy and energy dependency.
- **Current Affairs:** Dynamic application of international law, realpolitik, and global governance mechanisms.

2. Red Flags in the Surge in Electronics Exports

1. Rise in Exports but Persisting Trade Deficit

- In FY25, India's **electronics exports** touched **\$40.9 billion**, but **imports surged to \$102.6 billion**, making India a **net importer**.
- Although **exports grew at over 30% annually**, **imports still outpace exports by 2.5 times**.
- In **2017-18**, imports were **7.4 times exports**, indicating improvement but a **continued imbalance**.
- **Definition:** A **trade deficit** occurs when a country's imports exceed its exports in a particular sector or overall.

2. Continued Dependence on China

- India's **electronics imports from China** remain high at around **40%**, despite a 10-percentage point decline over a decade.
- **China, Hong Kong, Singapore, and Taiwan** together dominate India's electronics import basket.
- This dependency exposes India to **geopolitical and supply chain vulnerabilities**, particularly during times of **trade tensions or conflict**.



3. Export Concentration Increases Risk

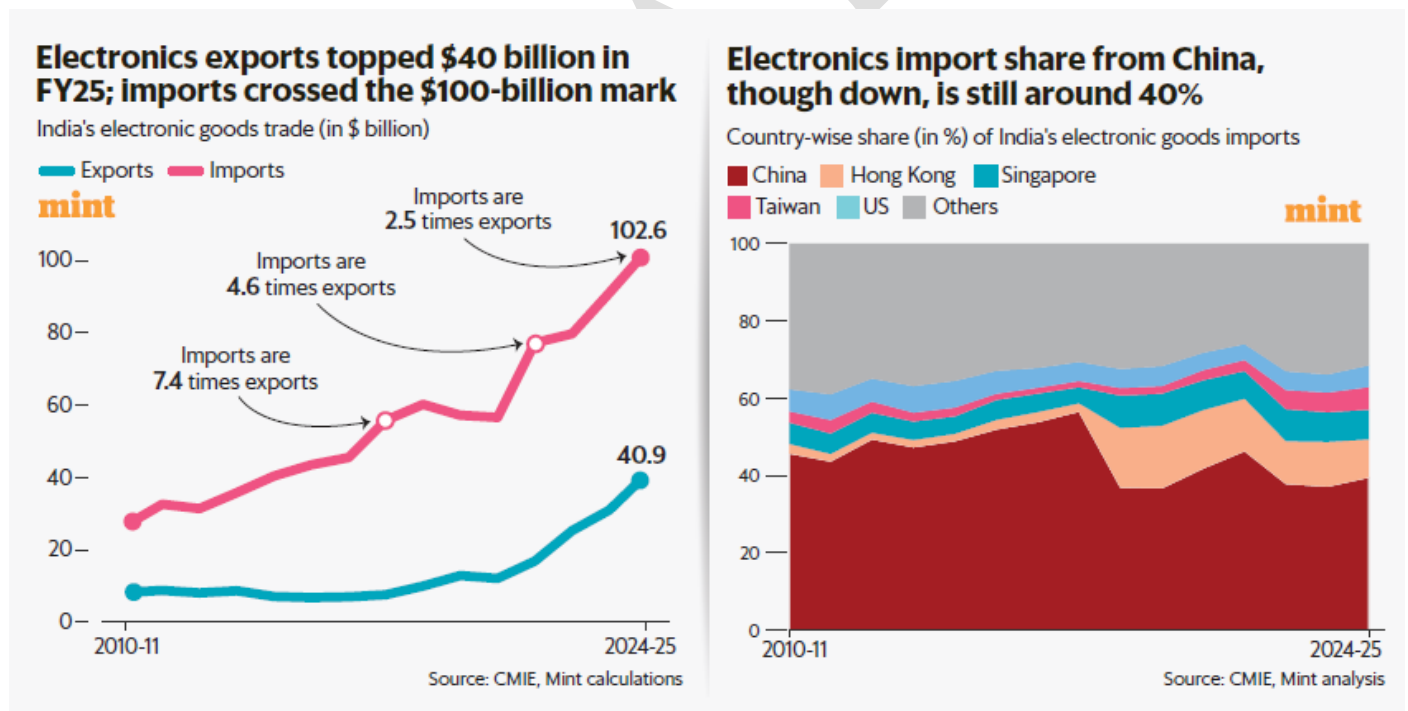
- **37.3%** of India's electronics exports go to the **United States** (up from 14% in 2010-11), indicating over-dependence on a **single market**.
- Other major destinations (UAE, Netherlands, UK) account for only **4.8–9%** each and have **shown little growth**.
- Risk: **US tariff threats** (e.g. under Trump-era trade policies) could make India's export performance vulnerable.
- There is a **need for diversification** of export destinations to avoid geopolitical trade shocks.

4. India's Role in Global Value Chains (GVCs)

- As per NITI Aayog's **2024 report**, India excels in **final assembly and sub-assembly** (e.g., mobile phones), but **lags in design and component manufacturing**.
- Example of iPhone: Designed in US, uses materials from **China**, components from **Japan, Korea, Taiwan**, and assembled in **China, Vietnam, India**.
- India's weak **R&D ecosystem**, **high capital and input costs**, **tariff barriers**, and **inadequate infrastructure** hinder deeper integration into GVCs.

5. Structural Challenges in Domestic Electronics Manufacturing

- Key constraints:



- **High import tariffs** on components.
- **Limited domestic semiconductor and chip manufacturing**.
- **Lack of skilled workforce and innovation capacity**.
- **Insufficient investment in electronics R&D and design infrastructure**.



- These structural issues result in **import-driven exports**, where India imports critical parts, assemblies devices, and exports finished goods.

6. Constitutional and Legal Context

- **Entry 41, 42 & 52 of Union List (Seventh Schedule):** Empower the Union government to regulate industries, foreign trade, and development of inter-state trade.
- **Make in India, PLI (Production Linked Incentive) Scheme, and National Policy on Electronics (NPE)** aim to address trade imbalances and boost domestic capabilities.
- WTO principles also influence India's ability to impose tariffs or trade restrictions to protect the domestic industry.

Conclusion

India's surge in electronics exports is encouraging, but it masks structural weaknesses like import dependence on China, lack of domestic R&D, and export reliance on the US. There is an urgent need for **self-reliant and diversified electronics manufacturing**, deeper **integration into GVCs**, and policy continuity to mitigate trade shocks.

UPSC Relevance

- **GS Paper 3 (Economy):** Trade balance, manufacturing sector, import-export policy, global value chains.
- **GS Paper 2 (Governance):** Role of policy (PLI, Make in India), international trade relations, WTO obligations.
- **GS Paper 1 (Geography):** Distribution of resources like rare earth materials (China's dominance).
- **GS Paper 4 (Ethics):** Issues of self-reliance vs global interdependence in strategic sectors.
- **Essay Paper:** "India's pursuit of electronics self-reliance in a multipolar global order."

3. Indian Cities Need Urgent Climate Action – World Bank Report

Key Highlights:

- **Urban Population Surge**
India's urban population is expected to **nearly double from 480 million in 2020 to 951 million by 2050**, creating massive pressure on urban infrastructure, services, and climate resilience capacity.
- **Call for Climate-Smart Urban Planning**
The **World Bank report titled "Towards Resilient and Prosperous Cities in India"** emphasizes the need for **forward-looking, climate-resilient urban development**, stating that over half of India's future urban infrastructure is yet to be built.
- **High Costs of Inaction**
Without timely action, **stormwater flooding and climate-related urban damages** may cause losses up to **5% of India's GDP under a high-emission scenario**, significantly impacting economic growth and urban livelihoods.





- **Need for Resilience in Urban Growth**

Embedding **climate resilience** into future urban planning is cheaper and more effective than retrofitting later. The report warns that continued growth without resilience will lead to **compounded economic and social losses**.

- **Institutional Support and Recommendations**

The report is backed by the **World Bank Group** and the **Global Facility for Disaster Reduction and Recovery (GFDRR)**. It urges Indian cities to utilize this transitional period for **resilient investments**, supported by multi-stakeholder programs like the **City Resilience Program**.

Key Concepts and Definitions:

- **Climate-Resilient Urban Development:** A planning approach that integrates climate risk management into the design, construction, and operation of urban systems to minimize vulnerability and enhance sustainability.
- **Pluvial Flooding:** Urban flooding caused by intense rainfall overwhelming drainage systems, independent of river or coastal flooding.
- **Retrofitting:** Modifying existing structures to improve their resilience to climate or disaster impacts, often more costly than incorporating resilience from the start.

Constitutional & Legal Provisions:

- **Article 243W** of the Constitution empowers municipalities to plan for economic development and social justice, including **urban planning and regulation of land use**.
- The **Environment (Protection) Act, 1986** provides a legal framework for developing climate-adaptive policies.
- The **Disaster Management Act, 2005** mandates integration of disaster risk reduction in urban development planning.
- India's commitments under the **Nationally Determined Contributions (NDCs)** and **National Action Plan on Climate Change (NAPCC)** also call for climate-resilient infrastructure.

Conclusion:

The World Bank's report serves as a wake-up call for India to prioritize **climate-resilient urban development**. With massive infrastructure expansion ahead, India has a rare opportunity to embed resilience in its cities, enhance economic growth, and protect vulnerable populations from escalating climate risks.

UPSC Relevance:

- **GS Paper II (Governance, Urbanization):** Urban planning, role of international organizations, disaster management framework.
- **GS Paper III (Environment & Economy):** Climate change impacts, adaptation measures, infrastructure resilience, World Bank reports.
- **Essay & Ethics:** Topics like “Urbanization and climate justice”, “Planning for the future: Balancing development and sustainability”.
- **Current Affairs:** Important for Prelims and Mains as part of ongoing climate policy discourse.



4. FY26 Capex Loan Outlay under SASCE Scheme: Key Summary

Key Points from the Update

- **Mid-Year Review May Increase FY26 Outlay**
The Centre is likely to revise the FY26 outlay for the **Special Assistance to States for Capital Expenditure (SASCE)** scheme after the **September–October 2025 mid-year review**, in response to faster-than-expected utilization in FY25.
- **SASCE Scheme: Interest-Free 50-Year Loan**
Launched in FY21 to promote post-pandemic economic recovery, the SASCE scheme provides **interest-free loans for 50 years** to states, aimed at **long-term capital expenditure** and infrastructure creation.
- **High Utilization and Front-Loading in FY25**
Over **₹50,000 crore (1/3rd of ₹1.5 trillion)** has already been sanctioned between **April–July 2025**, reflecting **early project rollout and high state-level demand**. This proactive front-loading departs from the earlier trend of backloaded disbursements.
- **Allocation Trends and Adjustments**
 - **₹1.1 trillion in FY24**
 - **Increased to ₹1.5 trillion** for both FY25 and FY26
 - However, **FY25 was revised to ₹1.25 trillion** due to election-related delays in the first half
 - FY26 may now see a hike again if the current momentum continues
- **Reform-Linked Conditions for Disbursal**
FY26 funds are partly **conditional on reforms**, including:
 - Enhancing municipal staffing
 - Integrated **property tax platforms**
 - Urban land and planning reforms
 - Demonstrated state-level **capex growth** and **urban-rural infra development**
- **States' Role in Infrastructure Development**
States contribute around **20–25% of total infrastructure spending** in India, making their **capital investment push vital** for achieving national growth targets.

Key Terms & Definitions:

- **Capital Expenditure (Capex):** Spending on the creation or acquisition of long-term assets such as roads, bridges, schools, etc., which leads to capacity building and economic productivity.
- **Front-Loading:** Advancing disbursements or activities to the **initial months** of a fiscal year to build early momentum.
- **Interest-Free Loan:** A loan with **no periodic interest payments**, only requiring repayment of the principal (in this case, **after 50 years**, and possibly waivable).

Constitutional & Legal Context:



- **Article 282:** Allows both Union and State governments to make grants for any public purpose, forming the **legal basis for schemes like SASCE**.
- **Article 275:** Provides for grants-in-aid from the Centre to States, relevant for **targeted infrastructure support**.
- **FRBM Act (2003):** Sets fiscal discipline limits that the SASCE scheme **circumvents strategically** by offering capital support **outside state borrowing limits**.

Conclusion:

The **SASCE scheme** has emerged as a **critical fiscal tool** in India's infrastructure-led growth strategy, enabling **state-driven capex** with central support. The **anticipated hike in FY26 outlay** underscores the government's focus on **long-term asset creation**, economic stimulus, and urban reform.

UPSC Relevance:

- **GS Paper II (Governance):**
 - Centre-State financial relations
 - Role of fiscal incentives in driving reform
- **GS Paper III (Economy & Infrastructure):**
 - Public expenditure
 - Fiscal policy tools for growth
 - Role of capital investment in economic recovery
- **Prelims 2025:**
 - SASCE scheme features
 - 50-year interest-free loans
 - Reform-linked conditions
- **Essay & Ethics:**
 - Infrastructure development as a driver of inclusive growth
 - Ethical use of long-term public funds for sustained development

5. India–UK Free Trade Agreement (FTA) Cleared by Cabinet

Key Highlights

- **Cabinet Approval and Signing**

The Union Cabinet, chaired by Prime Minister Narendra Modi, has approved the India–UK Free Trade Agreement (FTA). The formal signing is scheduled for 24 July in London, during PM Modi's visit, in the presence of both countries' Prime Ministers and Commerce Ministers.
- **Broad Scope and Objectives**

Officially known as the Comprehensive Economic and Trade Agreement (CETA), the FTA aims to double bilateral trade between India and the UK to USD 120 billion by 2030. It targets removal or significant reduction of tariffs, improvement in services trade, innovation, and regulatory cooperation.





- **Sectoral Gains for Both Nations**

- India will gain from zero-duty access to major labour-intensive exports like textiles, leather goods, and footwear.
- The UK will benefit from tariff cuts on premium goods such as Scotch whisky and luxury cars.
- The FTA also covers chapters on services, government procurement, intellectual property rights (IPR), innovation, and anti-corruption.

- **Implementation Timeline**

The agreement will take effect after ratification by the UK Parliament, which may take around six months. This marks India's first major bilateral trade agreement with a developed Western economy since its FTA outreach was intensified.

- **Strategic and Diplomatic Significance**

The FTA holds symbolic and strategic importance as it reinforces the growing India–UK partnership amid changing global trade alignments. The presence of both heads of government at the signing reflects strong political will and alignment.

- **Negotiation Journey**

Formal negotiations began in early 2022 and concluded on 6 May 2025 after over two years of detailed discussions. The agreement balances economic ambitions with domestic sector sensitivities.

Key Terms and Definitions

- **Free Trade Agreement (FTA):** A treaty between countries to reduce or eliminate customs duties and trade barriers on goods and services.
- **Comprehensive Economic and Trade Agreement (CETA):** A broader FTA including trade in services, investment, innovation, regulatory standards, and procurement.
- **Customs Duty:** A tax levied on goods when they are transported across international borders.

Constitutional and Legal Provisions

- **Article 246 & Article 253 of the Constitution:** Empower the Union government to enter into international agreements and legislate to implement them.
- **Foreign Trade (Development and Regulation) Act, 1992:** Governs India's foreign trade and provides the legal basis for trade agreements.
- **Ratification Requirement:** While India signs executive FTAs without parliamentary ratification, the UK requires parliamentary approval before implementation.

Conclusion

The India–UK FTA is a landmark trade and economic partnership, enhancing mutual market access, improving investment and services cooperation, and aligning with India's broader trade diversification goals. It is expected to benefit employment, MSMEs, and strategic ties with the West.

UPSC Relevance

- **GS Paper II (International Relations):**
 - India–UK bilateral relations



- International trade negotiations
- **GS Paper III (Economic Development):**
 - Foreign trade policy
 - Role of FTAs in economic growth
 - Employment generation through exports
- **Prelims:**
 - Features of FTAs
 - Sectors benefiting from the India–UK FTA
 - Terms like CETA, IPR, and customs duty
- **Essay & Ethics Paper:**
 - Free trade and fair development
 - Ethical dimensions of global trade agreements

6. RBI's Financial Inclusion Index Rises by 4.3% in FY25

Key Highlights

- **FI-Index Value and Growth**

The **Reserve Bank of India (RBI)** announced that the **Financial Inclusion Index (FI-Index)** rose from **64.2 in March 2024 to 67 in March 2025**, reflecting a **4.3% increase**. This indicates measurable progress in inclusive financial access across the country.
- **Improvement Across All Sub-Indices**

Growth was reported across **three core sub-indices** of the FI-Index:

 - **Access** (availability of financial services)
 - **Usage** (extent of active use of services)
 - **Quality** (customer satisfaction, grievance redressal, transparency)
- **Definition of Financial Inclusion**

Financial Inclusion refers to the **delivery of affordable financial services**—such as savings, credit, insurance, and remittance—to **all individuals and businesses**, particularly vulnerable and underserved sections of society.
- **About RBI's FI-Index**
 - Launched in **2021**, the index is published annually in **July**.
 - It ranges between **0 and 100**, where **0 denotes complete exclusion** and **100 indicates full inclusion**.
 - It is a **composite index** developed by RBI without relying on any base year, ensuring a dynamic and evolving measurement.





- **Policy Relevance and Broader Context**

The rise in FI-Index reflects the impact of initiatives like **PM Jan Dhan Yojana, Digital Payment Mission, Financial Literacy Campaigns, Banking Correspondents, and UPI proliferation**. It highlights the deepening of digital and physical banking infrastructure in rural and semi-urban areas.

- **Challenges Ahead**

Despite progress, **financial exclusion persists** in certain areas such as the Northeast, tribal belts, and among informal sector workers. Focus is now required on improving **last-mile connectivity, digital security, and financial literacy**.

Constitutional & Legal Provisions

- **Article 38:** Directs the State to promote welfare by securing a social order including **equitable distribution of material resources**.
- **Article 39(c):** Calls for policies ensuring **that the operation of the economic system does not result in the concentration of wealth**.
- **Banking Regulation Act, 1949 and RBI Act, 1934:** Empower RBI to supervise and guide banking operations to ensure inclusive practices.

Key Terms and Definitions

- **FI-Index (Financial Inclusion Index):** A composite index created by the RBI to capture the extent of financial inclusion based on access, usage, and quality.
- **Access:** Availability of financial services (e.g., bank branches, ATMs, mobile banking).
- **Usage:** Frequency and volume of transactions or services availed.
- **Quality:** Measures transparency, ease of use, grievance redressal, and customer experience.

Conclusion

The increase in RBI's Financial Inclusion Index signifies **positive strides toward inclusive growth**, reflecting the success of government and RBI-led financial empowerment initiatives. However, **regional disparities and digital exclusion** still need policy attention for truly universal financial access.

UPSC Relevance

- **GS Paper II (Governance and Social Justice):**
 - Financial inclusion and social equity
 - Government schemes for economic empowerment
- **GS Paper III (Economic Development):**
 - Inclusive growth
 - Role of digital infrastructure and banking
- **Prelims:**
 - Features of FI-Index
 - Related schemes (PMJDY, UPI, Jan Suraksha Yojana)
- **Essay & Ethics:**



- “Financial inclusion as a means to reduce inequality”
- “Ethical finance and equitable access in the digital age”

7. India–Maldives in Talks for Free Trade and Investment Agreements

Key Highlights

- **Bilateral Negotiations Underway**

India and the Maldives have initiated discussions on a **Free Trade Agreement (FTA)** and an **Investment Treaty**, as confirmed by India’s Foreign Secretary Vikram Misri. These talks signify deepening economic and strategic ties between the two Indian Ocean neighbours.

- **Focus on New Areas of Cooperation**

In addition to trade and investment, the two countries are also exploring **collaborative projects in renewable energy**, underlining a shared interest in **climate resilience and sustainable development**, especially relevant for a small island developing state like the Maldives.

- **Significance of an India–Maldives FTA**

A formal FTA would allow **reduction or elimination of tariffs** on goods and services, promote **investment flows**, and enhance **economic interdependence**. It would also help Maldives diversify its economy and provide Indian businesses greater access to a strategic maritime region.

- **Strategic and Regional Importance**

Maldives holds strategic value for India’s ‘**Neighbourhood First**’ and ‘**SAGAR (Security and Growth for All in the Region)**’ doctrines. Strengthening economic relations will reinforce India’s presence in the Indian Ocean and act as a counterbalance to external influences.

- **Existing Frameworks**

India and Maldives already have robust partnerships under the **India–Maldives Action Plan for Defence Cooperation**, **visa-free travel agreements**, and **line of credit arrangements** for infrastructure development. The proposed FTA and investment treaty will complement these mechanisms.

- **Historical and Political Context**

Despite recent political tensions, especially around Chinese influence and nationalist narratives within Maldivian politics, the ongoing negotiations reflect an effort by both sides to **stabilize and expand economic diplomacy**.



Constitutional and Legal Provisions

- **Article 246 & Article 253** of the Constitution empower the Union government to enter and implement international treaties and trade agreements.
- The **Foreign Trade (Development and Regulation) Act, 1992** governs India’s trade policy and facilitates bilateral trade agreements.
- The **Investment Promotion and Protection Agreements (IPPA)** framework provides legal grounds for safeguarding bilateral investments.

Key Terms and Definitions



- **Free Trade Agreement (FTA):** A treaty between two or more countries to reduce or eliminate customs duties, import quotas, and preferences on goods and services.
- **Investment Treaty:** A bilateral or multilateral agreement providing legal protection and promotion of foreign investment by ensuring fair treatment, dispute settlement, and compensation mechanisms.
- **Renewable Energy Cooperation:** Joint projects and investments in solar, wind, and ocean energy to promote clean energy transitions and climate adaptation.

Conclusion

India's engagement with the Maldives through proposed FTA and investment treaties is a **strategic move to strengthen bilateral economic ties**, ensure regional stability, and promote sustainable development. This reflects India's evolving maritime diplomacy and neighbourhood outreach.

UPSC Relevance

- **GS Paper II (International Relations):**
 - India–Maldives bilateral relations
 - Regional cooperation in the Indian Ocean
 - Diplomacy and economic treaties
- **GS Paper III (Economic Development & Environment):**
 - Investment agreements
 - Trade policy
 - Renewable energy diplomacy
- **Prelims:**
 - Definition and objectives of FTA and IPPA
 - SAGAR doctrine
 - Neighbourhood First policy
- **Essay & Ethics:**
 - “Balancing growth and regional diplomacy in a multipolar world”
 - “Ethics in economic diplomacy and regional leadership”

8. India's DAP Imports in April–June 2025

Key Summary Points:

- **Massive Import of DAP Fertilizer:**
 - India imported **974,000 tonnes** of **Di-Ammonium Phosphate (DAP)** in the **April–June 2025 quarter** to meet **domestic agricultural demand**, as per data presented in the **Rajya Sabha** by the **Minister of State for Chemicals and Fertilisers, Anupriya Patel**.



- **Importance of DAP in Agriculture:**

- **DAP is a widely used phosphorus-based fertilizer**, essential during the early growth of crops. It contains about **18% nitrogen and 46% phosphorus (P_2O_5)**.
- It is **second only to urea** in consumption in India and is critical to ensuring **food security**.



- **India's Fertilizer Dependency:**

- India is **heavily dependent on fertilizer imports**, especially for DAP and MOP (Muriate of Potash), due to **limited domestic production**.
- In FY24, India imported over **6 million tonnes of DAP**, mostly from countries like **China, Saudi Arabia, Jordan, and Morocco**.

- **Subsidy and Pricing Mechanism:**

- The **Nutrient Based Subsidy (NBS) Scheme**, under the **Department of Fertilisers**, ensures affordable pricing of DAP to farmers by providing subsidies to manufacturers/importers.
- Under this scheme, **subsidy rates** are declared quarterly to offset global price volatility.

- **Government Measures:**

- The government has taken steps like **long-term import agreements**, encouraging **joint ventures abroad**, and enhancing the **Atmanirbhar Bharat** goals in the fertilizer sector.
- There are also plans to **revive domestic fertilizer plants** and **promote alternative nutrients** (e.g., Nano DAP) to reduce import dependence.

Key Definitions and Legal/Policy Provisions:

- **DAP (Di-Ammonium Phosphate):** A chemical fertilizer providing nitrogen and phosphorus, crucial for seed germination and root development.
- **NBS Scheme (2010):** Subsidy system under which the government provides fixed per kg subsidy on each nutrient (N, P, K, S).
- **Essential Commodities Act, 1955:** Fertilizers are regulated under this act to ensure availability and prevent hoarding.

Conclusion:

The large-scale DAP imports during April–June 2025 highlight **India's continuing reliance on external sources** for critical agricultural inputs. While imports meet short-term needs, **long-term agricultural sustainability** will depend on **domestic capacity building, efficient nutrient use, and fertilizer diversification**.

UPSC Relevance:

- **GS Paper 3 – Agriculture, Economy**
 - Food security and input management



- Government policies and interventions (NBS, subsidy)
- Import dependence and Atmanirbhar Bharat
- **GS Paper 2 – Governance**
 - Role of government schemes and regulations (NBS, ECA)
- **Prelims:** Fertilizer types, NBS scheme, DAP composition, major import countries
- **Mains Practice Qs:**
 - *“India’s fertilizer policy needs urgent reforms to balance import dependence with sustainability.” Discuss.*

9. China’s Energy Transformation: Reducing Oil Dependency through Domestic Innovation and Electric Mobility

Key Summary Points

1. China’s Oil Consumption Peak Expected by 2027

- China, once the main driver of global oil demand, is expected to hit peak oil consumption by **2027**, after which demand will decline.
- The decline is due to **policy-driven energy transformation**, electric vehicle (EV) proliferation, and emphasis on **national energy security**.

2. Strategic Shift toward Electric Vehicles (EVs)

- Nearly **50% of passenger vehicle sales in China in 2024** were either full EVs or plug-in hybrids (up from just 6% in 2020).
- China leads in EV infrastructure with **14 million public charging points** as of May 2025.
- The government has spent **\$231 billion (2009–2023)** subsidizing EV development, despite many companies facing financial losses.

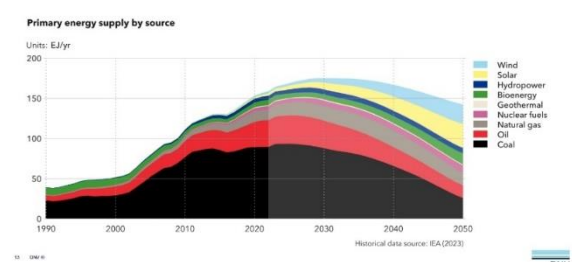
3. Domestic Oil Production Revival

- China's oil output rose by **13% between 2018 and 2024**, driven by deep drilling in **Tarim Basin, South China Sea, and Bohai Sea**.
- State-owned companies like **PetroChina and CNOOC** have heavily invested in **ultra-deep drilling**, digitized operations (with Huawei), and offshore reserves.
- Example: **Shenditake 1 well**, nearly 7 miles deep, is one of the world’s deepest vertical wells.

4. Geopolitical & Strategic Motivations

- Xi Jinping emphasized that **“the energy rice bowl must be held in our own hands”**, reflecting China’s intent to avoid strategic vulnerabilities like the **Strait of Malacca chokepoint**.

China's energy mix is changing dramatically





- The push gained momentum post-2013, when China surpassed the U.S. as the world's **largest net oil importer**, and concerns grew over dependence on U.S.-controlled sea lanes.

5. Global Energy Market Impact

- According to the **International Energy Agency (IEA)**, China's oil demand forecast for 2028–30 has been **revised downward by 1 million barrels/day**.
- Exporters like **Russia and Saudi Arabia** are adapting by offering discounts and investing in Chinese refining to retain market share.
- China still imports **~11 million barrels/day**, accounting for **~70% of total demand**, but future imports are expected to decline.

6. Environmental & Trade Ramifications

- The EV boom is reducing urban air pollution, addressing domestic discontent with smog.
- Overproduction of EVs has led to **price wars, rising exports, and trade tensions**, especially with the U.S. and Europe.

Key Definitions (For UPSC)

- **Energy Security:** The uninterrupted availability of energy sources at an affordable price.
- **Electric Vehicle (EV):** A vehicle powered entirely or partially by electric power, reducing dependency on fossil fuels.
- **Peak Oil Demand:** The point at which global or national oil consumption hits its maximum before beginning to decline.
- **Strategic Chokepoint:** A narrow route that is crucial for global oil transportation—e.g., the **Strait of Malacca**.
- **Deep Drilling:** Extraction of oil or gas from depths exceeding 5 miles, used when conventional reserves are insufficient.

Constitutional & Legal Provisions (India Relevance)

- **Article 47** (Directive Principles of State Policy): Obliges the State to raise the standard of living and improve public health, which energy efficiency directly supports.
- **National Electric Mobility Mission Plan (NEMMP):** Indian policy initiative to promote EV adoption and reduce reliance on imported fossil fuels.
- **Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME):** A central scheme to incentivize EV adoption in India.
- **Energy Conservation Act, 2001:** Empowers the government to promote energy efficiency and renewable technologies.

Conclusion

China's strategic energy transformation underlines the importance of **self-reliance, diversification of energy sources, and technology-led development**. Through aggressive domestic oil production and EV investments, China is reducing a key vulnerability—**foreign oil dependence**. The shift will reshape global energy markets, forcing oil-exporting countries to adapt. However, this transformation comes with financial, environmental, and trade challenges.



UPSC Relevance

- **GS Paper 2:** International Relations – China's energy independence reduces its geopolitical vulnerability and affects global oil diplomacy.
- **GS Paper 3:** Economy and Environment – EV subsidies, renewable transition, and implications for India's energy security and climate policy.
- **Essay Paper:** Topics on sustainable development, energy security, or technological transformation.
- **Ethics (GS Paper 4):** Ethical dimensions of environmental responsibility and sustainable governance.
- **IR & Geography Optional:** Strategic importance of the Strait of Malacca; geopolitics of energy supply chains.

10. The Reality of Changing Dimensions of Warfare (Based on article by M.K. Narayanan, former NSA of India)

Key Points:

1. Shift in Global Warfare Paradigm

- Modern warfare has evolved from traditional large-scale conflicts to **technology-driven, multi-domain operations**.
- Old principles like **Westphalian sovereignty (1648)** or **Congress of Vienna (1815)** no longer define global power dynamics; **advanced weapon systems and cyber capabilities** have become central.
- Events such as **9/11** and **Operation Desert Storm (1991)** marked critical shifts toward **information-dominant and precision-based warfare**.

2. Rise of Technological & Network-Centric Warfare

- Modern conflicts (e.g., **Russia–Ukraine war, India–Pakistan skirmish 2025**) showcase the **prevalence of drones, AI, cyber attacks, GPS/laser-guided munitions, and hypersonic weapons**.
- **Loitering munitions, AI-powered surveillance drones, and autonomous targeting systems** are redefining warfighting doctrines.
- Wars are no longer restricted to battlefields—they include **cyber, space, economic, and information domains**.

3. India's Strategic Imperatives and Challenges

- India's current **defence modernization plans**, heavily reliant on Rafale jets and outdated procurement models, may be **inadequate for future warfare**.
- India must **diversify military hardware**, focus on **indigenous R&D**, and prepare for **two-front threats** (China & Pakistan).
- Indigenous fighter programs (e.g., **Tejas Mk-II, AMCA**) are delayed, while adversaries like **China** are deploying **5th & 6th generation fighters (J-20, J-31)**.



4. Emergence of Cyber and AI Warfare

- Warfare is now **digitally autonomous and interconnected**, using **AI, cyberattacks**, and **real-time intelligence** for tactical decisions.
- Cyber and digital warfare now require the military to integrate **technologists, coders, and AI strategists** alongside traditional warfighters.
- Conflicts are increasingly won not just by firepower but by **data superiority and digital dominance**.

5. Redefinition of Peace and Conflict

- The notion of **post-WWII peace** is more illusory than real—conflicts like **Korea, Vietnam, Middle East, and Ukraine** underline ongoing instability.
- The '**rules-based international order**' is weakening, with nations increasingly using **pre-emptive and unilateral military actions** justified by their own security narratives.

6. India-Pakistan Conflict 2025 as a Case Study

- Marked by the use of **drones, loitering munitions, advanced missiles (BrahMos, PL-15)**, and **GPS-guided bombs**.
- Demonstrated the shift away from conventional troop-heavy engagements to **precision, automation, and real-time targeting**.

Key Definitions (UPSC Notes)

- **Network-Centric Warfare**: A military doctrine that uses advanced information and communication technologies to link all elements of the battlefield.
- **Loitering Munition**: A type of weapon that hovers in an area and strikes once a target is identified, blending characteristics of drones and missiles.
- **Multi-Domain Operations (MDO)**: Integrated combat strategies across land, air, sea, cyber, and space.
- **Hypersonic Weapons**: Missiles that travel at speeds exceeding Mach 5, difficult to detect or intercept.

Constitutional and Legal Provisions (India-Relevant)

- **Article 51 (Directive Principles)**: Promotes international peace and security.
- **Article 246 & Seventh Schedule**: Defence is a **Union List subject**; the Centre has exclusive legislative and executive authority.
- **Defence Procurement Procedure (DPP) and Defence Acquisition Procedure (DAP)**: Legal frameworks guiding India's military modernization and procurement process.
- **Cybersecurity Policy (Draft 2023)**: Framework to deal with cyber warfare threats, important for digital defence.

Conclusion

Warfare in the 21st century has radically evolved from tanks and troops to **algorithms, drones, satellites, and cyberweapons**. India must not just modernize, but **strategically reimagine** its military doctrine,



planning, and procurement to counter new threats. Future wars will not be won by size, but by **speed, precision, adaptability, and intelligence**—both human and artificial.

UPSC Relevance

- **GS Paper 2:** International Relations — Impact of technological warfare on diplomacy and global security architecture.
- **GS Paper 3:** Security & Defence — Challenges to internal and external security through cyber warfare, AI, drones.
- **GS Paper 4 (Ethics):** Ethical implications of autonomous weapons and AI-based warfare.
- **Essay Paper:** Topics on changing nature of war, peace and conflict, strategic doctrine.

11. Spare Live Animals, Move to Biological Models

Key Highlights

- **Animal Testing and Ethical Issues:**
The article emphasizes the ethical concerns surrounding the use of animals in scientific research and toxicity testing. It highlights the emotional and physical suffering endured by animals and calls for more humane alternatives.
- **Historical Context of Testing:**
Initially, toxicity testing was performed on humans (e.g., U.S. food preservative tests in the early 1900s). Later, animals replaced humans due to better control in laboratory environments, but this shift also normalized moral indifference.
- **Limitations of Animal Testing:**
Scientific consensus increasingly recognizes that **animal-based research does not always predict human reactions** accurately. Thus, many findings from animal testing are often non-translatable to human biology.
- **Advancements in Regenerative Medicine:**
Developments in **tissue engineering** have enabled the creation of **lab-grown biological structures** (e.g., artificial pancreas, bio-artificial skin, bladders, and blood vessels). These can now potentially replace animal testing in many experiments.
- **Proposed Legal and Policy Shift:**
The **Prevention of Cruelty to Animals Act, 1960** (especially **Chapter IV: Experimentation on Animals**) may be amended to mandate the **use of lab-grown biological models** wherever feasible. This would align science with ethics.
- **Education and Visual Models:**
The use of **2D and 3D digital anatomical models** in educational settings has already replaced animal dissections in classrooms. A similar paradigm shift is possible in experimental labs for ethical learning and testing.





Key Definitions for UPSC

- **Tissue Engineering:** A field of regenerative medicine that uses biological materials and engineering principles to develop functional substitutes for damaged tissues and organs.
- **Bioartificial Organs:** Laboratory-grown or engineered constructs that mimic the structure and function of natural organs using cells, biomaterials, or both.
- **Prevention of Cruelty to Animals Act, 1960:** An Indian legislation enacted to prevent the infliction of unnecessary pain or suffering on animals and to regulate their experimentation and treatment.

Constitutional & Legal Provisions

- **Article 48A** – Directive Principle of State Policy: Mandates the State to protect and improve the environment and safeguard forests and wildlife.
- **Article 51A(g)** – Fundamental Duty: Imposes a duty on every citizen to have compassion for living creatures.
- **Prevention of Cruelty to Animals Act, 1960** – Governs animal welfare and regulates experimentation.

Conclusion

The article makes a strong ethical and scientific case for shifting from **live animal experimentation** to **lab-based, tissue-engineered biological models**. This shift is both technologically feasible and ethically necessary. It also aligns with India's constitutional values of compassion and environmental stewardship.

UPSC Relevance

- **GS Paper II** – Governance, Constitution, and Social Justice (Laws and policies related to animal welfare).
- **GS Paper III** – Science & Technology (Innovations in regenerative medicine, bioethics).
- **Essay & Ethics Papers** – Ethical dilemmas in science, Compassion vs. Scientific Necessity.
- **Prelims** – Questions on PCA Act, constitutional duties, scientific terminologies.

12. Odisha's Rising Crimes Against Women: Systemic Lapses and Legal Failures

Key Summary Points

1. Rising Incidents and Public Outrage

- Odisha has witnessed a *surge in heinous crimes against women* recently, including cases of **abduction, sexual harassment, suicide, and immolation**.
- High-profile cases, like that of the 15-year-old girl in Puri and a 20-year-old student in Balasore, have sparked widespread protests and criticism of administrative and police inaction.





2. Dismal Conviction and Chargesheeting Rates

- Between **2017 and 2022**, Odisha consistently recorded **conviction rates below 10%** in crimes against women—among the *lowest in India*.
- The **chargesheeting rate** fell from 91.2% in 2017 (5th best) to **71.4% in 2022**, placing Odisha **24th out of 30 states**.

3. High Case Load and Pendency

- In 2022, Odisha had **384 court cases per one lakh population**, second only to Delhi, but **only 9% of these led to conviction**.
- Over **95% of such cases were pending**, indicating a **serious judicial backlog** and inefficiencies in the legal process.

4. National Ranking in Crime Rate

- Odisha recorded **51 police cases of crimes against women per one lakh population**, compared to the **national average of 33**, placing it in the **top 5 states** for crime rate against women.
- The state also appeared among those with **high crime rates and low chargesheeting rates**—a “double whammy” of poor justice delivery.

5. Constitutional and Legal Provisions

- Article 15(3)**: Permits the State to make special provisions for women and children.
- Article 21**: Guarantees the right to life and personal liberty, which includes the right to live with dignity and protection from violence.
- Criminal Law (Amendment) Acts (2013, 2018)**: Strengthened provisions on sexual violence, fast-track courts, and police accountability.
- Section 354, 376, 509 IPC and Protection of Children from Sexual Offences (POCSO) Act, 2012** are frequently invoked in such cases.
- Nirbhaya Fund and One-Stop Centres (OSC)** for women support services also remain underutilized in many states including Odisha.

6. Systemic Failures

- Factors include **police apathy, lack of gender sensitization, delayed forensic procedures, low trust in institutional mechanisms**, and **understaffed judiciary**.
- Lack of proper monitoring and delay in trials leads to **victim intimidation and withdrawal** of complaints, weakening legal outcomes.

Definitions & Concepts for UPSC

- Chargesheeting Rate**: Percentage of cases where police file a formal charge after investigation.
- Conviction Rate**: Percentage of cases ending in conviction out of the total tried in court.
- Pendency Rate**: Proportion of total cases pending in courts relative to total cases filed.



Conclusion

Odisha's handling of crimes against women reflects a **grave breakdown of institutional response**, marked by low conviction, poor investigation, and judicial delays. The issue is not just legal, but also **deeply social and administrative**. A multi-sectoral approach is needed — involving **judicial reforms, police modernization, gender sensitization, and community-level awareness** — to make justice accessible and deterrence effective.

UPSC Relevance

- **GS Paper II – Governance:** Role of police, judiciary, constitutional safeguards, and women-centric laws.
- **GS Paper I – Society:** Issues related to women safety, social empowerment.
- **GS Paper III – Internal Security:** Role of law enforcement and public institutions.
- **Ethics Paper:** Case studies on institutional responsibility, victim justice, and empathy.
- **Essay:** Topics on women empowerment, justice delivery, and public administration failure.