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FOR UPSC CIVIL SERVICE EXAMINATION

DATE: 29/05/2026 (FRIDAY)



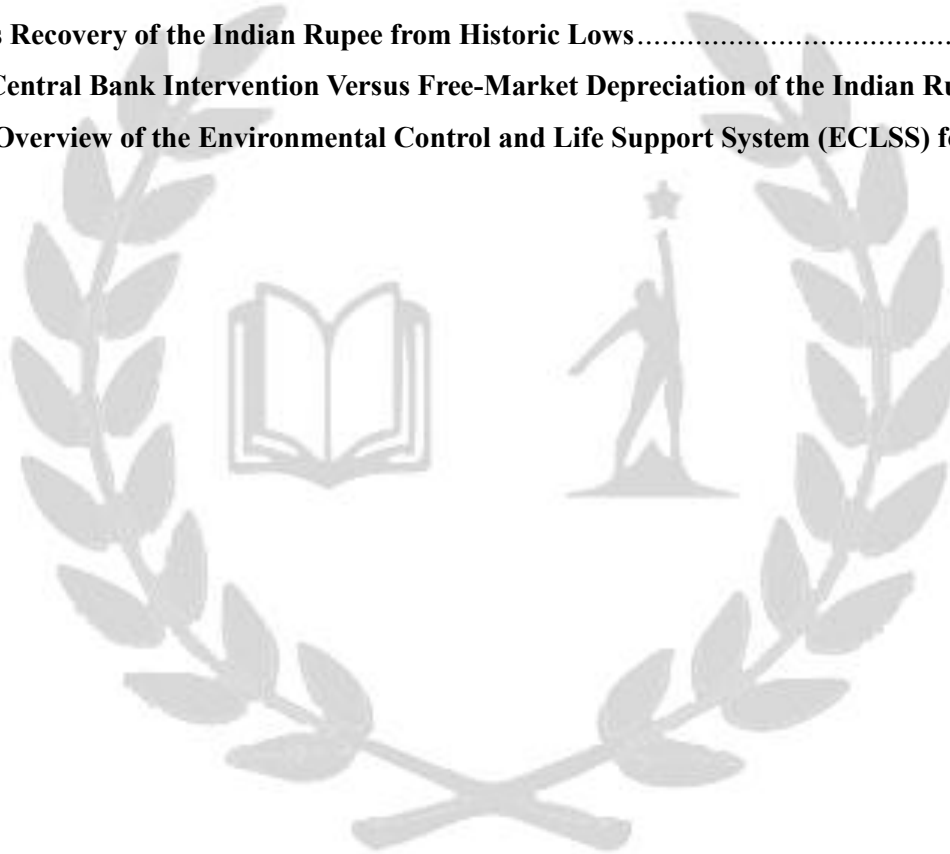
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1. India-China 35th WMCC Meeting

- **Context & Institutional Framework:** The 35th meeting of the Working Mechanism for Consultation and Coordination on India-China Border Affairs (WMCC) was held in Beijing. Led by Joint Secretary-level diplomats, this institutional mechanism (established 2012) focuses on maintaining peace along the Line of Actual Control (LAC). Unlike the Special Representatives (SR) mechanism which handles political boundary resolution, the WMCC manages tactical border stability.
- **Key Deliberations & River Diplomacy:** Discussions focused on stabilizing mechanisms, border management, and preparing for upcoming SR talks. India specifically pushed for reviving the Expert Level Mechanism (ELM) on Trans-Border Rivers (Brahmaputra/Satluj) to ensure critical monsoon data-sharing, aiming to separate ecological security from geopolitical friction.
- **Legal & Constitutional Provisions:** Border governance falls exclusively under the Union List (Seventh Schedule) of the Indian Constitution. Internationally, relations are guided by bilateral agreements (1993, 1996, 2005, 2013) that outline standard operating procedures for patrol face-offs and mandate the reduction of military forces along the LAC.

Definition of Key Terms

- **Border Delimitation:** The formal process of legally defining and determining physical state boundaries via treaties or negotiations.
- **Line of Actual Control (LAC):** The operational demarcation line separating Indian and Chinese-controlled territories, subject to differing cartographic perceptions.

Conclusion & UPSC Relevance

Sustained institutional dialogue via the WMCC is vital to prevent operational miscalculations and create a predictable frontier environment.

- **UPSC Relevance:** GS-II (International Relations, India and its neighborhood) and GS-III (Internal Security, Border Management mechanisms like WMCC, SR, and bilateral pacts).

2. CISF Oversight for 1,200 Fishing Harbours: Coastal Security Upgrade

- **Context & Security Mandate:** The Ministry of Home Affairs (MHA) plans to bring nearly 1,200 of India's 1,547 notified fishing harbours and landing sites under Central Industrial Security Force (CISF) oversight. This scales up maritime defense across 13 coastal States/UTs, plugging critical security gaps exploited during threats like the 26/11 Mumbai attacks.
- **CISF's Regulatory Blueprint:** Instead of full physical deployment, the CISF will act as a security regulator to design standard templates for local authorities. It will introduce technology-driven protocols, including biometric attendance and smart ID cards, to monitor the movement of fisherfolk and vessel tracking systematically.
- **Federal & Legal Framework:** Under the Seventh Schedule, maritime security falls under the Union List, while minor harbor maintenance belongs to States. The legal backing comes from the CISF Act, 1968, aligning with the International Ship and Port Facility Security (ISPS) Code to standardize safety across fragmented coastal borders.

Definition of Key Terms

- **Fish Landing Centre:** A designated shore point where traditional fisherfolk land catches, often lacking formal berthing infrastructure.



- **Security Regulator:** A specialized statutory agency empowered to formulate, audit, and enforce national safety compliance standards.

Conclusion & UPSC Relevance

Integrating CISF expertise fixes fragmented coastal surveillance while maintaining a vital balance with local economic freedoms.

- **UPSC Relevance:** GS-III (Internal Security, Coastal Security Challenges, Role of CAPFs) and GS-II (Federal Structure, Functional Division of Powers under Seventh Schedule).

3. Annapurna Yojana in West Bengal: Fiscal and Administrative Challenges

- **Policy Transition and Scale:** The new West Bengal government is transitioning from the previous *Lakshmir Bhandar* scheme to the *Annapurna Yojana*, doubling monthly women's cash incentives from ₹1,500 to ₹3,000. This massive welfare rollout targets approximately 2 crore beneficiaries out of the existing 2.2 crore pool, following targeted exclusions based on updated electoral parameters.
- **Fiscal Sustainability and Budgetary Strain:** The revised cash transfer presents an immense fiscal challenge, demanding ₹6,000 crore monthly and ₹72,000 crore annually. This commitment consumes roughly 18% of the State's ₹4.06 lakh crore interim budget for 2026–27, highlighting structural anxieties surrounding fiscal deficits and the compression of capital expenditure for state asset creation.
- **Administrative Verification Hurdles:** To manage costs and eliminate institutional leakages, a mandatory 90-day verification process requires all existing beneficiaries to reapply using an intensive 11-page form. This verification acts as an administrative filter, requiring comprehensive family documentation including land records, identification numbers, and verified bank accounts to weed out invalid entries.
- **Welfare Economics and Cooperative Federalism:** The policy emphasizes the ongoing debate between merit subsidies and competitive populism. While direct benefit transfers (DBT) enhance financial inclusion and gender empowerment, their long-term viability depends heavily on a state's own tax revenue (SOTR) robustness and unconditional fiscal transfers from the Union government.
- **Constitutional and Legal Provisions:** Welfare governance falls under the Directive Principles of State Policy (Article 39), which mandates securing an adequate livelihood for citizens. However, states must balance these goals with fiscal prudence under the Fiscal Responsibility and Budget Management (FRBM) Act, 2003, which sets strict targets for containing revenue and fiscal deficits.

Definition of Key Terms

- **Direct Benefit Transfer (DBT):** An administrative mechanism to transfer subsidies directly into the bank accounts of verified beneficiaries, minimizing intermediate leakages.
- **Fiscal Deficit:** The structural gap occurring when a government's total expenditure exceeds its total non-borrowing revenue during a specific financial year.

Conclusion & UPSC Relevance

The Annapurna Yojana illustrates the complex balance required between maintaining socio-economic safety nets and practicing long-term macro-fiscal sustainability.

- **UPSC Relevance:** GS-II (Welfare schemes for vulnerable sections, mechanisms, laws, and institutions) and GS-III (Indian Economy, fiscal policy, budgeting, and resource mobilization).



4. Cross-Border Cyber Trafficking Crisis in Myanmar: Strategic Implications

- **Emerging Transnational Crisis:** Organized transnational syndicates, particularly operating within lawless enclaves like the Myawaddy region of Myanmar near the Thai border, are driving a severe cross-border human trafficking crisis. Vulnerable Indian youth are targeted through social media and illegal recruitment networks under false promises of legitimate employment, only to be held captive in armed-guarded camps and forced to run international online fraud operations.
- **Geopolitical Challenges in Conflict Zones:** Rescuing trapped citizens faces major obstacles due to Myanmar's deep internal civil instability. Vast portions of the frontier, including specialized economic zones, are managed by independent armed groups like the Border Guard Force (BGF) or foreign criminal networks rather than the formal military junta. Consequently, the Ministry of External Affairs (MEA) must implement complex diplomatic maneuvers, heavily relying on cross-border coordination with Thailand (such as using Mae Sot as an evacuation corridor) to secure safe passages.
- **Institutional Frameworks and Repatriation Actions:** The Indian government treats the safety of its overseas diaspora as a top priority. Indian embassies in Yangon and Bangkok work closely with host-nation immigration, defence, and law enforcement agencies to identify, verify, and extract citizens. Evacuation operations have expanded significantly—rescuing over 1,500 nationals from Myanmar alone between 2022 and late 2025—frequently requiring direct tactical coordination with the Indian Air Force for emergency airlifts.
- **Domestic Countermeasures and Enforcement:** To stop these operations at the source, the Indian Central Government maintains the *e-Migrate portal*, which lists over 3,500 unregistered recruitment agencies to warn citizens. The MEA also coordinates directly with State Home Departments and the Indian Cyber Crime Coordination Centre (I4C) under the Ministry of Home Affairs to arrest local handlers, monitor digital footprints, and dismantle the localized networks facilitating illicit travel arrangements.
- **Constitutional and Legal Safeguards:** Human trafficking is strongly prohibited under Article 23 of the Constitution of India. The primary legislative response is governed by Section 370 of the Indian Penal Code (IPC), alongside the Immoral Traffic (Prevention) Act. However, because these traditional statutes often fall short when dealing with digital coercion and cross-border jurisdictions, Parliament has prioritised the comprehensive *Trafficking in Persons (Prevention, Care and Rehabilitation) Bill* to formalize international rescue operations.



Definition of Key Terms

- **Cyber-Trafficking:** The illegal practice of using deception, coercion, or force to transport individuals across borders to entrap them in forced digital labor, including online financial scams and phishing factories.
- **Consular Protection:** The statutory framework and diplomatic services provided by a sovereign state's foreign missions to protect the rights, security, and interests of its citizens traveling or residing abroad.



Conclusion

The Myawaddy crisis underlines the urgent need for India to update its maritime and land-border security strategies. Mitigating this threat requires blending high-level neighborhood diplomacy with strict domestic cyber-patrolling and public awareness to protect citizens from deceptive overseas employment offers.

UPSC Relevance

- **Preliminary Examination:** Geography of the Indo-Myanmar border, major Southeast Asian trade corridors, and institutional mechanisms like the I4C and the e-Migrate portal.
- **Main Examination (GS-II & GS-III):** India and its neighborhood relations, security challenges in border areas, role of non-state actors, transnational organized crime, and cyber-security vulnerabilities affecting internal safety.

5. Inauguration of the Indian War Memorial in South Korea

Key Summary Points

- **Historic Dedication:** Indian Defence Minister Rajnath Singh and South Korea's Minister of Patriots and Veterans Affairs Kwon Oh-eul jointly inaugurated the newly constructed Indian War Memorial at Imjingak Park near Seoul.
- **Commemorative Milestone:** The inauguration ceremonies were timed to mark the historic 75th anniversary of the Korean War (1950–1953), providing a permanent physical site to honour the massive humanitarian contribution made by Indian personnel.
- **Honouring Medical Valour:** The monument stands as a direct tribute to the legendary 60 Para Field Ambulance of the Indian Army, a specialized airborne medical unit whose 627 deployed personnel treated over 222,000 casualties under severe frontline conditions.
- **Post-Armistice Recognition:** The memorial recognizes the role played by the 5,500- member Custodian Force of India (CFI), which managed the volatile post-war phase, maintaining custody and overseeing the humane repatriation of around 22,000 prisoners of war.
- **Bilateral Commitments:** Alongside the unveiling, India and South Korea formalized a fresh Memorandum of Understanding (MoU) focused on veteran welfare, expanded historical exchange programmes, and broader defense cooperation spanning cybersecurity and logistics.



Definitions of Key Terms

- **60 Para Field Ambulance:** A elite airborne medical unit of the Indian Army that served under the United Nations Command during the Korean War, famously dubbed the "Maroon Angels" by locals for their lifesaving battlefield interventions.
- **Neutral Nations Repatriation Commission (NNRC):** An international commission set up under the 1953 Korean Armistice Agreement to resolve the fate of prisoners who refused to return to their homelands, notably chaired by India.
- **Custodian Force of India (CFI):** The independent military contingent deployed by India to the Korean Peninsula to physically manage, guard, and process prisoners of war under the mandate of the NNRC.



- **Imjingak Park:** A highly symbolic park located near the Demilitarized Zone (DMZ) in South Korea, built to console those displaced from their homes in North Korea and now housing several monuments to wartime global solidarity.

Key Institutional and Historical Frameworks

- **Neutrality and Non-Alignment Principle:** India's foundational diplomatic posture during the Cold War. By choosing not to send a combat brigade but instead deploying medical and diplomatic missions, India preserved its independent mediator status between Western and Soviet Blocs.
- **United Nations Command (UNC):** The multinational military force established to support South Korea against aggression. India supported the initial UN Security Council resolutions condemning the invasion, aligning its subsequent medical deployment with the humanitarian umbrella of the UN.
- **India-Republic of Korea Special Strategic Partnership:** The formal diplomatic framework established in 2015, which has been expanded through recent milestones like the Joint Strategic Vision (2026–2030) to encompass defense co-production, semiconductor supply chains, and maritime safety.

Historical Leadership Figures

- **Lt. Col. (Dr.) A.G. Rangaraj:** The commanding officer of the 60 Para Field Ambulance during the war, awarded the Maha Vir Chakra (MVC) for displaying exceptional leadership and tactical courage during complex airborne operations.
- **Lt. Gen. K.S. Thimayya:** The distinguished Indian military officer who served as the Chairman of the NNRC, whose strict impartiality and diplomatic skill during the repatriation crisis earned global praise and reinforced India's reputation in international mediation.

UPSC Relevance

- **GS Paper II (International Relations):** Bilateral, regional, and global groupings involving India and affecting India's interests; evolution of India-South Korea strategic ties; and historical legacy of India's soft power and independent foreign policy.
- **GS Paper I (Modern World History):** Key events of the 20th century, including the Cold War, the structural genesis of the Korean War, and institutional efforts toward international conflict resolution.

Conclusion

The inauguration of the Indian War Memorial at Imjingak Park transitions India's historic role on the Korean Peninsula from an archival memory into a permanent diplomatic anchor. By honoring the selflessness of the 60 Para Field Ambulance and the impartiality of the Custodian Force, the memorial cements India's long-standing tradition of humanitarian diplomacy. As both nations encounter fresh geopolitical dynamics in the Indo-Pacific, this shared history of blood and compassion provides a solid baseline for deeper defense innovations, maritime security, and a robust Special Strategic Partnership.

6. Patna High Court Scrutiny on Midday Meal Safety and NGO Accountability

Key Summary Points

- **Judicial Intervention:** The Patna High Court has intervened in the Baluaha midday meal incident in Saharsa district, where over 150 government school students fell ill and required hospitalisation due to suspected food contamination.



- **Questioning Operational Status:** A Division Bench consisting of Justices Rajeev Ranjan Prasad and Mohit Kumar Shah questioned whether the involved NGO, which services 154 schools in the region, should be permitted to continue food supply operations while a formal inquiry is underway.
- **Investigation Under Scrutiny:** The High Court flagged serious delays in the ongoing investigation and raised questions regarding procedural discrepancies in the collection, seizure, and laboratory testing of the contaminated food samples.
- **Accountability Mandate:** The court directed the PM Poshan Directorate, the Saharsa Superintendent of Police, and the regional Food Safety Officer to file detailed affidavits explaining their sample-collection and forensic processes.
- **Administrative and Legal Action:** Following the contamination event, a First Information Report (FIR) was registered against the school administration, including the headmistress and teacher, alongside all nine cooks attached to the school facility.

Definitions of Key Terms

- **Pradhan Mantri Poshan Shakti Nirman (PM POSHAN):** Formally known as the Mid-Day Meal Scheme, this is a centrally sponsored school meal programme designed to improve the nutritional status of school-age children nationwide.
- **Public Interest Litigation (PIL):** A legal action initiated in a court of law for the enforcement of public interest or general welfare where the rights of a community or a vulnerable group have been adversely affected.
- **Adulteration:** The act of degrading the quality of food or essential commodities by either adding inferior substances or through negligent handling, rendering the product hazardous to human health.

Key Constitutional and Legal Provisions

- **Article 21 of the Constitution:** Guarantees the fundamental right to life and personal liberty. The Supreme Court has repeatedly interpreted this to encompass the right to health, clean food, safe drinking water, and a life with human dignity.
- **Article 47 of the Constitution (Directive Principles):** Expressly directs the State to raise the level of nutrition and the standard of living of its people, and to treat the improvement of public health as among its primary duties.
- **Food Safety and Standards Act, 2006:** The primary legislative framework regulating food safety in India. It establishes the Food Safety and Standards Authority of India (FSSAI) to formulate science-based safety standards and penalise instances of food contamination or negligence.
- **National Food Security Act (NFSA), 2013:** Provides legal entitlement to subsidized food grains and mandates the daily provision of hot cooked meals to children in classes 1 to 8 under statutory nutritional norms.

Governance and Administrative Framework

- **Three-Tier Monitoring Mechanism:** The institutional framework governing PM POSHAN includes a National level Steering-cum-Monitoring Committee (NSMC), State level Steering-cum-Monitoring Committees (SSMC), and District level committees headed by Members of Parliament to oversee safety compliance.



- **FSSAI Guidelines for Institutional Kitchens:** Statutory guidelines requiring periodic infrastructure audits, mandating the use of potable water, forcing structural separation of storage units, and enforcing mandatory food testing protocols before meals are dispatched to public schools.

UPSC Relevance

- **GS Paper II (Governance and Public Policy):** Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions, and bodies constituted for the protection and betterment of these vulnerable sections.
- **GS Paper II (Judiciary):** Role of High Courts and the Supreme Court in monitoring governance failures and executing judicial activism through Public Interest Litigations (PILs).
- **GS Paper III (Food Security):** Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System—objectives, functioning, limitations, revamping; issues of buffer stocks and food security.

Conclusion

The Patna High Court's scrutiny emphasizes that administrative outsourcing to non-governmental organizations does not absolve the State of its structural regulatory obligations. While private-public partnerships speed up delivery logistics, they require strict regulatory oversight to prevent systemic failures in hygiene. Ensuring strict, uncompromising adherence to the Food Safety and Standards Act is critical to defending the fundamental right to health and preserving public institutional trust in child nutrition initiatives.

7. RBI Policy Interventions to Stabilize the Indian Rupee

Key Summary Points

- **Currency Depreciation Crisis:** The Reserve Bank of India (RBI) is actively evaluating aggressive monetary interventions after the Indian Rupee (INR) plunged to an all-time low of nearly 97 against the US Dollar (USD).
- **Monetary Policy Options:** Key options under consideration by Governor Sanjay Malhotra and top central bank officials include implementing a strategic repo rate hike, introducing fresh currency swap windows, and issuing offshore dollar bonds.
- **Inflationary and Capital Pressures:** The sharp depreciation is driven by sustained foreign capital outflows, a widening merchandise trade deficit, and rising global commodity prices, threatening to import inflation into the domestic economy.
- **Capital Mobilization Strategies:** To augment foreign exchange liquidity, the RBI is contemplating specialized schemes targeting Non-Resident Indians (NRIs) and overseas institutional investors to attract stable, long-term dollar inflows.
- **Liquidity Management Objectives:** These extraordinary measures aim to curb speculative trading in the onshore and offshore non-deliverable forward (NDF) currency markets while ensuring adequate domestic systemic liquidity.

Definitions of Key Terms

- **Currency Depreciation:** A decrease in the value of a currency in a floating exchange rate system relative to one or more foreign reference currencies, driven by market demand and supply dynamics.



- **Currency Swap:** A foreign exchange agreement between two parties to exchange principal and interest payments on a loan in one currency for an equivalent loan in another currency, used here by the central bank to infuse dollar liquidity into the banking system.
- **Offshore Dollar Bonds:** Debt instruments denominated in US Dollars issued by domestic entities or the sovereign in international financial markets to raise foreign capital directly.
- **Non-Deliverable Forward (NDF):** An over-the-counter currency derivative contract where parties settle the difference between the contracted NDF rate and the prevailing spot rate in a convertible currency (usually USD), outside the direct jurisdiction of the domestic central bank.



Key Institutional and Legal Provisions

- **Reserve Bank of India Act, 1934:** The statutory framework granting the RBI the explicit mandate to manage India's foreign exchange reserves and maintain domestic monetary stability. Section 45ZB outlines the constitution of the Monetary Policy Committee (MPC) to fix the policy repo rate.
- **Foreign Exchange Management Act (FEMA), 1999:** The primary legislation regulating foreign exchange transactions, cross-border trade, and capital flows, consolidating the law to facilitate external trade and maintain an orderly foreign exchange market.
- **External Commercial Borrowings (ECB) Framework:** Statutory guidelines governed by the RBI that regulate the quantum, maturity, and end-use of foreign currency loans raised by Indian corporate entities to avoid systemic external debt vulnerabilities.

Macroeconomic Stabilization Mechanisms

- **Foreign Exchange Intervention:** The direct selling of US Dollars from the country's official Forex Reserves by the RBI in the spot market to absorb excess rupee liquidity and arrest sudden, volatile depreciations.
- **Interest Rate Differential:** The gap between the domestic policy interest rate and foreign interest rates (e.g., the US Federal Reserve rate). Raising domestic interest rates widens this gap, making Indian debt instruments more attractive to foreign portfolio investors (FPIs) and reducing capital flight.

UPSC Relevance

- **GS Paper III (Indian Economy):** Monetary policy framework; role of the Reserve Bank of India; external sector dynamics including foreign exchange reserves, exchange rate management, current account balance, and the impact of capital outflows.
- **GS Paper III (Macroeconomics):** Inflation management, imported inflation, and the institutional structural adjustments required to balance external stability with domestic industrial growth.



Conclusion

The RBI's consideration of aggressive measures like rate hikes and currency swaps reflects the delicate trilemma facing emerging market economies: maintaining exchange rate stability while safeguarding domestic growth objectives. While direct market interventions provide immediate relief against speculative attacks, long-term rupee stabilization relies on strengthening India's macroeconomic fundamentals. Reducing structural dependence on imported energy, expanding merchandise exports, and maintaining fiscal discipline are critical to shielding the domestic economy from volatile global capital shifts.

8. Ecological Crisis at Sanjay Lake: Heatwave and Anthropogenic Pressures

Key Summary Points

- **Mass Mortality Event:** Hundreds of fish were found dead, floating belly-up in Sanjay Lake located in East Delhi's Trilokpuri area, following a rapid drop in water levels and severe ecological degradation.
- **Compounding Factors:** The crisis is driven by a combination of intense regional heatwave conditions and a technical failure in a critical supply pipeline, which routinely delivers treated water from the Kondli Sewage Treatment Plant (STP) but recently developed leaks.
- **Water Quality Deterioration:** Due to receding water levels and extreme temperatures, the lake has turned into shallow, stagnant green pools of slush, causing an acute drop in dissolved oxygen levels and making the aquatic habitat hostile.
- **Systemic Pollution Inflows:** The National Green Tribunal (NGT) had previously flagged that the lake, located within 3-5 km of the Ghazipur landfill, exhibits high Chemical Oxygen Demand (COD) values due to unabated solid waste dumping and local sewage inflows.
- **Broader Regional Trend:** Similar mass fish die-offs have been reported across related regional water networks, including the Sahibi river channel and the Najafgarh drain, primarily due to the sudden release of untreated effluents from stormwater drains and the Dhansa regulator.
- **Extreme Meteorological Conditions:** The incident coincided with Delhi experiencing its warmest night in 14 years with a minimum temperature of 31.9°C, alongside daytime maximums soaring to 43.6°C (3.4 notches above normal), triggering sustained orange alerts.



Definitions of Key Terms

- **Chemical Oxygen Demand (COD):** An indicative measure of the amount of oxygen required to chemically oxidize organic and inorganic matter in water. Higher COD values indicate severe chemical pollution and low health of the aquatic ecosystem.
- **Dissolved Oxygen (DO):** The amount of gaseous oxygen dissolved in a water body, which is fundamental for the respiration of aquatic organisms. High temperatures naturally reduce oxygen solubility in water.
- **Sewage Treatment Plant (STP):** An industrial facility designed to remove contaminants from municipal wastewater and domestic sewage to produce an environmentally safe effluent suitable for discharge or reclamation.



- **Heatwave:** A period of abnormally uncomfortable hot weather. In India, it is officially declared for plains when the maximum temperature reaches at least 40°C and departs by 4.5°C to 6.4°C from the normal long-term average.

Key Environmental Law and Institutional Frameworks

- **The Water (Prevention and Control of Pollution) Act, 1974:** Provides the statutory basis for maintaining and restoring the wholesomeness of water bodies and establishes Central and State Pollution Control Boards (CPCB/SPCB) to regulate effluent discharges.
- **National Green Tribunal (NGT) Act, 2010:** A specialized judicial body set up for the expeditious disposal of cases relating to environmental protection, conservation of forests, and enforcement of legal rights relating to the environment.
- **Wetlands (Conservation and Management) Rules, 2017:** Framed under the Environment (Protection) Act, 1986, these rules prohibit activities like reclamation, dumping of solid waste, and discharge of untreated effluents in notified wetland ecosystems.
- **Article 48A of the Constitution (Directive Principles):** Mandates that the State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.
- **Article 51A(g) of the Constitution (Fundamental Duties):** Enshrines a duty upon every citizen of India to protect and improve the natural environment including forests, lakes, rivers, and wildlife.

UPSC Relevance

- **GS Paper III (Environment and Ecology):** Environmental pollution and degradation; urban wetland ecosystem management; eutrophication; impact of climate change and extreme weather events (heatwaves) on biodiversity.
- **GS Paper II (Governance and Institutions):** Role of statutory bodies like the National Green Tribunal (NGT) and Central Pollution Control Board (CPCB) in environmental monitoring and executing public accountability.

Conclusion

The ecological collapse at Sanjay Lake serves as a stark warning regarding the vulnerability of urban water bodies to climate change and inadequate municipal infrastructure. As global temperatures rise, urban lakes cannot survive as isolated ornamental features; they require consistent replenishment with treated water and absolute protection from sewage contamination. Addressing these crises demands a shift toward integrated urban wetland management, strict enforcement of the Water Pollution Act, and the climate-proofing of civic infrastructure to sustain urban biodiversity and combat the rising urban heat island effect.

9. Democratic Representation Versus Administrative Decentralization in Ladakh

Key Summary Points

- **The Core Debate:** The Union Ministry of Home Affairs argues that administrative decentralization through five new districts—Nubra, Changthang, Sham, Zaskar, and Drass—is a practical alternative for Ladakh, whereas local aspirations demand a full legislature and constitutional protections under the Sixth Schedule.
- **Flawed Official Justifications:** The Centre's reluctance to grant a legislature is based on Ladakh's sparse population, fiscal dependence on federal transfers, and strategic border sensitivity. Critics argue this logic mirrors a paternalistic, colonial-era mindset that measures democratic eligibility by profitability and demographic scale.



- **The Northeast Precedent:** Strategic sensitivity and financial dependence have historically not disqualified frontier regions from self-governance. States like Arunachal Pradesh, Nagaland, Mizoram, and Sikkim were granted full statehood and legislatures despite small populations, harsh terrains, and high reliance on central funding.
- **Administration versus Representation:** While additional districts improve localized administrative accessibility across Ladakh's 59,000 square kilometers, bureaucratic instruments cannot substitute for political agency. District magistrates implement policy upward to the bureaucracy, whereas a legislature shapes policy downward and remains directly accountable to the citizens.
- **Energy Infrastructure and Resource Negotiation:** Ladakh is central to India's clean energy goals, hosting mega projects like the 13-gigawatt renewable energy framework in the Pang region of Changthang. Without a local legislature, residents lack a statutory representative body to negotiate land rights, grazing protections for indigenous Changpa herders, and ecological safeguards against large-scale industrial intervention.



Definitions of Key Terms

- **Sixth Schedule:** A constitutional provision that allows for the creation of Autonomous District Councils (ADCs) with legislative, judicial, and administrative powers to protect tribal cultures, land, and local customs.
- **Purna Swaraj:** A concept of absolute self-governance and sovereignty championed during the Indian national movement, emphasizing that political freedom is a matter of inherent dignity and national selfhood.
- **Fiscal Solvency:** The ability of a state or region to generate enough internal revenue to meet its financial trajectories and operational expenditures without relying heavily on external subsidies or federal debt.
- **Administrative Decentralization:** The transfer of operational responsibilities and central bureaucratic functions to lower-level field offices, distinct from political decentralization which transfers decision-making power to elected representatives.

Key Constitutional and Legal Provisions

- **Article 239A of the Constitution:** The provision under which Parliament can create a legislature or a Council of Ministers for a Union Territory (as done for Puducherry and Jammu and Kashmir), which forms the core of Ladakh's political demands.
- **The Sixth Schedule (Articles 244(2) and 275(1)):** Provides special institutional safeguards for tribal-dominated areas. Extending this to Ladakh would empower local councils to frame laws regarding land use, marriage, inheritance, and forest management.
- **Article 280 of the Constitution:** Establishes the Finance Commission of India, a body designed to manage fiscal federalism by distributing tax revenues from the central pool to the states based on equity rather than a region's internal revenue-generating capacity.



- **The Jammu and Kashmir Reorganisation Act, 2019:** The parliamentary act that bifurcated the former state into two distinct Union Territories: Jammu and Kashmir (with a legislature) and Ladakh (without a legislature), altering the region's geopolitical framework.

Comparative Federalism Analysis

- **Asymmetrical Federalism:** A structural characteristic of Indian federalism where different states enjoy different relationships with the Union. This is visible in special provisions under Article 371 (A to J) granted to Northeastern states to protect their distinct cultural and tribal identities, proving that uniformity is not equity.
- **Horizontal Devolution:** The mechanism used by the Finance Commission to allocate funds among states based on fiscal capacity, demographic indicators, and geographical terrain, ensuring that resource-starved frontier states are supported by the wider national economy.

UPSC Relevance

- **GS Paper II (Polity and Governance):** Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions, and basic structure; statutory, regulatory, and various quasi-judicial bodies.
- **GS Paper II (Federalism):** Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein.
- **GS Paper III (Security):** Security challenges and their management in border areas; linkages of organized crime with terrorism.

Conclusion

The political deadlock in Ladakh highlights a critical tension within Indian federalism between centralized security management and regional democratic enfranchisement. While administrative expansion through new districts resolves logistical bottlenecks in high-altitude terrains, it cannot replace the constitutional dignity of self-governance. Integrating a frontier region relies on building a deep sense of democratic belonging rather than relying solely on fiscal subsidies and military presence. Granting legislative representation and Sixth Schedule protections will align Ladakh's strategic security with its democratic aspirations, allowing its people to actively negotiate their ecological and economic future.

10. Post-Crisis Recovery of the Indian Rupee from Historic Lows

Key Summary Points

- **Market Rebound:** The Indian Rupee (INR) experienced a significant recovery of 49 paise, closing at 96.37 against the US Dollar (USD) after plunging to an all-time intraday low near the 97 mark earlier in the week.
- **Primary Catalysts:** This financial correction was primarily driven by a sharp retreat in international crude oil prices following signs of easing geopolitical friction in West Asia, combined with timely external interventions by the Reserve Bank of India (RBI).
- **Forward Market Stress:** Despite the immediate spot market recovery, the one-year currency forward market rate breached the critical threshold of 100 per USD, revealing deep-seated structural anxieties regarding long-term domestic currency depreciation.



- **Intraday Volatility:** Trading sentiment at the interbank foreign exchange market remained volatile, with the local currency opening strong at 96.25, peaking at an early high of 96.05, and touching a low of 96.60 before stabilizing at the market close.
- **Sustained Risk Factors:** Foreign exchange market participants emphasize that while easing geopolitical tensions offer short-term relief, the Indian currency remains structurally vulnerable to international energy price shocks and capital flight risks.

Definitions of Key Terms

- **Spot Market Exchange Rate:** The current, real-time market price at which a currency pair can be bought or sold for immediate delivery and settlement in the interbank market.
- **Currency Forward Market Rate:** A financial derivative contract that locks in an exchange rate today for a transaction that will occur on a specific future date, reflecting market expectations and interest rate differentials over that period.
- **Central Bank Intervention:** The deliberate operational practice where a central bank buys or sells foreign currency in the open market to stabilize the domestic currency or curb erratic, speculative volatility.
- **Interbank Foreign Exchange Market:** The global, over-the-counter financial network where commercial banks and large financial institutions trade currencies directly with one another.



Key Economic and Statutory Provisions

- **Foreign Exchange Management Act (FEMA), 1999:** The overarching legal framework that empowers the Government of India and the RBI to regulate foreign exchange transactions, capital flows, and maintain an orderly domestic currency market.
- **Section 40 of the RBI Act, 1934:** The statutory provision that guides the central bank's operations concerning the purchase and sale of foreign currencies to meet international obligations and preserve macroeconomic equilibrium.
- **Managed Float Exchange Rate Regime:** India's institutional exchange rate framework under which the rupee's value is primarily determined by open market supply and demand forces, but the RBI actively intervenes if the currency experiences extreme, destabilizing fluctuations.

Dynamics of Forward Premium and Depreciation

- **Forward Premium:** The situation where the future expected exchange rate of a currency is higher than its current spot rate. A one-year forward rate touching 100/USD implies that international traders are pricing in an institutional weakening bias for the INR, demanding a premium to hedge against long-term depreciation risks.
- **Interest Rate Parity (IRP):** The fundamental economic theory governing forward markets, dictating that the difference between the spot and forward exchange rates of two currencies should equal the difference in interest rates between the two respective countries.



UPSC Relevance

- **GS Paper III (Indian Economy):** External sector dynamics, management of the exchange rate, foreign exchange reserves, impact of imported inflation, and the structural correlation between global crude oil volatility and domestic macroeconomic indicators.
- **GS Paper III (Banking and Monetary Policy):** Role and statutory powers of the Reserve Bank of India (RBI) in managing systemic liquidity and defending the domestic financial system from external shocks.

Conclusion

The rupee's sudden rebound highlights the intrinsic link between India's domestic economic stability and global geopolitical corridors. While tactical interventions by the central bank and softening crude prices can arrest immediate speculative runs, the breach of the 100/USD mark in the one-year forward market indicates that structural vulnerabilities remain. To insulate the domestic currency from persistent long-term depreciation, India must look beyond short-term monetary defenses and actively focus on narrowing its merchandise trade deficit, scaling up domestic energy security, and attracting sticky, long-term Foreign Direct Investment (FDI).

11. Debating Central Bank Intervention Versus Free-Market Depreciation of the Indian Rupee

Key Summary Points

- **The Policy Dilemma:** As the Indian Rupee (INR) faces sustained downward pressure near 97 against the US Dollar (USD), a major macroeconomic debate has emerged regarding whether the Reserve Bank of India (RBI) should aggressively intervene or allow the currency to find its own market-determined equilibrium.
- **The Non-Interventionist Argument:** Mainstream economic models, supported by global economists like Gita Gopinath, argue that a depreciating currency acts as an automatic stabilizer. By making imports more expensive and exports more competitive, it naturally curtails a Current Account Deficit (CAD) without draining foreign exchange reserves.
- **Conflation of Weak vs. Falling Rupee:** Critics of non-intervention point out that a "weak rupee" and a "falling rupee" are fundamentally different. A rapidly falling rupee fails to boost exports if foreign buyers delay purchases anticipating further depreciation; conversely, it causes import front-loading as domestic buyers rush to secure essential commodities like crude oil before prices rise further.
- **Speculative Capital Dynamics:** Unlike textbook trade models driven by consumer demand, the ongoing currency slide is heavily driven by speculative outflows from Foreign Institutional Investors (FIIs) capitalising on rising interest rates in developed markets. This implies that the rupee's current valuation reflects volatile market sentiment rather than core economic fundamentals.
- **The Threat of Imported Inflation:** Allowing unchecked, speculative depreciation presents severe domestic risks. The escalating import bill for inelastic commodities passes directly into the domestic economy, causing structural inflation that disproportionately impacts a population already coping with stagnant real wages and pandemic-induced reverse migration.
- **Global Precedents of Intervention:** Currency defense is not confined to emerging economies; even developed nations actively manage extreme volatility. For instance, during a sharp slide of the Yen against the Dollar, Japanese Finance Minister Satsuki Katayama signaled decisive market



interventions, demonstrating that major economies routinely disrupt pure speculation to preserve financial stability.

Definitions of Key Terms

- **Current Account Deficit (CAD):** A macroeconomic metric that occurs when the total value of goods, services, and transfers imported by a country exceeds the total value of those it exports.
- **Imported Inflation:** A sustained rise in domestic prices attributable to an increase in the costs of imported raw materials or finished products, frequently exacerbated by a depreciating domestic currency.
- **Automatic Stabilizer (Exchange Rate):** The theoretical mechanism by which a floating exchange rate automatically adjusts to trade imbalances, where currency depreciation corrects a deficit by altering relative import-export pricing.
- **Front-Loading (Imports):** The behavioral tendency of market importers to advance or accelerate their purchase timelines to buy goods immediately, driven by the expectation that the domestic currency will lose value in the near future.



Key Constitutional and Legal Provisions

- **Article 246 read with Seventh Schedule (Union List):** Places all matters concerning foreign loans, foreign exchange, and the regulation of international trade exclusively under the legislative domain of the Parliament of India.
- **Reserve Bank of India Act, 1934:** Grants statutory power to the central bank to maintain monetary stability and regulate the country's credit and currency systems. The RBI utilizes its foreign exchange reserves under this mandate to smooth out erratic currency fluctuations.
- **Foreign Exchange Management Act (FEMA), 1999:** Enacted to consolidate and amend the laws relating to foreign exchange, with the explicit objective of facilitating external trade and payments and promoting the orderly development and maintenance of the foreign exchange market in India.

Macroeconomic Trilemma Analysis

- **The Impossible Trinity:** A foundational macroeconomic concept stating that an economy cannot simultaneously maintain three conditions: a fixed foreign exchange rate, free capital flow (absence of capital controls), and an independent monetary policy.
- **India's Policy Choice:** India operates on a managed float, meaning it permits capital mobility and maintains monetary independence, choosing to intervene in the exchange rate market only to check extreme, non-fundamental volatility.

UPSC Relevance

- **GS Paper III (Indian Economy):** External sector dynamics, balance of payments, components of current and capital accounts, exchange rate determination systems (floating vs. managed float), and the macroeconomic implications of currency depreciation.
- **GS Paper III (Economic Growth & Policy):** Issues relating to planning, mobilization of resources, growth, development, and employment; management of imported inflation and its structural impact on real wages and poverty.



Conclusion

The debate over rupee stabilization highlights that pure reliance on free-market adjustments can be deeply problematic when a currency's trajectory is dictated by speculative capital rather than trade fundamentals. While letting the rupee find its level aligns with theoretical economic frameworks, the real-world consequence involves severe imported inflation and structural stress on the domestic populace. In an era of volatile global capital flows and tightening interest rates by foreign central banks, targeted interventions by the RBI remain an essential tactical shield. Ultimately, safeguarding India's long-term economic sovereignty requires a deeper structural evaluation of the role of speculative foreign capital within the national growth narrative.

12. Technical Overview of the Environmental Control and Life Support System (ECLSS) for Gaganyaan

Key Summary Points

- **Core Functionality:** The Environmental Control and Life Support System (ECLSS) artificially replicates Earth's atmospheric conditions in orbit by precisely managing air revitalisation, water supply, ambient temperature, pressure, humidity, and metabolic waste within the spacecraft cabin.
- **Air Revitalisation Mechanism:** To prevent hypercapnia, the ECLSS removes the roughly 1 kg of carbon dioxide exhaled daily per astronaut using replaceable lithium hydroxide canisters equipped with activated charcoal filters, while maintaining metabolic oxygen levels via high-pressure gas bottles supplying 0.84 kg of oxygen per person daily.
- **Microgravity Fluid and Circulation Challenges:** In the absence of natural convection and gravity, small internal fans are used to prevent lethal carbon dioxide or oxygen pockets from forming. Additionally, water storage relies on pressurized bladders to force liquid forward mechanically, preventing floating water globules from causing electrical short-circuits or choking hazards.
- **Environmental Matrix Optimization:** The system maintains an Earth-like sea-level pressure of 101.3 kPa, keeps cabin temperatures tightly regulated between 20°C and 26°C using active heat exchangers that expel electronic and metabolic heat into space, and stabilizes relative humidity between 30% and 70% via condensing units.
- **Waste and Fire Safety Management:** Due to microgravity conditions, the module utilizes suction-based airflow systems to collect human waste into specialized fecal collection bags and urine funnels, chemically treating them to suppress ammonia and microbial growth; meanwhile, specialized fire extinguishers deploying a fine water mist are integrated to cool spherical zero-gravity flames and scrub toxic smoke particles.

Definitions of Key Terms

- **Hypercapnia:** A medical condition marked by abnormally elevated carbon dioxide levels in the blood, leading to headaches, dizziness, respiratory distress, and cognitive impairment in closed space environments.
- **Microgravity:** An environment in which the pull of gravity is greatly reduced, causing objects and fluids to appear weightless and rendering natural thermal convection and traditional fluid pouring impossible.
- **Relative Humidity:** The ratio of the current absolute humidity to the highest possible absolute humidity at a given temperature, expressed as a percentage; its control in space prevents skin irritation at low levels and electronic short-circuits or microbial growth at high levels.



- **Active Cooling System:** A thermal management network that utilizes mechanical heat exchangers and circulated fluids or air to collect waste heat from internal electronics and metabolic processes, discharging it externally into deep space.

Key Institutional and Programmatic Frameworks

- **Gaganyaan Programme:** India's maiden human spaceflight mission undertaken by the Indian Space Research Organisation (ISRO), aimed at demonstrating indigenous capability to launch a three-member crew to a 400 km low Earth orbit (LEO) and safely return them to Earth.
- **Space Technology Cells (STCs):** Collaborative institutional frameworks established between ISRO and premier academic laboratories (such as the IITs and IISc) to indigenize complex aerospace subsystems like the ECLSS, minimizing dependence on foreign space agencies.
- **Space Liability Convention, 1972:** An international treaty defining the rules of strict liability for damage caused by space objects, emphasizing why complex structural life support technologies must be perfectly designed to prevent catastrophic orbital failures.



System Architecture of Closed versus Open-Loop ECLSS

- **Open-Loop Life Support:** A system architecture where all metabolic consumables (oxygen, water) are launched directly from Earth and all metabolic waste products (carbon dioxide, urine, graywater) are stored in specialized containment units for post-mission disposal; this is the configuration optimized for short-duration missions like Gaganyaan.
- **Closed-Loop Life Support:** An advanced regenerative architecture utilized in long-duration missions (such as the International Space Station) where metabolic waste is actively recycled back into breathable oxygen and potable water using Sabatier reactors and advanced filtration assemblies, reducing cargo resupply requirements.

UPSC Relevance

- **GS Paper III (Science and Technology):** Achievements of Indians in science and technology; indigenization of technology and developing new technology; awareness in the fields of Space, computers, and robotics.
- **GS Paper III (Security and Disaster Management):** Safety protocols, biological risks in confined spaces, and risk mitigation strategies in high-risk technological endeavors.

Conclusion

The successful indigenization of the Environmental Control and Life Support System (ECLSS) represents a critical milestone in India's space journey, transitioning ISRO from launching unmanned satellites to sustaining human life in extreme orbital environments. By resolving the complex physics of microgravity fluid dynamics and air chemistry, the system guarantees astronaut safety while laying the technical foundation for future long-duration operations, such as the proposed Bharatiya Antariksha Station. Ultimately, achieving self-reliance in life-support engineering elevates India's status within the global space economy and secures its position as a primary stakeholder in future interplanetary exploration.