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# WEEKLY CURRENT AFFAIRS

## MAGAZINE

August 16 to August 31, 2026

# IN THIS MAGAZINE



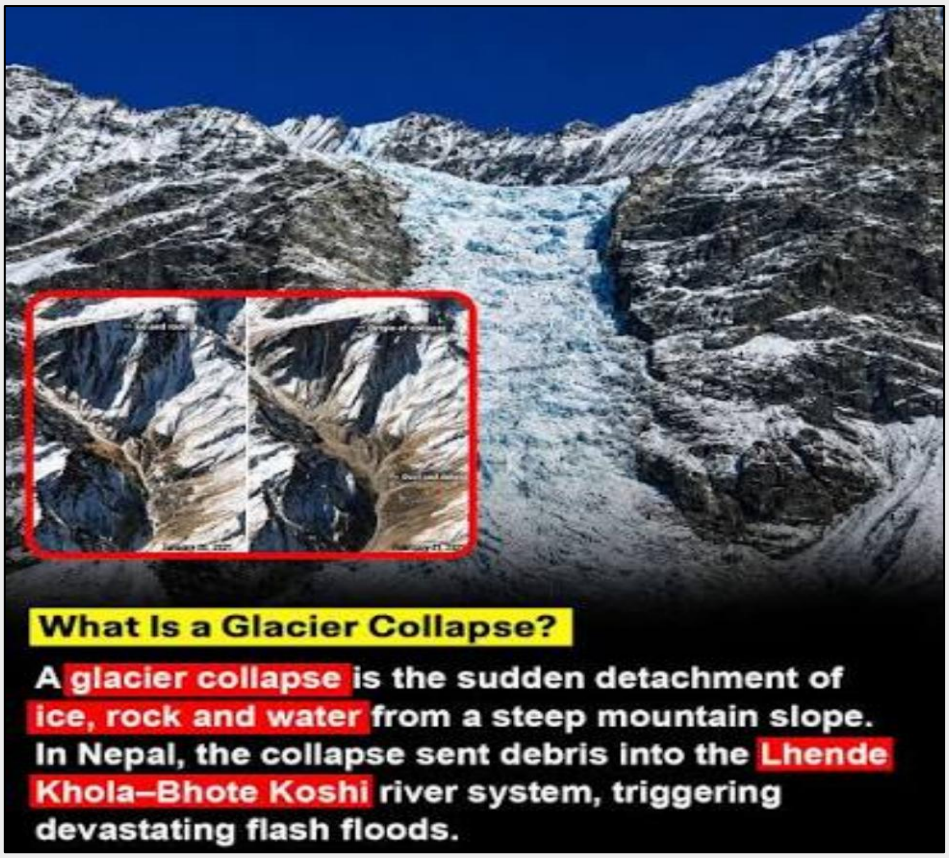
***SPECIAL ARTICLES***

# BEHIND NEPAL FLOODS, RISING RISK OF GLACIER COLLAPSE

Why in the News

Flash floods that swept through parts of Nepal and Tibet this week followed a glacial collapse in the Himalayas. The collapse sent a mass of ice and rock debris into the Lhende Khola and Bhote Koshi river system, and this debris reached inhabited valleys downstream.

Glaciologists say such collapses are becoming more frequent because of faster warming in the Himalayas, and disaster planning for hydropower siting and early warning has not kept pace with this rising risk.




What is a glacial collapse?

1. **Sudden mass failure of a glacier:** A **glacial collapse** is the sudden detachment of a large mass of ice, rock and water from a glacier resting on a steep mountain slope.
2. **Triggered by geological and physical factors:** Earthquakes, temperature changes and other physical changes unfolding within a glacier can trigger a collapse.

How does a glacier's own structure fail under stress?

1. **Formation builds a heavy, moving mass:** Snow that survives several melting seasons compresses into **firn** (a granular midpoint stage between fresh snow and glacial ice) before recrystallising into the solid ice of a glacier.
2. **Gradient driven flow creates fracturing stress:** Once a glacial mass is heavy enough it flows outward along the mountain gradient. This acceleration creates stress that exceeds the strength of the ice, and sustained movement eventually fractures it.
3. **Surface melting weakens the ice from within:** Meltwater pools inside surface cracks over repeated freeze and thaw cycles. This repeated pressure eventually splits the ice all the way through.

Why do wet base glaciers in the Himalayas pose a distinct collapse risk?

1. **Soft beds trap and channel meltwater:** Where a glacier rests on soft mud or clay, trapped water moves through networks of cracks within the ice and travels toward the base.
2. **Subglacial tunnels concentrate large volumes of water:** In wet base Himalayan glaciers, water collects at the base in large quantities and is occasionally connected by tunnels, so a collapse can release a concentrated volume of water at once.

Why can a single glacial collapse trigger a second wave of flooding?

1. **Debris blocks the river before it breaks free:** Collapsed ice and rock piles can block narrow river channels and form temporary natural dams downstream.
2. **A dam break repeats the flood:** When such a temporary dam breaks under continuous pressure, it unleashes a second round of flooding, as happened in Nepal this week.

Challenges to managing glacial collapse risk

1. **Rising baseline risk from faster warming:** The incidence of glacier breakages in the Himalayas has increased because the region is warming faster than the global average. Eg. This week's Nepal and Tibet collapse and debris flow into the Lhende Khola and Bhote Koshi system is one instance of this rising baseline risk. Fix. Expand year round remote seismic monitoring and high altitude early warning systems across the central Himalayan glacier belt, not only at individual high risk sites.
2. **Search and rescue capacity has not kept pace:** More frequent and physically more demanding glacial collapse events place a growing burden on search and rescue missions in remote high altitude terrain. Eg. Reaching debris blocked valleys along the Bhote Koshi system after this week's floods required search teams to operate in terrain cut off by the same collapse. Fix. Pre position high altitude search and rescue teams and equipment at seasonal staging points along known glacial risk corridors before the summer melt season.
3. **Critical infrastructure remains sited in high risk zones:** Hydropower plants and other critical infrastructure continue to be built in areas exposed to glacial collapse and the flooding it can trigger. Eg. Downstream hydropower installations on Himalayan rivers were damaged in the 2021 Rishiganga Dhauliganga disaster in Uttarakhand, when an upstream ice and rock avalanche triggered a sudden flash flood. Fix. Make hazard zonation for glacial collapse and outburst flood risk a mandatory clearance requirement before critical infrastructure is sited in glacier fed river valleys.
4. **Upstream glacial instability is not systematically shared across borders:** Himalayan river systems cross national boundaries, but instability observed on a glacier upstream is not routinely communicated to downstream countries before a disaster strikes. Eg. This week's collapse originated in Tibet and Nepal before its effects reached downstream valleys, showing how upstream instability in one country can affect communities in another with little warning. Fix. Establish a standing India, Nepal and China data sharing mechanism for real time glacial and river monitoring in shared Himalayan basins.

Conclusion

Himalayan glacial collapses are becoming more frequent as regional warming outpaces the historical baseline, and this week's Nepal and Tibet floods are a fresh instance of that pattern. The next step for disaster managers is to convert scattered seismic monitoring and hazard mapping efforts into a standing, cross border early warning system, before the next collapse rather than after it.

# THE PRIVATE HEALTHCARE BOOM & COST CRISIS

The Parliamentary Standing Committee on Health and Family Welfare presented its **176th Report**, *Affordability and Accessibility of Healthcare Facilities in Public and Private Sector,* flagging that the average cost of hospitalization in a private facility (₹50,508) is nearly eight times higher than in a public hospital (₹6,631).

*Private Healthcare Boom & Cost Crisis*

**About The Private Healthcare Boom & Cost Crisis:**

**What it is?**

- India's private healthcare boom refers to the rapid expansion, corporatization, and consolidation of private and private-equity (PE) funded multi-speciality hospital chains to meet secondary and tertiary care deficits.

**Key Data & Statistics:**

- **Significant Cost Disparity:** Citing the 80th round of the National Sample Survey (NSO), the parliamentary panel highlighted that average hospitalization costs reach ₹50,508 in private hospitals versus ₹6,631 in public hospitals.
- **Disproportionate Childbirth Costs:** Average out-of-pocket expenditure (OOPE) for institutional deliveries is ₹37,630 in private facilities compared to ₹2,299 in public institutions.
- **High Out-of-Pocket Burden:** National out-of-pocket expenditure remains elevated at 43.4% of total health expenditure, with medical inflation consistently tracking between 10% and 13% annually.
- **Heavy Private Sector Footprint:** Over 60% of total hospitalizations and more than 70% of outpatient consultations in India occur within private healthcare establishments.

**Drivers of the High Cost in Private Healthcare:**

- **Pressure from Private Equity & Capital Returns:** Heavy influx of private equity and venture capital mandates double-digit financial returns, pushing hospital management toward aggressive revenue-per-occupied-bed targets and high bed turnover.
- **Severe Information Asymmetry:** Patients lack technical medical knowledge, allowing hospitals and providers to recommend invasive surgeries, extended ICU stays, and costly investigations with little independent scrutiny.

- **Infrastructure and Human Resource Overhead:** High capital expenditure on prime urban land, expensive imported diagnostic machinery, and high compensation packages for super-specialists inflate baseline room and service charges.
- **Room-Rent-Linked Differential Billing:** Hospitals routinely inflate fees for surgeon consultations, nursing care, and routine procedures proportionally with higher room rent categories, multiplying the overall hospital bill.
- **Mark-Ups on Medicines & Consumables:** Hospitals often generate substantial profit margins by charging patients maximum retail prices (MRP) on in-house consumables, surgical disposables, implants, and branded pharmaceuticals.

**Key Recommendations of the Parliamentary Standing Committee (176th Report):**

- **Three-Star Hotel Room Tariff Benchmark:** Recommended capping basic room rents in metropolitan private hospitals to the average tariff of nearby three-star hotels, adding standard operational costs under a rationalized umbrella.
- **Mandatory Upfront Cost Disclosures:** Require tertiary-care hospitals to provide patients with legally binding, comprehensive pre-treatment cost estimates before initiating complex or prolonged interventions.
- **Reviewing FDI in Brownfield Hospital Acquisitions:** Scrutinize foreign direct investment that merely buys out existing domestic hospitals (brownfield assets) rather than creating new hospital capacity (greenfield projects) in underserved districts.
- **Continuum of Care Bundling:** Mandate standardized treatment packages that bundle diagnostics, consultations, inpatient surgeries, and post-discharge palliative care under a single capped financial ceiling.
- **Empanelled Pharmacies & Pricing Audits:** Direct all hospitals empanelled under Ayushman Bharat-PMJAY to house low-cost Jan Aushadhi and AMRIT generic pharmacies and cap arbitrary mark-ups on medical consumables.

**Challenges Associated with Regulating Private Healthcare:**

- **Risk of Cost-Shifting & Bill Inflation:** Imposing piecemeal caps on single bill components risks incentivizing hospitals to inflate charges on ancillary services, lab diagnostics, and nursing administration.
- **Deterring Healthcare Investments in Tier-2/3 Regions:** Excessive or unpredictable price controls can discourage private capital from expanding healthcare infrastructure into secondary cities and rural towns where public beds are scarce.
- **Complexity of Heterogeneous Hospital Capacities:** Setting uniform tariffs across disparate institutions ignores substantial differences in equipment precision, infection-control standards, nurse-to-patient ratios, and specialist accreditations.
- **Weak Implementation of the Clinical Establishments Act:** Because health is a State subject under Entry 6 of List II, multiple state governments have either delayed adopting or resisted enforcing the Clinical Establishments (Registration and Regulation) Act, 2010.
- **Inadequate Public Healthcare Counterbalance:** As long as public hospitals remain overburdened and understaffed, patients have little alternative to private providers regardless of pricing structures.

**Way Ahead:**

- **Transitioning to Diagnosis-Related Groups (DRG):** Move away from fee-for-service itemized billing toward standardized, disease-specific bundled payment models (DRGs) that set fixed reimbursement rates per treatment episode.
- **Strengthening Enforcement of the Clinical Establishments Act:** Coordinate with states to uniformly enforce minimum standard disclosures, transparent price displays, and periodic clinical quality audits.

- **Incentivizing Greenfield Hospital Investments:** Differentiate FDI policy by offering tax breaks and faster clearances for greenfield hospital construction in Tier-2, Tier-3, and rural areas, while closely monitoring brownfield acquisitions that create local monopolies.
- **Deploying the National Health Claims Exchange (NHCX):** Accelerate provider onboarding onto the NHCX to standardize insurance claims, reduce billing disputes, and prevent inflated out-of-pocket co-payments.
- **Expanding Public Healthcare Spending Toward 2.5% of GDP:** Build well-equipped district secondary hospitals and comprehensive Primary Health Centres (Ayushman Arogya Mandirs) to offer a reliable, accessible alternative that naturally checks private pricing power.

**Conclusion:**
Isolated room-rent caps and administrative price freezes offer temporary relief, but addressing high healthcare costs requires structural reforms. By shifting to bundled package tariffs, enforcing transparent billing disclosures, and strengthening the public hospital network, India can ensure that medical treatment remains accessible, equitable, and patient-centric.

# PARIVARTAN SCHEME

The Union Government's newly launched PARIVARTAN Scheme has gained rapid traction, registering over 1,300 beneficiaries, onboarding 42 banks/NBFCs, and partnering with 15 auto OEMs across Delhi-NCR.

*The PARIVARTAN Scheme*

**About The PARIVARTAN Scheme:**
**What It Is?**

- **PARIVARTAN** (Programme for Accelerated Renewal and Incentivization of Vehicle Assets for Reducing Transport Air Pollution and Network Emissions) is a comprehensive vehicle scrappage and fleet renewal program designed to replace pre-BS-IV and BS-IV commercial trucks and buses registered in Delhi-NCR with cleaner BS-VI compliant or electric vehicles.

**Implementing Ministry:** Ministry of Road Transport and Highways (**MoRTH**).

**Funding Agency:** National Capital Region Planning Board (**NCRPB**) under the Ministry of Housing and Urban Affairs (**MoHUA**).

**Aim:** To phase out and replace over 2 lakh older, high-emission commercial trucks and buses operating across the National Capital Region (NCR) to drastically curb vehicular air pollution and toxic particulate emissions.

**Key Features of the Scheme:**

- **Substantial Financial Backing:** Features a total financial outlay of **₹9,585 crore**, backed by **₹5,041 crore** in direct budgetary support from the Central Government.
- **Interest Subvention on Fleet Loans:** Provides a **5% interest savings** on eligible commercial vehicle loans for a period of **5 years** via 42 onboarded banks and NBFCs.
- **Comprehensive Tax & Fee Waivers:** Offers a complete **100% Road Tax waiver for 10 years** along with a full waiver on vehicle registration fees, notified across Delhi, Haryana, Rajasthan, and Uttar Pradesh.
- **Mandatory OEM Purchase Discounts:** Participating automobile manufacturers provide an upfront discount of **at least 8% on the ex-showroom price** of new eligible vehicles.
- **Operational Fuel & EV Subsidies:**
    - **For BS-VI Diesel/CNG:** Monthly fuel vouchers ranging from **₹1,200 to ₹4,800** for five years.
    - **For Electric Vehicles (EVs):** A direct, one-time purchase incentive ranging between **₹64,000 and ₹2.56 lakh** depending on the vehicle category.

**Significance:**

- Replacing 2 lakh+ diesel vehicles with BS-VI and EVs can significantly reduce PM2.5, PM10 and NOx emissions.
- Financial and tax incentives encourage fleet replacement and EV adoption, supporting domestic commercial EV manufacturing.

# JAVELIN ANTI-TANK GUIDED MISSILE

India has signed a Letter of Offer and Acceptance (LOA) with the United States to procure the FGM-148 Javelin anti-tank guided missile (ATGM) system through the Foreign Military Sales (FMS) route under emergency procurement powers.

*The Javelin Missile System*

**About The Javelin Missile System:**
**What It Is?**

- The FGM-148 Javelin is an American-made, shoulder-fired, man-portable third-generation Anti-Tank Guided Missile (ATGM) system. It is widely recognized as one of the world's premier precision infantry weapons designed to neutralize heavily armored main battle tanks (MBTs), armored fighting vehicles, fortified bunkers, and low-flying helicopters.

**Developed By:**

- Produced by the **Javelin Joint Venture (JJV)**—a dedicated defense partnership between **Raytheon (RTX)** and **Lockheed Martin**.
- Developed for the United States Armed Forces, entering operational service in 1996 and extensively combat-tested globally.

**Aim:** To provide dismounted infantry units and light combat formations with a lightweight, highly survivable, point-and-shoot weapon capable of defeating advanced armored threats and enemy fortifications without requiring wire guidance or stationary exposure after launch.

**Key Characteristics of the Javelin System:**

- **Fire-and-Forget Guidance:** Uses a passive Imaging Infrared (IIR) seeker to lock onto targets before launch and guide itself autonomously, enabling rapid shoot-and-scoot operations.
- **Top-Attack Capability:** Climbs to about 150 m before striking the tank's vulnerable roof; direct-attack mode targets bunkers, buildings and helicopters.
- **Tandem-Charge HEAT Warhead:** A precursor charge defeats Explosive Reactive Armour (ERA), allowing the main charge to penetrate about **750–800 mm RHA**.
- **Soft-Launch Capability:** Ejects the missile before its main motor ignites, reducing backblast and enabling firing from rooms, bunkers and confined spaces.
- **Range & Reusable Optics:** Uses a reusable Command Launch Unit (CLU) with day/thermal sights; range is about 2.5 km, extending to 4–4.75 km in newer variants.

**Significance:**

- Replaces older Milan-2T and Konkurs-M systems with mobile, fire-and-forget capability, strengthening anti-tank deterrence along the LAC, LoC and desert sectors.
- The FMS procurement strengthens defence-industrial ties and creates scope for future technology transfer, co-development and co-production.

# INDIA'S CENTRAL ASIAN OUTREACH

Prime Minister of India is embarking on a state visit to Uzbekistan followed by participation in the Shanghai Cooperation Organization (SCO) Heads of State Summit in Bishkek, Kyrgyzstan.

*India's Central Asian Outreach*

**About India's Central Asian Outreach:**

**What It Is?**

- India's Central Asian strategy focuses on re-engaging the five post-Soviet Central Asian republics (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan) as an integral part of its extended continental neighborhood.
- Grounded in ancient Silk Road civilizational ties, the policy balances continental security interests, counter-terrorism priorities, critical energy and mineral access, and trade connectivity via alternative routes to prevent the region from becoming an exclusive sphere of influence for China or Pakistan.

**Strategic Importance of Central Asia for India:**

- **Geostrategic Continental Buffer:** Located at the heart of Eurasia, Central Asia is separated from India only by the narrow Wakhan Corridor in Afghanistan, making regional stability essential for India's northern frontier security.
- **Counter-Terrorism & Anti-Radicalization:** Central Asian states maintain a moderate socio-religious ethos and an uncompromising stance against religious extremism, aligning closely with India's counter-terrorism objectives against groups operating from Afghanistan.
- **Energy & Critical Mineral Security:** The region holds vast hydrocarbon reserves, uranium (Kazakhstan supplies major uranium for India's civil nuclear reactors), and untapped critical and rare-earth minerals vital for clean energy transitions.
- **Geopolitical Balancing in Eurasia:** As Russia's regional pre-eminence shifts and China expands its economic footprint through the Belt and Road Initiative (BRI), Central Asian nations actively seek to diversify their foreign partnerships with democratic powers like India.

**Key Pillars of India's Engagement:**

- **The SECURE Vision under Multilateral Platforms:** India uses its full membership in the SCO and the India-Central Asia Dialogue mechanism to advance cooperation based on Security, Connectivity, and Unified Economic Opportunities.
- **High-Level Bilateral Focus (Uzbekistan Anchor):** Deepening strategic ties with Uzbekistan under President Shavkat Mirziyoyev, focusing on joint counter-terrorism drills, pharmaceutical investments, digital public infrastructure, and joint research.
- **Alternative Trade & Transit Corridors:** Advancing multimodal connectivity via Iran's Chabahar Port and the International North-South Transport Corridor (INSTC) to bypass land-transit blockades imposed by Pakistan.
- **Civilizational & Soft Power Diplomacy:** Leveraging shared historical connections in language, Buddhism, Sufism, and architectural traditions, alongside strong contemporary demand for Indian higher education, medical tourism, and IT training.

**Key Challenges in Regional Engagement:**

- **Physical Connectivity Deficits:** The denial of overland transit access through Pakistan cuts India off from direct road and rail links to Central Asia, raising logistics costs via sea-land corridors.
- **Dominant Chinese Economic Presence:** China's massive bilateral trade (exceeding $70 billion) and extensive BRI pipeline and transport investments make it challenging for Indian enterprises to compete at scale.
- **Security Spillovers from Afghanistan:** Ongoing political instability, drug trafficking, and the presence of extremist outfits in Afghanistan continue to threaten regional border security.
- **Sub-Optimal Trade & Investment Volumes:** Despite immense potential, annual India-Central Asia trade remains modest (under $3 billion), constrained by high shipping tariffs, banking friction, and lack of air-cargo links.
- **Intra-Regional Border & Water Disputes:** Complex historical disputes over Soviet-era borders, water-sharing across the Amu Darya and Syr Darya basins, and overlapping ethnic enclaves occasionally hinder regional integration.

**Way Ahead**

- **Accelerating Operationalization of Chabahar & INSTC:** Integrate Chabahar's Shahid Beheshti terminal fully into the INSTC rail network and operationalize the Ashgabat Agreement for seamless multimodal freight movement.
- **Expanding Air Corridors & Digital Public Infrastructure:** Establish dedicated air-freight corridors and deploy India's Digital Public Infrastructure (Unified Payments Interface, Aadhaar-like frameworks, and tele-medicine) to build digital connectivity.

- **Institutionalizing Critical Mineral Joint Ventures:** Form public-private consortiums under the Critical Minerals Partnership to explore, extract, and process lithium, cobalt, and rare earths in Kazakhstan and Uzbekistan.
- **Institutionalizing Defense & Intelligence Sharing:** Deepen joint military exercises (e.g., Dustlik with Uzbekistan, KazInd with Kazakhstan) and expand real-time intelligence sharing through the SCO's Regional Anti-Terrorist Structure (RATS).
- **Strengthening People-to-People Capacity Building:** Expand Indian Technical and Economic Cooperation (ITEC) scholarships, establish Indian university campuses in Tashkent and Almaty, and streamline tourist visas to strengthen socio-cultural ties.

**Conclusion:**
Prime Minister visit to Central Asia reaffirms India's commitment to restoring its historical footprint across the Eurasian landmass. Navigating regional power dynamics requires India to convert its civilizational goodwill into tangible trade corridors, energy joint ventures, and security cooperation. Anchoring relations in proactive diplomacy and digital-logistical connectivity will ensure India remains a trusted partner in Central Asia's development and regional stability.

# PRADHAN MANTRI JAN DHAN YOJANA (PMJDY)

The Pradhan Mantri Jan Dhan Yojana (PMJDY) completed 12 years since its launch by Prime Minister of India in 2014.


*Pradhan Mantri Jan Dhan Yojana*

**About Pradhan Mantri Jan Dhan Yojana: 12 Years of Advancing Financial Inclusion in India**
**What It Is?**

- The Pradhan Mantri Jan Dhan Yojana (PMJDY) is India's National Mission for Financial Inclusion designed to provide universal, affordable access to formal financial services for unbanked adults.
- Anchored in the principle of Banking the Unbanked, Securing the Unsecured, and Funding the Unfunded, the scheme provides basic savings bank deposit (BSBD) accounts without minimum balance requirements, and seamless integration with Direct Benefit Transfers (DBT) via the Jan Dhan-Aadhaar-Mobile (JAM) trinity.

**Key Data & Decadal Milestones:**

- **Expansion of Accounts & Balances:** Total accounts grew from 14.72 crore in 2015 to 59.09 crore by August 19, 2026, with total deposits rising ~20-fold from ₹15,670 crore (March 2015) to ₹3,16,514 crore (~₹3.17 lakh crore).
- **Deepening Savings Culture:** The average deposit balance per account increased 3.4 times to ₹5,356, demonstrating active account utilization rather than zero-balance dormancy.

- **Significant Female Participation:** Women hold 55.7% (32.92 crore) of all Jan Dhan accounts, bridging the gender gap in formal banking.
- **Extensive Rural & Semi-Urban Reach:** 77.8% (45.95 crore) of all PMJDY accounts are located in rural and semi-urban branches/Bank Mitra outlets, compared to 13.14 crore in urban/metro centers.
- **Digital Access via RuPay:** Over 41.29 crore indigenous RuPay debit cards have been issued, driving digital payments at ATMs and PoS machines.
- **Rise in RBI Financial Inclusion Index (FI-Index):** India's comprehensive FI-Index improved from 53.9 in 2018 to 67.0 in 2026, reflecting enhanced access, usage, and quality across banking, payments, and insurance services.

**Core Pillars of the Jan Dhan Architecture:**

- **Universal Zero-Balance Accounts:** Eliminates financial barriers by providing Basic Savings Bank Deposit (BSBD) accounts without initial deposit requirements or minimum balance penalties.
- **RuPay Card with Embedded Accidental Cover:** Free domestic debit card providing **₹2 lakh accidental insurance cover** (enhanced from ₹1 lakh for accounts opened post-August 2018), with premiums underwritten by NPCI.
- **Hassle-Free Overdraft (OD) Line:** Offers an emergency overdraft cushion of up to **₹10,000 per household** (after 6 months of satisfactory operation), reducing reliance on informal moneylenders.
- **The JAM Trinity Welfare Backbone:** Connects bank accounts with digital identities and mobile numbers to enable transparent, leakage-free Direct Benefit Transfers across over 300 government schemes.
- **Gateway to Social Security & Micro-Credit:** Serves as the primary onboarding rail for Jan Suraksha schemes, as well as collateral-free PM MUDRA Yojana loans.

**Challenges Associated with PMJDY:**

- **Account Dormancy & Pass-Through Usage:** A proportion of accounts still function primarily as passive conduits for government subsidy withdrawals rather than active daily transaction tools.
- **Underutilization of the Overdraft Facility:** Strict bank credit evaluation norms and low consumer awareness have limited the widespread uptake of the ₹10,000 OD window.
- **Last-Mile Business Correspondent (Bank Mitra) Friction:** Connectivity drops, micro-ATM hardware glitches, and cash-in/cash-out liquidity constraints in remote rural and tribal areas create operational bottlenecks.
- **Digital Literacy & Cybersecurity Exposure:** Rural first-time account holders face heightened risks of social engineering, OTP scams, and ATM skimming due to limited digital financial literacy.
- **Operational Viability for Commercial Banks:** Servicing hundreds of millions of low-balance accounts generates maintenance and compliance costs without generating significant fee-based revenues.

**Way Ahead:**

- **Transitioning from Basic Access to Financial Deepening:** Leverage verified transaction histories to offer tailored financial products, such as micro-recurring deposits, mutual fund sachet investments, and affordable working-capital loans.
- **Strengthening the Bank Mitra / BC Network:** Incentivize rural Business Correspondents with higher service commissions, interoperable dual-SIM biometric devices, and continuous operational training.

- **Institutionalizing Grassroots Digital Literacy:** Conduct village-level financial literacy campaigns across Gram Panchayats to educate citizens on secure UPI usage, RuPay card PIN management, and fraud prevention.
- **Automating Social Security Integration:** Enable micro-pension and insurance renewals (PMJJBY/PMSBY) via auto-debit rails to ensure continuous social safety net coverage.
- **Linking with the Open Credit Enablement Network (OCEN):** Integrate PMJDY accounts into digital credit frameworks to provide instant, collateral-free credit to small vendors and rural artisans.

**Conclusion:**
The 12-year journey of the Pradhan Mantri Jan Dhan Yojana has transformed India's financial ecosystem from exclusive banking into an inclusive financial democracy. By bringing over 59 crore citizens—especially women and rural households—into the formal financial grid and anchoring the JAM trinity, the scheme eliminated leakages and empowered marginalized communities. Expanding from account ownership into active micro-credit, insurance, and wealth-creation tools will remain essential to driving broad-based prosperity toward Viksit Bharat@2047.

# 'DAANVEER' INITIATIVE

The Ministry of Panchayati Raj has called for nationwide public participation under the 'DAANVEER' initiative, encouraging citizens, CSR entities, and the Indian diaspora to donate desktop computers to verified Gram Panchayats.


*The DAANVEER Initiative*

**About The DAANVEER Initiative:**
**What It Is?**

- **DAANVEER** is a technology-enabled, people-led **Computer Crowdsourcing Initiative** that allows individuals, philanthropic organizations, CSR partners, and the diaspora to directly purchase and donate standardized desktop computers to state-verified Gram Panchayats needing digital hardware.

**Nodal Organisation:**

- **Nodal Ministry:** Ministry of Panchayati Raj (MoPR), Government of India.
- Complements infrastructure funding provided under the Rashtriya Gram Swaraj Abhiyan (RGSA).

**Aim:** To bridge the rural digital divide and strengthen grassroots digital governance by augmenting IT hardware across Gram Panchayats through voluntary, transparent public contributions and participatory governance.

**Key Features of DAANVEER:**

- **Seamless App-to-Marketplace Integration:** Citizens select verified Panchayats on the *Meri Panchayat App* and are redirected to *DigiHaat*(ONDC network) with pre-filled delivery and Panchayat recipient details, eliminating manual data entry.
- **Standardized Hardware Specifications:** Donors choose from pre-configured, government-approved computer bundles meeting exact technical benchmarks required for administrative software.
- **State-Level Need Verification:** Only Gram Panchayats formally verified and mapped by respective State Governments as lacking adequate IT infrastructure are listed on the platform.
- **End-to-End Real-Time Tracking:** Provides a transparent e-commerce tracking journey—from digital payment and dispatch to physical deliveryand final receipt confirmation.
- **Digital Recognition & Formal Receipting:** Once the Gram Panchayat Secretary officially acknowledges delivery, the system automatically generates a verifiable **Certificate of Appreciation** for the donor.

**Significance:**

- Equips Panchayats with digital infrastructure for e-governance, financial management, land records, planning, and citizen services.
- Creates a transparent channel for NRIs, urban migrants, and corporate CSR to support the digital development of their villages.

# CLIMATE-PROOFING INDIA'S FOOD SYSTEM

India has strong food production and buffer stocks but must build a climate-resilient, sustainable food-security system to protect agriculture, supply chains and PDS from rising temperatures, erratic monsoons and groundwater depletion.

*Climate-Proofing India's Food System*

**About Climate-Proofing India's Food System:**

**What It Is?**

- **Climate-proofing the food system** involves redesigning national agricultural, procurement, storage, and public distribution policies to withstand the impacts of climate change. Rather than focusing solely on volumetric calorie production through monoculture, it shifts the focus toward **"sustainable food and nutrition security"**. This approach integrates climate risk forecasts, crop diversification (millets, pulses, oilseeds), water-smart farming, and disaster-resilient supply-chain infrastructure into the statutory framework of the National Food Security Act (NFSA), 2013.

**Key Data & Statistics:**

- **Record Aggregate Foodgrain Harvest:** India achieved record foodgrain production exceeding **350 million tonnes in 2024–25**, driven largely by bumper harvests of staple rice and wheat.
- **Massive Statutory Entitlement Scale:** The National Food Security Act (NFSA), 2013, legally guarantees subsidised foodgrains to approximately **800 million citizens** (~57% of the total 1.4 billion population).
- **Digital PDS Reach:** Nationwide adoption of the **One Nation One Ration Card (ONORC)** platform and end-to-end supply-chain digitization have made foodgrain entitlements portable across state boundaries.

**Key Climate Vulnerabilities Across the Food Value Chain:**

- **Terminal Heat Stress & Crop Yield Declines:** Rising pre-monsoon heatwaves directly impair wheat grain filling and reduce overall yields, while unseasonal rainfall damages standing rabi crops.
- **Monsoon Volatility & Hydrological Stress:** Erratic rainfall patterns—alternating between intra-seasonal dry spells and sudden flash floods—strain rainfed farming and deplete groundwater aquifers used for irrigation.
- **Storage & Post-Harvest Infrastructure Risks:** Conventional open-plinth and non-climate-controlled warehouses face grain spoilage, fungal infestation, and physical destruction during extreme rainfall and heat events.
- **Perishable Logistics & Cold-Chain Deficits:** Inadequate refrigerated transport corridors cause high post-harvest losses in fruits, vegetables, and dairy during severe summer heat spikes.
- **Nutritional Inequity & Micronutrient Deficits:** Heavy reliance on cereal monoculture within the public food basket contributes to micronutrient malnutrition (*hidden hunger*) despite overall caloric sufficiency.

**Core Pillars of a Climate-Resilient Food System:**

- **Decentralized & Crop-Diversified Procurement:** Expand Minimum Support Price (MSP) operations beyond rice and wheat to include climate-resilient nutri-cereals (millets like bajra, jowar, ragi), pulses, and oilseeds suited to local agro-climatic zones.
- **Diversifying the PDS Food Basket:** Integrate locally procured nutri-cereals and pulses into fair price shops, the PM POSHAN school meal scheme, and Anganwadi programs to improve nutrition while reducing water consumption.
- **Climate-Proof Logistics & Modern Storage:** Construct temperature-controlled, flood-resilient silos and expanded cold chains to protect buffer stocks and perishable produce.
- **Integrating Real-Time Meteorological Intelligence:** Link India Meteorological Department (IMD) seasonal forecasting models directly with dynamic buffer stock management, dynamic MSP procurement targets, and district-level contingency plans.

- **Expanding Sustainable Farm Practices:** Scale up micro-irrigation (drip/sprinkler), heat-tolerant and drought-resilient seed varieties, and parametric weather-indexed crop insurance under PM Fasal Bima Yojana.

**Way Ahead:**

- **Embedding Climate Metrics into NFSA Monitoring:** Update the NFSA oversight framework to track heat exposure, water-table sustainability, storage resilience, and dietary diversity alongside distribution metrics.
- **Transitioning to a Strategic "Climate Buffer":** Expand the concept of grain buffer stocks into a broader climate buffer that combines multi-crop reserves, dynamic crop insurance, and decentralized watershed management.
- **Unlocking Dedicated Climate & Adaptation Finance:** Issue sovereign green bonds and direct multilateral climate adaptation funds into farm-level climate-smart interventions (such as micro-irrigation and solarized cold storage).
- **Fostering Public-Private Research Partnerships:** Accelerate collaborative research between ICAR, state agricultural universities, and private agri-tech firms to breed biofortified, climate-resilient seed varieties.
- **Aligning Food Systems with India's Net-Zero Goals:** Incentivize low-emission farming methods—such as Alternate Wetting and Drying (AWD) and Direct Seeded Rice (DSR)—to reduce agricultural methane emissions while conserving groundwater.

**Conclusion:**

India's transformation from food scarcity to record foodgrain production demonstrates its agricultural and institutional capacity. However, mounting climate volatility requires shifting the policy focus from basic calorie availability toward long-term, climate-resilient nutrition security. By diversifying procurement, strengthening public storage infrastructure, and integrating climate data into the PDS, India can protect its food systems and secure the livelihoods of its farmers.

# CARBOSULFAN

The Agriculture Ministry has proposed a complete ban on Carbosulfan, citing its severe risks to human health and the environment, based on expert recommendations under the Insecticides Act, 1968.

*Carbosulfan Insecticide*

**About** Carbosulfan Insecticide**:**
**What It Is?**

- Carbosulfan is a broad-spectrum, systemic carbamate group insecticide, acaricide, and nematicide. It acts as a neurotoxin by inhibiting the vital enzyme acetylcholinesterase (AChE) in targeted pests, leading to acetylcholine accumulation, nervous system disruption, and rapid paralysis.

**Used For:**
Extensively used in Indian agriculture for pest management across major commercial and food crops, including:

- **Paddy (Rice):** Controlling stem borers, gall midges, and green leafhoppers.
- **Cotton:** Managing sucking pests like aphids, jassids, thrips, and whiteflies.
- **Horticultural & Cash Crops:** Protecting fruits, vegetables, sugarcane, and groundnuts from soil insects and foliar pests.

**Key Features of Carbosulfan:**

- Broad-Spectrum Systemic **& Contact Activity:** Easily absorbed by plant roots and foliar tissues, translocating systemically to eradicate both chewing and piercing-sucking insect species.
- **Reversible Acetylcholinesterase (AChE) Inhibitor:** Functions by carbamylating the esteratic site of the AChE enzyme, causing excessive acetylcholine accumulation and continuous neuro-excitation in organisms.
- **Pro-Pesticide Nature (**Metabolic Pathway**):** Chemically designed as a derivative of carbofuran; once applied or ingested, it rapidly hydrolyzes and metabolizes directly into carbofuran.
- **Formulation Types:** Widely formulated and sold in the agrochemical market as Emulsifiable Concentrates (EC) and Granules (G) for direct soil or foliar spray application.

**Reasons for the Proposed Ban:**

- **Rapid Breakdown into Lethal Carbofuran:** The chemical quickly metabolizes in soil, water, and plant tissues into **carbofuran**—an acutely hazardous substance that is already banned or strictly restricted in many jurisdictions worldwide due to extreme toxicity.
- **Severe Human Health Risks:** Poses acute and chronic neurotoxic hazards to farmers, agricultural sprayers, and consumers through accidental inhalation, dermal exposure, and dietary chemical residues in harvested crops.
- **Extreme Toxicity to Wildlife &** Avian Populations**:** Causes secondary poisoning and rapid mortality in non-target beneficial species, especially birds, honeybees, and soil micro-organisms.
- **Aquatic Ecosystem Contamination:** Highly toxic to fish and aquatic invertebrates; agricultural runoff from paddy fields contaminates adjacent surface water bodies and leaches into groundwater aquifers.

Article I

# EXTREME WEATHER EVENTS IN INDIA: A GEOGRAPHICAL PERSPECTIVE

***[Abhishek A.]***

India is renowned for its remarkable physiographic diversity and monsoon driven climate, which have supported fertile river valleys, rich biodiversity, and one of the world's oldest civilizations. However, in recent decades, the country has witnessed a sharp increase in extreme weather events such as heat waves, floods, cyclones, droughts, cloudbursts, and landslides. Although climate change has intensified these hazards, their occurrence and severity are largely influenced by India's unique geographical features. As temperatures rise and rainfall patterns become increasingly unpredictable, these events pose serious challenges to human life, agriculture, infrastructure, ecosystems, and economic development.

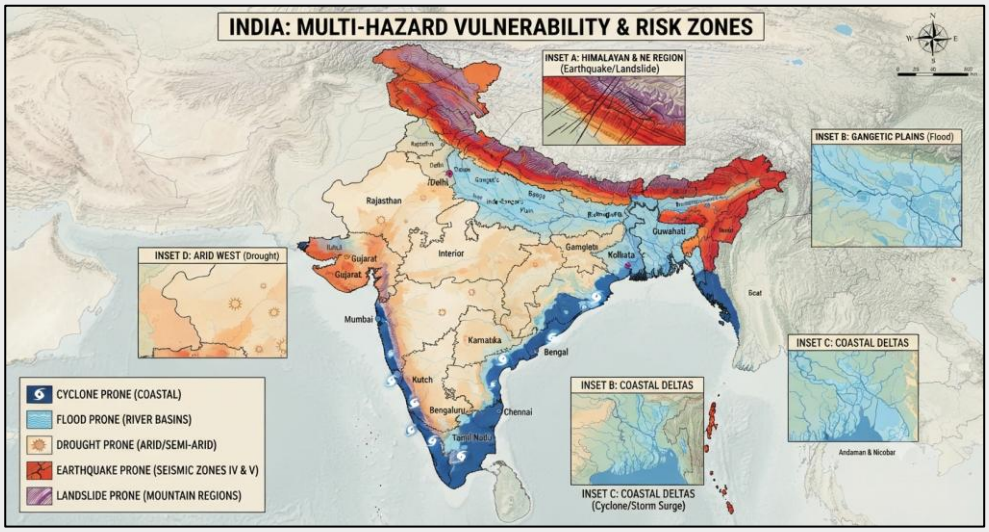
India's varied physical landscape creates distinct regional vulnerabilities to different types of weather hazards. The young and fragile Himalayan mountains are highly prone to landslides, cloudbursts, and Glacial Lake Outburst Floods (GLOFs) because of their unstable geology and steep slopes. The country's 7,500-kilometre coastline remains vulnerable to tropical cyclones and storm surges, particularly along the Bay of Bengal. The Indo-Gangetic Plains experience recurrent flooding due to extensive river systems and heavy monsoon rainfall, while the Deccan Plateau frequently suffers from drought because of erratic rainfall. The Thar Desert, on the other hand, regularly experiences prolonged heat waves and dust storms. India's dependence on the Southwest Monsoon, which provides nearly 75% of the annual rainfall, further increases its vulnerability, as even small variations in rainfall can trigger floods in one region and drought in another.

Climate change has emerged as a major factor amplifying these hazards. According to the Ministry of Earth Sciences (MoES), India's average surface temperature increased by about 0.7°C between 1901 and 2018, while the tropical Indian Ocean warmed by nearly 1°C between 1951 and 2015. Rising temperatures have strengthened the hydrological cycle, resulting in more frequent heat waves, intense rainfall events, stronger cyclones, and increasingly erratic monsoon behaviour. At the same time, rapid urbanisation, deforestation, shrinking wetlands, and unplanned development have reduced the natural ability of ecosystems to absorb climate shocks, making disasters more severe.

Among all natural hazards, floods remain the most frequent and economically damaging in India. Heavy rainfall, overflowing rivers, floodplain encroachment, poor drainage systems, and unplanned urban growth have significantly increased flood risks. The Kerala Floods (2018), caused by exceptionally heavy monsoon rainfall and reservoir releases, resulted in widespread destruction and displacement. Similarly, the Chennai Floods (2023), triggered by Cyclone Michaung and aggravated by inadequate drainage and wetland encroachment, highlighted the growing vulnerability of rapidly expanding cities to extreme rainfall. Annual flooding in Assam due to the overflow of the Brahmaputra River continues to damage agriculture, settlements, and biodiversity, including Kaziranga National Park.

Heat waves have also become one of the fastest-growing climate hazards in India. Northwest, central, and peninsular regions now experience more frequent and prolonged periods of extreme heat because of global warming, urban heat island effects, deforestation, and dry soil conditions. The North India Heat Wave of 2024 demonstrated the severity of this challenge when temperatures exceeded 50°C in parts of Delhi, Rajasthan, Haryana, Punjab, and Uttar Pradesh. The extreme heat caused health emergencies, water shortages, increased electricity demand, reduced labour productivity, and affected agricultural activities. Vulnerable groups such as children, the elderly, outdoor workers, and economically weaker communities suffered the greatest impacts.

Cyclones, droughts, and Himalayan disasters also continue to threaten India's development. While the Bay of Bengal remains the primary source of cyclones affecting the country, recent studies indicate increasing cyclone activity over the Arabian Sea due to rising sea surface temperatures. Meanwhile, droughts remain a recurring problem across western and peninsular India because of irregular monsoon rainfall, leading to water scarcity and agricultural losses. In the Himalayan region, fragile geology combined with intense rainfall, glacier melting, and unplanned construction has increased the frequency of cloudbursts, landslides, and Glacial Lake Outburst Floods.




The impacts of these extreme weather events extend far beyond environmental damage. They cause loss of human life, destruction of infrastructure, crop failures, biodiversity decline, disruption of transportation and communication networks, and significant economic losses. Agriculture, which supports a large proportion of India's population, is particularly vulnerable to climate variability. Heat stress reduces labour productivity, floods damage homes and public infrastructure, while droughts threaten food and water security. These disasters disproportionately affect poorer communities that often have limited resources to recover.

Recognising these growing challenges, India has strengthened its disaster management and climate adaptation efforts. The National Disaster Management Authority (NDMA), the National Action Plan on Climate Change (NAPCC), Heat Action Plans, and improved forecasting by the India Meteorological Department (IMD) have enhanced preparedness and early warning capabilities. At the same time, the use of Geographic Information Systems (GIS), Remote Sensing, satellite monitoring, climate-resilient infrastructure, ecosystem conservation, scientific land-use planning, and community participation is becoming increasingly important for reducing disaster risks and improving resilience.

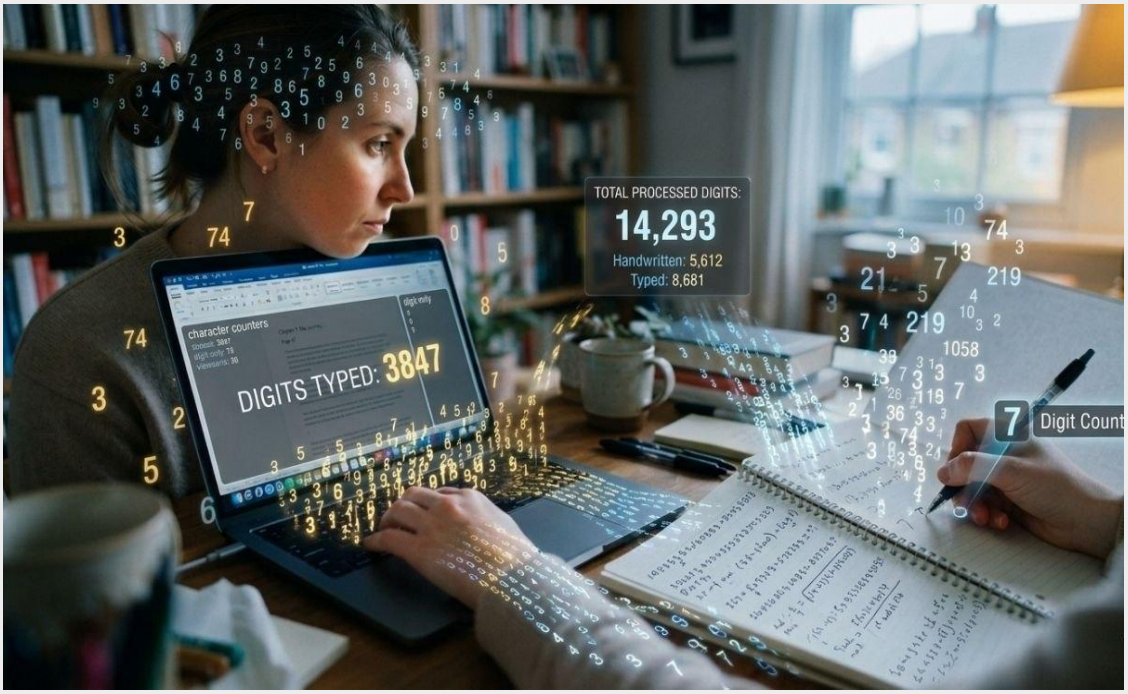
In conclusion, extreme weather events have become one of the most significant environmental and developmental challenges facing India. The interaction between climate change and the country's diverse geographical features has increased the frequency and intensity of floods, heat waves, cyclones, droughts, and landslides. Strengthening climate resilience through sustainable development, scientific planning, environmental conservation, and effective disaster management will be essential for protecting lives, livelihoods, and ecosystems. A geographical understanding of these hazards provides the foundation for informed decision-making and a safer, more resilient future.

Article II

# NUMBER OF DIGITS IN PAGE NUMBERING: A CSAT APTITUDE TOPIC

*[Vipinraj P V]*

When numbering pages from **1 to N**, a common CSAT question is to determine **how many digits** are used in writing all page numbers. This tests logical thinking and counting skills of the aspirants.




**Rule**

- **Pages 1–9** → 9 numbers × 1 digit = **9 digits**
- **Pages 10–99** → 90 numbers × 2 digits = **180 digits**
- **Pages 100–999** → 900 numbers × 3 digits = **2,700 digits**

The total number of digits is the sum of the digits used in each range.

**For Calculation purpose, we can see that,**

From 1-99 there are a total of 189 digits and from 1-999 there are a total of 2889 digits.

**Example**

Find the number of digits used in numbering pages from **1 to 175**.

- Pages 1–9 = 9 × 1 = **9**
- Pages 10–99 = 90 × 2 = **180**
- Pages 100–175 = 76 × 3 = **228**

**Total digits = 9 + 180 + 228 = 417**

**UPSC CSAT Tip**

To solve these questions quickly:

1. Divide the page numbers into **1-digit, 2-digit and 3-digit** groups.
2. Count how many numbers are in each group.
3. Multiply by the number of digits in that group.
4. Add the results.

**Previous Year Questions**

*UPSC CSAT 2017*

Question1:
What is the total number of digits printed, if a book containing 150 pages is to be numbered from 1 to 150?

a) 262
b) 342
c) 360
d) 450

Solution:

| Page Range | Number of Pages | Digits Per Page | Total Digits Used |
|---|---|---|---|
| **1 – 9** (Single digits) | 9 | 1 | 9 |
| **10 – 99** (Double digits) | 90 | 2 | 180 |
| **100 – 150** (Triple digits) | 51 | 3 | 153 |
| **Total** | **150** | **—** | **342** |

Correct Answer: (b) 342

*UPSC CSAT 2019*

Question 2:
A printer numbers the pages of a book starting with 1 and uses 3089 digits in all. How many pages does the book have?

a) 1040
b) 1048
c) 1049
d) 1050

Solution:

| Page Range | Digits | Number of Pages | Total Digits | Cumulative Total Digits |
|---|---|---|---|---|
| **1 – 9** (1 digit) | 1 | 9 | 9 | 9 |
| **10 – 99** (2 digits) | 2 | 90 | 180 | 189 |
| **100 – 999** (3 digits) | 3 | 900 | 2700 | 2889 |
| **Remaining Digits** 3089 - 2889 | 4 | 200/4 | 200 | 3089 |

Pages from 1 to 999: **999 pages**
Additional 4-digit pages: **50 pages**
**Total Pages** = 999 + 50 = 1049 pages
Correct Answer: (c) 1049

Article III

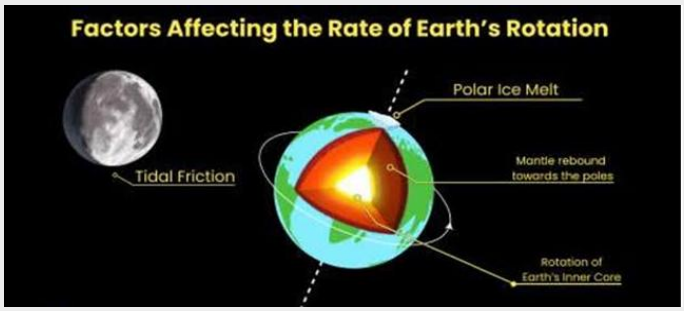
# POLAR ICE MELT AND THE ROTATION OF THE EARTH

***[Rishe Mohan]***

Climate change is increasingly revealing its influence on processes that were once considered beyond the direct impact of human activity. One such phenomenon is the effect of polar ice melt on the rotation of the Earth. The melting of ice sheets in Greenland and Antarctica is causing a redistribution of mass across the planet, thereby influencing the speed at which the Earth rotates.

The Earth does not rotate as a perfectly rigid body. Its rotational speed is influenced by the distribution of mass across its surface. This can be understood through a simple rotating-chair analogy. When a person sitting on a rotating chair extends their arms outward, their mass moves farther from the axis of rotation and the rotation slows down. Similarly, when polar ice melts, water that was previously concentrated near the Earth's rotational axis at the poles flows towards lower latitudes. This movement of mass away from the axis increases the **Earth's moment of inertia** and marginally slows its rotation.

This process can be further explained through the principle of **conservation of angular momentum.** When mass moves farther from the axis of rotation, the rotational speed decreases. Thus, polar ice melt acts as a form of planetary mass redistribution. Scientists have found that the resulting increase in the length of the day is measured in milliseconds, making it imperceptible in everyday life but important for highly precise timekeeping and modern technological systems.




The effect is extremely small, but scientifically significant. The length of a day is not perfectly constant and can vary due to several factors, including interactions between the Earth's core and mantle, oceanic and atmospheric circulation, tides and the redistribution of water. However, climate change-induced melting of polar ice has emerged as an increasingly important factor. As global temperatures rise, accelerated ice loss adds freshwater to the oceans and shifts mass from the polar regions towards the equator.

Accurate measurement of time is essential for atomic clocks, satellite navigation, telecommunications, computer networks and global positioning systems. Even tiny variations in the Earth's rotation must therefore be accounted for in scientific and technological applications. The phenomenon also highlights the interconnectedness of the climate system and planetary dynamics: human-induced warming can influence not only the atmosphere and oceans but also the physical rotation of the planet.

The melting of polar ice and its effect on Earth's rotation is a powerful reminder that climate change is a planetary-scale phenomenon. The movement of water from the poles towards lower latitudes demonstrates how changes in the cryosphere can influence even the fundamental mechanics of the Earth.

Article IV

# GOODS AND SERVICE TAX (GST)

***[Arun Payyanur]***

The Goods and Services Tax (GST) is a comprehensive, **multi-stage, destination-based indirect tax** that subsumed almost all central and state indirect taxes. It was designed to create a **One Nation, One Tax system**, eliminating the cascading effect (tax on-tax) and building a seamless national market through the mechanism of **Input Tax Credit (ITC).**

The constitutional validity of GST rests on **Article 246A,** which grants concurrent powers to Parliament and State Legislatures to make laws with respect to GST. **Article 279A** provides for the establishment of the **GST Council**, which recommends tax rates, exemptions, and policy decisions. The Supreme Court in ***Union of India v. Mohit Minerals Pvt. Ltd.*** clarified that the recommendations of the GST Council are persuasive but not binding on Parliament and State Legislatures.

The **Justice Kurian Joseph Committee on Union–State Relations** has published a landmark report recommending the introduction of **GST 2.0**.

- According to the Committee, the existing GST framework has significantly reduced the fiscal independence of the States. The report therefore calls for a second phase of GST reforms to strengthen the principles of cooperative federalism, restore the financial autonomy of States, and address the shortcomings in the current digital tax infrastructure.

**GST so far:**

- Came into force from 1st July 2017: altered fiscal federalism with simultaneous Union and States taxing powers (Article 246 A). States surrendered their taxing powers on the promise of compensation guarantee for 5 years. Initially, it had 5 slabs of taxes -0%, 5%, 12%, 18% and 28%.
- It was brought about with the vision of establishing one national market by merging different taxes such as the Value Added Tax (VAT), service tax, central sales tax, excise duty, and several more under one GST. The GST seeks to simplify the process of tax, diminish cascading of taxes, and enhance ease of doing business.
- Simplification of the compliance process and the online tax return filing system have immensely enhanced the ease of doing business for businesses in India.
- The GST system has broadened the tax base. The regime incentivises various small companies to legalise their business. Improved monitoring of transactions and stricter checks have lessened tax evasion cases and brought more business into the tax fold.
- The input tax credit facility of the GST system enables firms to claim tax credits paid at different stages of production. It minimises the cascading of taxes, leading to reduced prices for the consumer and enhanced competitiveness among business firms.
- Bringing e-commerce platforms under the GST regime has made things more accountable. It brings tax compliance to a segment that was not regulated earlier, making online transactions taxable as well.
- To help small enterprises, a composition scheme for service providers was launched by the GST Council, through which businesses of less than a prescribed limit may pay tax at a lower simplified rate, cutting compliance costs. Introduction of QRMP Scheme eased the burden of small taxpayers allowing quarterly return filing with monthly payments.
- The launch of e-way bill and e-invoicing systems was a major move towards checking evasion of tax. These systems necessitates the creation of a GSTN-verified electronic invoices and way bills for genuineness of ITC and movement of goods respectively. It encouraged claiming of precise amounts of ITC and improved tracking of goods movement throughout India.

- In the initial years, the GST collection was lower than the estimated targets. But later on it was able to meet an average monthly GST collection of Rs.1.84 lakh crore. In FY 2024-25, GST recorded its highest-ever gross collection of Rs.22.08 lakh crore, reflecting a year-on-year growth of 9.4% and doubling in the last five years.

| Financial year | Total GST collection (₹ lakh crore) | Average monthly collection |
|---|---|---|
| 2017-18 | ~₹7.19 lakh crore (Jul–Mar) | ~₹89,875 Cr |
| 2018-19 | ~₹11.77 lakh crore | ~₹98,083 Cr |
| 2019-20 | ~₹12.22 lakh crore | ~₹1.02 lakh crore |
| 2020-21 | ~₹11.36 lakh crore | ~₹94,667 Cr (COVID-19 dip) |
| 2021-22 | ~₹14.83 lakh crore | ~₹1.24 lakh crore |
| 2022-23 | ~₹18.08–18.10 lakh crore | ~₹1.51 lakh crore |
| 2023-24 | ~₹20.18 lakh crore | ~₹1.68 lakh crore |
| 2024-25 | ~₹22.08 lakh crore | ~₹1.84 lakh crore |
| 2025-26 | ~₹22.9–23.0 lakh crore (estimated) | ~₹1.90–1.92 lakh crore |

- **Amendments in 2025**
  - **The 56th GST Council** meeting unveiled a simplified GST 2.0 regime, **reducing slabs to 5%, 18%, and 40%,** effective from September 22, 2025, to streamline compliance and spur economic growth.
  - **Essential items,** including dairy products, 33 lifesaving drugs, and educational materials, are now at a **nil GST rate**, while **individual health/life insurance is exempted.**
  - Daily essentials, agricultural goods, and healthcare equipment were moved to the 5% GST slab, and electronics like small cars, motorcycles, and appliances now attract 18% GST.
  - **Sin goods** such as pan masala, aerated and caffeinated beverages, **and luxury vehicles face a steep GST rate hike to 40%.**

## Challenges Faced

- **Early teething problems:** Most companies found it difficult to comply when the government initially implemented the GST law. Lack of technical expertise resulted in late filing, fines, and uncertainty around compliance.
- **Technical glitches:** In the beginning, the GST online portal for return filing faced frequent downtimes and data processing errors. These caused inconvenience and compliance issues, especially during the initial years.
- **Compared GST rates:** The sheer frequency of changes in the GST rate and the multitude of tax slabs have bothered the taxpayers since long.

- **Regulatory anomalies:** Certain provisions of the GST rules were originally unclear. It resulted in multiple interpretations among various stakeholders. These contradictions usually led to legal conflicts, giving rise to delays and complexities in the effective implementation of GST.
- **Effect on Small and Medium Enterprises (SMEs):** Although GST was a game-changer for bigger companies, it caused problems to SMEs in meeting compliance under the new system. Small business owners were not equipped to meet the stringent filing procedures and technological requirements of the GST regime.
- **Revenue shortfalls:** Despite being planned to enhance revenue collection, there were initial years when the system witnessed shortfalls. Actual collections were less than the targets estimated.

**Need for further GST reform:**

- **Complexity of Return Filing:** Despite technological advancements, return filing under GST remains complex due to multiple forms, reconciliations, and frequent updates. Small and medium enterprises (SMEs) face difficulties in maintaining real-time digital compliance.
- **ITC Litigation and Denial of Credit:** Denial or blocking of ITC due to supplier default continues to generate litigation. Businesses argue that bona fide purchasers should not suffer for supplier non-compliance.
- **Technological and Infrastructure Barriers**: The GST Network (GSTN) portal, though significantly improved, occasionally faces technical glitches, especially during peak filing periods. Smaller taxpayers in rural areas face connectivity issues and lack of trained personnel.
- **Audit and Investigation Pressures:** Enhanced scrutiny and data-driven audits have increased compliance pressure. While such measures deter evasion, they also raise concerns regarding overreach and procedural fairnes.
- **Union Veto in GST Council:** The current voting weight (1/3rd for Union, 2/3rd for States) gives the Union a de facto veto, turning a federal negotiation forum into an appendage of the Union Executive.

**Suggested Measures:**

- Consolidation of multiple return forms into a single simplified format to reduce compliance duplication.
- Clear and uniform guidelines on ITC eligibility to minimize interpretational disputes.
- Strengthening grievance redressal mechanisms, including time-bound resolution of refund claims.
- Enhancing taxpayer education and outreach programs, particularly for small businesses.
- Improving technological infrastructure of the GST Network (GSTN) to reduce portal glitches and ensure real-time data synchronization.
- Reduce the Union's vote share to a 'one member, one vote model' to treat the Union as an equal partner rather than a dominant promoter.
- Create a GST Dispute Settlement Authority, headed by a retired Supreme Court judge, to impartially adjudicate fiscal disputes between the Union and the States.

GST has transformed India's indirect tax framework by promoting economic integration and transparency. Addressing existing challenges through cooperative federalism, technological reforms, and institutional strengthening will ensure a more efficient, equitable, and growth-oriented GST regime.

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