EDITORIALS - 3RD NOV 2026

1. HOW AI TRAINING MODELS COULD COMPROMISE PRIVACY (GS PAPER II GOVERNANCE, GS PAPER III SCIENCE AND TECHNOLOGY)

This editorial '**How AI training models could compromise privacy**' was published in **The Hindu** on 3rd Nov 2026, highlights gaps in India's **data protection framework** concerning AI training and privacy.

Privacy protection and legal gaps

- The **right to privacy**, upheld by the Supreme Court in 2017, faces inadequate safeguards; targeted regulation can protect rights without undermining **innovation** and economic growth.
- The **IT Act, 2000** and **2011 Rules** conditionally regulated sensitive-data exports and penalised unauthorised disclosure with up to three years' imprisonment or ₹5 lakh fine, excluding many personal identifiers, behavioural records and publicly scraped data.
- The **DPDP Act, 2023**, with Rules notified in November 2025, has phased implementation; substantive **consent safeguards** take full effect in May 2027, leaving interim protection gaps.
- The Act excludes **publicly available data** and does not adequately protect **inferred information**, allowing social-media activity to reveal emotions, mobility and behavioural patterns without corresponding safeguards.
- Removing the separate **sensitive personal data** category weakens differentiated protection; passwords, biometrics and health information require **stricter safeguards**, even though ordinary data can also reveal sensitive information through contextual analysis.

AI training and individual control

- **AI models** can reproduce memorised training data; studies show that querying with anonymised data or analysing public information can enable **re-identification**, sensitive-information extraction and profiling without consent.
- The Act does not specifically address **AI training**; Indian users lack a right to object even after full implementation, whereas Meta offers EU users an **opt-out** from training on their data.
- The **right to erasure** covers consent-based data, with uncertain application to inferred information; the **research exemption**, whose conditions remain unspecified, could allow AI training framed as research to escape obligations.

Required safeguards and policy balance

- Amendments, Rules and judgments should extend **DPDP coverage** to training data, publicly scraped information and inferences, establish a **right to object**, and restore stronger protection for sensitive data.

- Strengthen **erasure rights** by requiring companies to identify every entity holding users' data, and clarify whether **AI training** automatically qualifies for the research exemption.
- Balance **privacy safeguards** with development priorities; banning data exports or personal information from training could worsen **AI outcomes** concerning inclusion, efficiency, discrimination and bias for Indians.

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Privacy-preserving technologies for AI training

- **Differential privacy:** Gboard uses carefully calibrated statistical noise to limit disclosure of individual information, balancing stronger privacy protection with useful prediction accuracy.
- **Federated learning:** Gboard trains models on users' devices, reducing central collection of raw data; shared model updates still need safeguards against information leakage.
- **Synthetic data:** Artificial datasets reduce reliance on identifiable records; NIST's 2018 Synthetic Data Challenge evaluated privacy-preserving generation alongside the analytical usefulness of resulting datasets.
- **Homomorphic encryption:** Microsoft's SEAL library supports computation on encrypted information, protecting data during processing, although computational overhead constrains complex applications.
- **Secure multiparty computation:** Google's Private Join and Compute illustrates confidential dataset matching and aggregate analysis, enabling collaboration without directly exchanging underlying raw records.
- **Machine unlearning:** The NeurIPS 2023 challenge explored removing selected training data's influence from models, but its results do not guarantee effective forgetting across applications.
- **Layered protection:** Google combines federated learning, differential privacy and secure aggregation to address different disclosure risks, recognising that keeping raw data on devices alone offers insufficient protection.

2. CASCADING EFFECT (GS PAPER III ECONOMY)

This editorial '**Cascading effect**' was published in **The Hindu** on 3rd Nov 2026, highlights the **strategic uncertainties** surrounding the **Siang dam project** and the need to respect local land rights.

Strategic rationale and hydrological limits

- The **11.2-GW Siang Upper Multipurpose Project (SUMP)** in Arunachal Pradesh is envisaged as a **strategic buffer** against China's 60-GW Tibet dam, amid fears of deliberate diversions causing droughts or sudden releases triggering floods.
- The **Brahmaputra basin** in Assam and Bangladesh receives most water from monsoon rains and tributaries downstream of Tibet, limiting China's control over **total river flows**, although interventions could have greater consequences near the border.

- The **eastern Himalayas** are tectonically active and erosion-prone; China's proposed **five cascading power stations** would harness a roughly 2,000-metre river descent over 50 km, making engineering details crucial.

Operational uncertainty and diplomacy

- China assures downstream safety but withholds **engineering and operational information**, limiting SUMP's ability to anticipate inflows and plan operations; high-level engagement has secured only emergency **hydrological data** sharing on humanitarian grounds.
- Maintaining the **SUMP reservoir at 70%** could accommodate unexpected surges, but protection without Chinese **advance warning** remains unclear; diplomacy is therefore essential, alongside complications from Beijing's claim over Arunachal Pradesh.

Land rights and local resistance

- Deploying **security forces** to guard survey teams and invoking the State **Unlawful Activities (Prevention) Act** against activists reinforce fears of land seizure; protests against the Subansiri Upper project reflect wider opposition to the development model.
- Resistance by **Adi community members** and civil rights groups requires legitimate engagement; strategic necessity cannot override **land rights**, applicable laws and protections.

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Cumulative ecological impacts of large dams

- **Sediment disruption:** Dams trap sediment needed by downstream ecosystems; the Mekong River Commission identifies sediment passage as essential for sustaining river habitats and delta processes.
- **Habitat fragmentation:** Columbia River salmon encounter successive dam barriers during migration, illustrating how multiple projects cumulatively restrict movement and access to breeding grounds.
- **Flow alteration:** Glen Canyon Dam changed the Colorado River's natural flow patterns and downstream habitats, contributing to ecological pressures on native fish populations.
- **Water-quality changes:** Reservoirs can modify downstream temperatures; the World Commission on Dams documented extensive temperature changes associated with South Africa's Orange–Vaal dam system.
- **Livelihood losses:** Dams and irrigation diversions feeding the Aral Sea contributed to shrinking water volumes, rising salinity and fishery collapse, undermining fishing-dependent livelihoods.
- **Reservoir emissions:** Decomposition of submerged organic matter releases greenhouse gases; research at Laos's Nam Theun 2 documents methane and carbon dioxide emissions through multiple pathways.

- **Basin-scale appraisal:** Mekong River Commission guidance addresses sediment, fisheries, water quality and livelihoods together, demonstrating why appraisal must consider interacting impacts beyond individual dam sites.

3. SMALLER CITIES CAN LEAD THE WAY ON CLIMATE RESILIENCE (GS PAPER III ENVIRONMENT)

This editorial '**Smaller cities can lead the way on climate resilience**' was published in **The Indian Express** on 3rd Nov 2026, highlights how **integrated planning** in smaller cities can advance climate resilience and **low-carbon development**.

Climate resilience and urban growth

- **Heat and flooding** share drivers in land use, buildings and infrastructure, requiring integrated urban planning; the IPCC's **climate-resilient development** framework combines adaptation, emissions reduction and sustainable development.
- India's **Long-Term Low Emissions Development Strategy** and **National Mission on Sustainable Habitat** provide policy foundations, reinforced by flood-risk management covering 18 cities and notified-disaster status for heat, enabling disaster funding.
- **Smaller cities**, with fewer than one million residents, house over half India's urban population; over **50% of housing needed by 2070** remains unbuilt, creating scope to shape growth before costly retrofitting becomes necessary.

Urban design and cooling demand

- Decisions on roads, drainage, buildings and public spaces can create **resource-efficient neighbourhoods** or lock cities into **high energy use** and climate vulnerability.
- A study across **88 Indian cities** links cooling demand to layouts, density, expansion and green cover; the **India Cooling Action Plan** estimates building design, energy efficiency and thermal comfort practices could reduce demand by 20% by 2037–38.

Planning, finance and local knowledge

- Embed **climate considerations** in routine planning, project appraisal and investment; stronger **interdepartmental coordination** can align master plans, roads, utilities and building regulation for collective benefits.
- Reorient **municipal revenues**, government transfers and scheme grants towards resilience; **CSR funding**, impact investment and development finance can support pilots and evidence for scaling.
- Combine **spatial data**, vulnerability assessments and scenario modelling with **local knowledge** of walking, commuting and public-space use to target risks and build on existing practices rather than replicate larger-city infrastructure.

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Social equity in urban climate adaptation

- **Settlement protection:** Affordable adaptation should prioritise vulnerable housing; Mahila Housing Trust's cool-roof interventions in Ahmedabad address heat exposure among residents of low-income informal settlements.
- **Livelihood security:** Heat adaptation must address income losses alongside physical exposure; SEWA's parametric insurance programme supports informal women workers facing heat-related livelihood risks.
- **Gender-responsive planning:** Women's participation helps identify overlooked priorities; Mahila Housing Trust's women-led Ahmedabad groups develop settlement action plans reflecting locally experienced risks.
- **Age-sensitive outreach:** Older residents may need proactive assistance during extreme heat; Paris's REFLEX programme contacts registered older persons and persons with disabilities during climatic emergencies.
- **Disability inclusion:** Disaster infrastructure must accommodate differing mobility needs; Bangladesh's World Bank-supported multipurpose shelters incorporate accessibility improvements and provisions for persons with disabilities.
- **Accessible cooling:** Public cooling facilities extend protection beyond households able to afford air conditioning; Barcelona's school-adaptation project creates climate shelters using shade, vegetation and water points.
- **Participatory allocation:** Community priorities should inform adaptation spending; WaterAid Bangladesh's ward vulnerability assessments translate local knowledge into action plans supporting local planning and budgeting.