

Electronic Tracking of Undertrials

Electronic tracking of undertrials is being explored as a solution to address overcrowding while ensuring compliance with court conditions and preserving individual liberty.

Status of Undertrials in India: (Source: NCRB 2022).

- **Proportion of Undertrials:** 75.8% of the prison population (4,34,302 out of 5,73,220) are undertrials
- **Women Undertrials:** 76.33% of incarcerated women are undertrials.
- **Prolonged Detention:** 8.6% of undertrials have been in prison for over three years, reflecting judicial delays.
- **Prison Overcrowding:** Prisons operate at 131% occupancy against a capacity of 4,36,266.
- **Legal Representation Gap:** Despite Article 39A, many undertrials lack access to free legal aid due to an inadequate lawyer-to-prisoner ratio.

Laws Related to Undertrials in India:

- **Section 479 of BNSS:**
 - First-time offenders eligible for release after serving one-third of the maximum sentence.
 - Does not apply to multiple offenses or ongoing investigations.
- **Section 436A of CrPC:**
 - Undertrials who serve half the maximum sentence can be released on personal bond.
 - Excludes offenses punishable by death or life imprisonment.
- **Judicial Directions:**
 - **Supreme Court PIL on Prison Conditions (2013)** emphasized timely identification and release of eligible undertrials.
 - Reinforced speedy trial as a fundamental right under **Article 21** of the Constitution.

What is Electronic Tracking of Undertrials?

Electronic tracking involves the use of monitoring systems, such as GPS-enabled devices, to supervise undertrials outside prison. It reduces incarceration while ensuring compliance with legal conditions.

Types of Electronic Tracking:

- **GPS-Enabled Ankle Monitors:** Real-time location tracking devices.
- **RFID (Radio Frequency Identification):** Monitors proximity to designated areas.
- **Mobile Applications:** Smartphone-based location and status reporting.
- **Biometric Systems:** Fingerprint, facial recognition, or voice authentication for identity verification.

Advantages:

- **Cost-Effective:** Significantly cheaper than incarceration.

E.g. Odisha spends ₹1 lakh per undertrial annually, while trackers cost ₹10,000-₹15,000.

- **Decongests Prisons:** Helps alleviate overcrowding in Indian jails operating at 131% capacity.
- **Enables Rehabilitation:** Allows undertrials to work, care for families, and avoid stigma.
- **Enhanced Judicial Confidence:** Courts can grant bail with greater assurance of compliance.

Limitations:

- **Privacy Concerns:** Raises questions about surveillance and data security.

E.g. Supreme Court struck down invasive bail conditions in 2023.

- **Social Stigma:** Visible devices like ankle monitors can lead to discrimination and isolation.
- **Technical Failures:** GPS and monitoring systems may not function effectively in remote areas.
- **Financial Burden:** Debate over whether costs should be borne by the government or the accused.

Global Practices:

1. **United States:** Widely used for pre-trial and parole cases but criticized for “e-carceration” and social inequities.
2. **European Union:** Countries like the UK and Sweden employ electronic tags for conditional pre-trial releases.

Conclusion:

Electronic tracking is a cost-effective and humane alternative to incarceration, offering relief to overcrowded prisons. However, its success depends on robust privacy safeguards, equitable implementation, and judicial oversight to balance rights and justice.

Land Degradation

Land degradation is undermining Earth's capacity to sustain humanity, and failure to reverse it will pose challenges for generations to come, a new United Nations report found.

What is Land Degradation?

Land degradation refers to the decline in the biological, economic, and ecological productivity of land due to unsustainable practices, deforestation, soil erosion, and climate change. It diminishes the capacity of land to provide essential services like food, water, and carbon sequestration.

Aspects of Land Degradation:

- **Soil Erosion:** Loss of topsoil by wind or water reduces soil fertility and productivity.
- **Soil Salinization:** Accumulation of salts in the soil due to irrigation makes land unfit for cultivation.
- **Desertification:** Fertile land turns into desert due to deforestation, drought, and overgrazing.
- **Loss of Vegetation:** Deforestation and overgrazing destabilize soil, increasing vulnerability to erosion.
- **Pollution:** Contaminants from chemicals and waste degrade soil and water resources.

Present Status of Land Degradation: (Source: [UNCCD](#))

- **Scale:** 15 million km² globally degraded.
- **Expansion:** Degraded land area grows by 1 million km² annually.
- **Impacts on Carbon Sequestration:** Land ecosystems' capacity to absorb CO₂ reduced by 20% in the last decade.
- **Regional Disparities:** Drylands, covering 46% of Earth's land area, house a third of humanity and suffer severe degradation.

Causes of Land Degradation:

1. Anthropogenic Causes:

1.
 - **Unsustainable Agriculture:** Excessive use of fertilizers, pesticides, and water depletes resources and pollutes ecosystems.
 - **Deforestation:** Clearing forests for cropland and urbanization accelerates erosion and biodiversity loss.
 - **Urbanization:** Habitat destruction and pollution escalate due to rapid expansion of cities.
 - **Overgrazing:** Livestock pressure on grasslands reduces vegetation cover, leading to desertification.

2. Natural Causes:

1.
 - **Climate Change:** Extreme weather events like droughts and floods exacerbate soil erosion and land degradation.
 - **Water Scarcity:** Depletion of aquifers and altered water cycles worsen soil quality.
 - **Natural Disasters:** Landslides, hurricanes, and prolonged droughts accelerate degradation.

Impacts of Land Degradation:

- **Food Security:** Declines in crop yield and nutritional quality increase malnutrition risks.
- **Biodiversity Loss:** Habitat destruction impacts species survival and ecosystem stability.
- **Climate Change:** Degraded land emits CO₂, worsening global warming.
- **Human Migration:** Loss of livelihoods forces displacement and fuels conflicts.
- **Water Pollution:** Fertilizer runoff contaminates water bodies, harming aquatic ecosystems.

Initiatives Taken So Far:

1. **Global Initiatives:**

1.
 - **UNCCD (1994):** Legally binding framework to address desertification and land degradation.
 - **Land Degradation Neutrality Fund (2018):** Invests in sustainable land management projects.
 - **UN Decade on Ecosystem Restoration (2021–2030):** Prevents, halts, and reverses ecosystem degradation.
 - **Glasgow Declaration (2021):** Pledged by 145 nations to halt deforestation by 2030.

2. **Indian Initiatives:**

1.
 - **Desertification and Land Degradation Atlas (ISRO):** Tracks land degradation across India.
 - **National Action Programme to Combat Desertification (2001):** Strategies to address desertification.
 - **National Afforestation Programme (NAP):** Restores degraded forests.
 - **Desert Development Programme (1977):** Focuses on addressing land degradation in arid regions.

Measures to Counter Land Degradation:

- **Sustainable Agriculture:** Promote regenerative practices like no-till farming, intercropping, and organic fertilizers.

- **Forest Restoration:** Protect existing forests and implement reforestation and afforestation projects.
- **Efficient Water Use:** Adopt efficient irrigation methods like drip irrigation and water harvesting.
- **Green Infrastructure:** Transition from dams and channels to nature-based solutions like floodplain restoration.
- **Policy Alignment:** Align agricultural subsidies with sustainability goals and enforce stricter land-use regulations.

Conclusion:

Tackling land degradation is essential to ensure environmental sustainability and human survival. Coordinated global and local efforts, innovative solutions, and equitable governance can restore degraded ecosystems and preserve Earth's capacity to support future generations.

Westernisation & Modernisation

Since 2015, over 70 Central institutions, including IITs and IIMs, have replaced colonial-era convocation robes with Indian attire, following a University Grants Commission (UGC) advisory.

Example for Westernisation and Modernisation:

- **Westernisation:** The use of British-inspired **gowns, caps, and robes** in Indian convocation ceremonies reflects the influence of colonial traditions, emphasizing formality and uniformity but lacking cultural relevance.
- **Modernisation:** Replacing colonial attire with Indian handloom fabrics reflects adaptation to contemporary needs while preserving cultural identity, fostering national pride, and supporting traditional artisans.

Kingdoms and Hydrology Contributions

Deccan empires, from Mauryans to Vijayanagara, excelled in monsoon-driven water management, offering lessons for addressing modern water scarcity amid climate change.

About Kingdoms and Hydrology Contributions:

- **Mauryan Empire (322 BCE – 185 BCE):**
 - Established the **first hydraulic civilization** during a century-long drought.
 - Constructed dams, tanks, and lift irrigation systems.

E.g. References to water pricing and tank construction in Brihat Samhita.

- **Satavahanas (228 BCE – 224 CE):**
 - Introduced **waterwheels** for advanced irrigation.
 - Managed droughts with improved tank systems.

E.g. Evidence of irrigation systems in Nashik and Mathura inscriptions.

- **Cholas (850-1200 CE):**
 - Renowned for building vast **tanks, reservoirs, and canals** to mitigate droughts.

E.g. Grand Anicut (Kallanai), still functional, built for irrigation.

- **Vijayanagara Empire (1336-1646 CE):**
 - Transformed valleys into **tanks and vast reservoirs**.
 - Actively promoted agriculture through extensive irrigation projects.

E.g. The Tungabhadra tank system for water storage and agriculture.

- **Bahamani Sultanate (1347-1527 CE):**
 - Introduced the **karez system** for groundwater extraction.
 - This system uses underground shafts and sloping tunnels to bring water from an upland aquifer to the surface. It is eco-friendly, relying on gravity instead of fuel-powered machines.

E.g. Karez networks in Bidar and Gulbarga regions.

Design Linked Incentive (DLI) Scheme

India's first indigenously designed 3GPP compliant modem system-on-chip (SoC), developed by WiSig Networks under the government's Design Linked Incentive (DLI) scheme, faces production challenges despite significant funding.

About Design Linked Incentive (DLI) Scheme:

- **Objective:** Supports the growth of domestic companies, startups, and MSMEs in semiconductor design, fostering import substitution and value addition in the electronics sector.
- **Scope:** Provides financial incentives and infrastructure for semiconductor design, including Integrated Circuits (ICs), chipsets, System on Chips (SoCs), IP cores, and other linked designs, over five years.
- **Components:**
 - **Chip Design Infrastructure Support:** C-DAC will establish the India Chip Centre for advanced design tools, IP cores, MPW fabrication, and post-silicon validation.
 - **Product Design Incentive:** Reimbursement of up to 50% of eligible costs, capped at ₹15 crore per application.
 - **Deployment Linked Incentive:** Incentive of 4%-6% on net sales turnover over five years, capped at ₹30 crore per application.
- **Duration:** Initially planned for three years from January 1, 2022, with possible extensions.
- **Nodal Agency:** Centre for Development of Advanced Computing (C-DAC).

Ratapani Tiger Reserve

The Madhya Pradesh government has officially notified the Ratapani Wildlife Sanctuary as the state's 8th Tiger Reserve.

About Ratapani Tiger Reserve:

- **Location:** Situated in the **Vindhya**chal Mountain Ranges across Raisen and Sehore districts of Madhya Pradesh.
- **Origin:** Initially declared a wildlife sanctuary in 1976, extended in 1983, and received NTCA's approval for a tiger reserve in 2008.
- **Rivers and Water Bodies:** The **Kolar River** forms its western boundary, while the Dahod reservoir and Ratapani reservoir are key water sources within the reserve.
- **Flora:** Features **dry and moist deciduous forests**, hosting diverse vegetation.
- **Fauna:** Home to 56 tigers, 70 leopards, sloth bears, chinkaras, crocodiles, and the paradise flycatcher, the state bird of Madhya Pradesh (2022 census).
- **Significance:** Includes **Bhimbetka rock shelters**, a UNESCO World Heritage Site of international importance, adding cultural and historical value to the reserve.
- **Other Tiger Reserves in Madhya Pradesh:** Bandhavgarh, Kanha, Panna, Pench, Sanjay-Dubri, Satpura, and Veerangana Durgavati.

Inner Line Permit System

Recently, the Manipur government launched a review of the ILP system following violations, highlighting the importance of stringent implementation.

About Inner Line Permit (ILP):

- **What it Is:** ILP is a travel document required by Indian citizens from outside certain states to enter and stay for a limited period in protected regions.
- **Origin:** Originated during the colonial era under the **Bengal Eastern Frontier Regulation Act, 1873**, to protect Crown interests.
- **Law governing:** Currently regulated under the **Foreigners (Protected Areas) Order, 1958** for foreign tourists and state-specific ILP guidelines for Indian citizens.
- **States under ILP:** Arunachal Pradesh, Nagaland, Mizoram, and Manipur.
- **Departments involved:** The Home Department and the concerned state government oversee implementation.
- **Issuing authority:** ILP is issued by the respective state authorities.
- **Features:**
 - Mandatory for non-residents to enter designated states.
 - Specifies a limited stay period.
 - Includes different categories, such as labour permits, regular permits, and tourist permits.
 - Aims to preserve local cultural, demographic, and economic interests.

Murphy's Law

The Indian Parliament continues to witness disruptions, with Rajya Sabha Chairman Jagdeep Dhankhar linking the persistent impasse to Murphy's Law.

About Murphy's Law:

- **What it Says:** Murphy's Law asserts that “**anything that can go wrong will go wrong,**” emphasizing a **pessimistic outlook** on inevitable errors.
- **Origin:** Credited to Captain Edward A. Murphy, Jr., an Air Force engineer in 1949, during a deceleration test where all sensors were incorrectly installed.
- **Features:**
 - Predicts failure in any process with a possibility of error.
 - Reflects human tendency to focus on mishaps rather than successes.
 - Highlights a universal truth of entropy and disorder over time.
- **Philosophical Basis:** Encourages reflection on inevitabilities, while also serving as a cautionary principle in planning