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Prelims Cum Mains Based
News Summary

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TGPSC News Summary

Will Disappearance of Protected Monuments in Telangana Expose a Crisis in Heritage Governance?

Source: Deccan Chronicle

Relevance: GS Paper I - History & Culture (Heritage Conservation, Archaeology, Impact of Urbanisation)

Important Key Words for Prelims and Mains

For Prelims:

- Protected Monuments, Megalithic Structures, Cairns, Stone Circles, Cromlechs, Neolithic Sites, Archaeological Survey, Heritage Conservation

For Mains:

- Heritage Governance, Cultural Preservation, Urbanisation and Heritage Conflict, Archaeological Conservation, Institutional Accountability, Cultural Landscape Protection

Why in News?

More than 70 state-protected monuments in Telangana have reportedly disappeared physically despite being listed in official records. This has raised serious concerns regarding gaps in heritage conservation,

monitoring mechanisms, and administrative accountability in safeguarding archaeological sites.

Background and Context

- Telangana possesses a rich archaeological heritage reflecting continuous human occupation from prehistoric to historical periods.
- The state government has officially listed around 346 monuments as protected under the Department of Heritage.
- These monuments include prehistoric burial sites, megalithic structures such as cairns, stone circles and cromlechs, along with Buddhist, Jain, Hindu and Islamic religious structures, forts, and colonial-era buildings.
- Together, they represent a diverse cultural landscape that documents the historical evolution of the Deccan region.

Concept of Protected Monuments

- Protected monuments are historically or archaeologically significant structures that receive legal protection from the

government to prevent destruction, alteration, or misuse.

- Once notified, these sites fall under the supervision of archaeological or heritage authorities responsible for conservation, documentation, and monitoring.
- Such protection aims to preserve cultural heritage, support historical research, and promote public awareness about the past.

Key Findings

- More than 70 monuments listed in official records are reportedly missing on the ground, indicating a situation where heritage protection exists only on paper.
- Field surveys conducted by heritage activists have revealed destruction, encroachment, or complete disappearance of several listed sites.
- Many prehistoric and proto-historic locations, particularly burial sites and stone circles, have been erased due to land use changes and development activities.

Nature and Characteristics of Affected Sites

- Most of the vanished monuments belong to prehistoric and megalithic cultural phases. These include burial complexes, cairns, stone circles, and artefacts such as stone tools and pottery remains.
- Megalithic structures were used as burial markers and ritual sites during the Iron Age in peninsular India. Their

presence provides crucial evidence about ancient social structures, funerary practices, and settlement patterns.

Examples of Vanished Sites

Several districts across Telangana have reported disappearance or destruction of protected archaeological locations.

Location	Type of Site
Karimnagar (Bizigiri, Jammikunta)	Megalithic burial sites
Jagtial (Vastapur, Raikal)	Burial complexes
Khammam (Madhira)	Prehistoric stone tools and artefacts
Rangareddy (Chevella region)	Burial structures
Hyderabad (Tolichowki)	Neolithic artefacts
Nagarkurnool, Mahbubnagar, Yadadri, Medchal	Cairns, stone circles, cromlechs

Core Issues Involved

- One major issue is the gap between legal recognition and actual conservation. While monuments are listed as protected, many lack regular monitoring or physical safeguards.
- Another issue involves the conflict between rapid development and heritage preservation. Urbanisation, infrastructure expansion, and agricultural activities often proceed without proper heritage impact assessments.
- The situation also raises concerns regarding administrative accountability



and the effectiveness of existing heritage protection mechanisms.

Causes / Reasons

- **Urbanisation and Infrastructure Expansion:** Rapid growth of cities, roads, and real estate development has led to encroachment and destruction of archaeological sites, particularly in peri-urban regions.
- **Agricultural Expansion and Land Use Change:** Protected archaeological areas are often converted into farmland. For instance, megalithic stone circles at Kondaparthi were reportedly removed to facilitate paddy cultivation, resulting in irreversible archaeological loss.
- **Weak Monitoring and Enforcement:** There is a lack of periodic field verification and surveillance of protected sites. As a result, monuments continue to exist in records even when they have already been destroyed.
- **Administrative and Institutional Neglect:** Poor coordination between revenue departments, archaeology authorities, and local administration has contributed to weak enforcement. Additionally, many heritage records remain outdated due to the absence of GIS-based documentation

Implications

- **Cultural Implications**
The destruction of prehistoric and megalithic heritage leads to irreversible loss of evidence about early human settlements, rituals, and cultural practices in the Deccan region.

- **Governance Implications**
The disappearance of protected monuments reflects systemic weaknesses in documentation, monitoring, and enforcement within heritage governance systems.
- **Developmental Implications**
The issue highlights the growing conflict between economic development and cultural preservation, particularly in rapidly urbanising regions.
- **Academic and Research Implications**
Archaeological sites once destroyed cannot be scientifically reconstructed, resulting in permanent loss of data essential for historical research.

Constitutional and Institutional Mechanism

- Heritage protection in India operates through both central and state-level legal frameworks.
- The central government protects monuments of national importance under the Ancient Monuments and Archaeological Sites and Remains Act, 1958, administered by the Archaeological Survey of India.
- State governments maintain separate lists of protected monuments under respective heritage departments and archaeological laws.
- Effective conservation therefore depends on coordination between archaeological institutions, state administrations, and local governance bodies.

Governance Dimension

- The issue reflects broader challenges in heritage governance including weak institutional capacity, limited financial resources, and inadequate coordination among agencies responsible for land administration, planning, and cultural preservation.
- Without regular monitoring and digital documentation systems, protected monuments remain vulnerable to encroachment and destruction.

Financial Constraints

- A major factor behind weak conservation efforts is severe underfunding. The heritage department reportedly requires around ₹175 crore for conservation activities, while the current allocation is only about ₹3 crore.
- Such limited funding makes it difficult to monitor, protect, and restore even major sites, leaving smaller prehistoric locations particularly vulnerable.

Challenges / Criticisms

- Rapid urbanisation and agricultural encroachment threaten archaeological sites.
- Severe financial and manpower shortages limit conservation activities.
- Absence of digital documentation systems such as GIS mapping weakens monitoring.
- Public awareness regarding heritage conservation remains limited.

Way Forward

- A state-wide physical verification of all protected monuments should be undertaken using modern tools such as GIS mapping and digital documentation.
- Strict action should be taken against encroachments, and administrative accountability should be ensured for negligence in protecting heritage sites.
- Adequate budget allocations are necessary for conservation. Public-Private Partnership models could also support restoration and maintenance efforts.
- Local communities should be involved in heritage stewardship through awareness programmes and participatory conservation initiatives.
- Urban development and infrastructure projects must include mandatory heritage impact assessments to prevent destruction of archaeological sites.

Conclusion

The disappearance of over 70 protected monuments in Telangana highlights a serious crisis in heritage governance, where legal protection has not translated into effective ground-level conservation. Preserving India's cultural heritage requires stronger institutional mechanisms, better funding, technological monitoring, and active community participation to balance development with preservation of irreplaceable archaeological heritage.

Proposal to Increase Lok Sabha Strength by 50%: Concerns Over Regional Imbalance

Source: [The Hindu](#)

Relevance: **GS Paper II - Polity (Parliament, Representation, Delimitation, Federalism, Electoral Reforms)**

Important Key Words for Prelims and Mains

For Prelims:

- Lok Sabha, Delimitation, Census, Article 81, Delimitation Commission, Freeze on Delimitation, 42nd Amendment, 84th Amendment, 87th Amendment, Nari Shakti Vandan Act

For Mains:

- Federalism, Regional Imbalance, Political Representation, Population vs Representation Debate, Electoral Reforms, Centre-State Relations

Why in News?

Concerns have been raised by leaders including A. Revanth Reddy over a reported proposal to increase the strength of the Lok Sabha by 50%, which may impact regional representation.

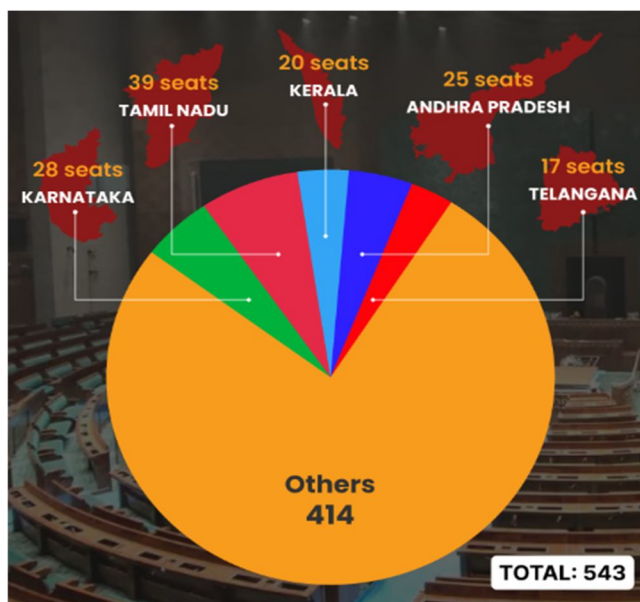
Background and Constitutional Context

- The composition of Lok Sabha is governed by **Article 81**, which provides for representation of states based on population.
- Delimitation ensures periodic adjustment of constituencies based on census data.
- However, to promote population control,

delimitation has been **frozen until after the first Census post-2026**, creating a major constitutional and political debate.

Key Highlights of the Proposal

- Proposal to increase Lok Sabha seats by **50%**
- Proportionate increase in seats across states
- Larger states likely to gain more seats in absolute terms
- No official confirmation yet (based on political claims)
- Linked indirectly with **future delimitation exercise**



1. The Hindu

Delimitation & Census

Aspect	Details
Delimitation Meaning	Process of redrawing boundaries of constituencies and allocation of seats based on population
Constitutional Basis	Articles 81, 82 (Lok Sabha), Article 170 (State Assemblies)
Authority	Delimitation Commission of India
Nature of Commission	Independent, quasi-judicial body; orders have force of



Aspect	Details
	law and cannot be challenged in court
Composition	Retired Supreme Court judge (Chairperson), Chief Election Commissioner, State Election Commissioners
Frequency	After every Census (ideally every 10 years)
Past Delimitation Exercises	1952, 1963, 1973, 2002 (based on 2001 Census)
Current Status	Frozen until after Census post-2026
Freeze Reason	To avoid penalising states that controlled population growth
42nd Amendment (1976)	Froze delimitation until 2001
84th Amendment (2001)	Extended freeze till 2026
87th Amendment (2003)	Allowed readjustment using 2001 Census without altering seat numbers
Next Delimitation	Expected after Census conducted post-2026
Census Meaning	Official population count conducted every 10 years
Census Authority	Conducted under Census Act, 1948
Last Census	2011 (2021 Census delayed)
Link with Representation	Determines seat allocation in Lok Sabha and State Assemblies
Key Debate	Population-based representation vs federal fairness
Impact on South vs North	Northern states gain more seats due to higher

Aspect	Details
	population growth
Relation with Women Reservation	Constitution (106th Amendment) Act, 2023 linked to delimitation
Major Concern	Penalising states that achieved population control

Concerns Raised by States

- **Regional imbalance:** Northern states may gain significantly more seats
- **Reduced influence of southern states**
- **Population control paradox:** Better-performing states may lose political weight
- **Federal tensions:** Perception of unequal representation

Significance

- Enhances **representative democracy**
- Addresses need for **increased parliamentary capacity**
- Reflects changing **population dynamics**
- Opens debate on **equity vs equality in representation**

Issues and Challenges

- Risk of **political imbalance**
 - **Between other states and regions**
- Delay in **census data availability**
- Complex **delimitation exercise post-2026**
- Potential **politicisation of representation reforms**

Way Forward

- Conduct **timely Census and delimitation**
- Ensure **consultative approach with states**
- Maintain balance between **population principle and federal fairness**
- Explore institutional safeguards to prevent regional dominance

Conclusion

The debate over increasing Lok Sabha seats highlights deeper structural questions about representation, federalism, and demographic change. The upcoming delimitation exercise will be crucial in shaping India's political future.

NGT Dismisses Plea Challenging Musi Riverfront Development Project

Source: [The Hindu](#)

Relevance: **GS Paper III - Environment (Environmental Governance, EIA, Urban River Management)**

Important Key Words for Prelims and Mains

For Prelims:

- National Green Tribunal, Musi River, Environmental Clearance (EC), Environmental Impact Assessment (EIA), Terms of Reference (ToR), State Environmental Impact Assessment Authority, Riverfront Development

For Mains:

- Environmental Governance, Judicial Oversight in Environmental Protection, Urban River Restoration, Sustainable Urban Development, Environmental Regulation in Infrastructure Projects

Why in News?

The National Green Tribunal (Southern Bench, Chennai) dismissed a petition challenging the **Musi Riverfront Development Project** initiated by the Government of Telangana.

Background

- A petition was filed by **Patolla Karthik Reddy**, a leader of the Bharat Rashtra Samithi (BRS).
- The petitioner argued that the project began **without obtaining environmental clearance**.
- The project concerns development along the banks of the **Musi River**, which flows through **Hyderabad**.



Source: [The Hindu](#)

Key Highlights of the Case

- The petitioner sought to restrain the government from undertaking developmental activities on the riverfront.
- The tribunal observed that the concerns raised were already included under the **Terms of Reference (ToR)** issued by the State Environmental Impact Assessment Authority.
- The Telangana government informed the tribunal that **an application for environmental clearance has already been submitted**.
- The government assured that **all project activities will comply with the ToR**.
- Based on these observations, the tribunal **dismissed the application**.

Environmental Clearance & EIA Process

Aspect	Details
Environmental Clearance (EC)	Mandatory approval required before starting certain development projects that may affect the environment
Legal Basis	Environmental Impact Assessment (EIA) Notification issued under the Environment (Protection) Act, 1986
Purpose	To assess environmental consequences of projects before approval
Terms of Reference (ToR)	Guidelines issued for conducting detailed environmental impact assessment studies
Authority	State Environmental Impact Assessment Authority for many state-level projects
EIA Study	Conducted by accredited experts to analyse environmental and social impacts
Public Consultation	Involves local communities and stakeholders in decision-making
Final Decision	Based on EIA report, expert appraisal, and public consultation
Importance	Ensures balance between development and environmental protection

Concerns Raised

- Possible **environmental degradation** of the river ecosystem
- Risk of **construction activities within floodplains**
- Potential increase in **urban pollution and sewage discharge**
- Lack of clarity regarding **long-term ecological restoration measures**

Significance

- Highlights the **role of the National Green**

Tribunal in environmental governance.

- Demonstrates the importance of **environmental clearance mechanisms** before large infrastructure projects.
- Brings attention to the issue of **urban river restoration and pollution management**.
- Shows the need to balance **urban development with ecological sustainability**.

Issues and Challenges

- Severe **pollution levels in urban rivers**
- untreated sewage.
- Difficulties in integrating **development projects with ecological conservation**.
- Delays and disputes related to **environmental approvals**.
- Need for stronger **monitoring of compliance with environmental regulations**.

Way Forward

- Ensure strict adherence to **Environmental Impact Assessment procedures**.
- Implement **scientific river restoration measures** instead of cosmetic beautification.
- Strengthen **monitoring and compliance mechanisms**.
- Encourage **public participation and transparency** in environmental decision-making.

Conclusion

The tribunal's decision highlights the importance of following due environmental procedures while allowing development projects to proceed. Sustainable urban river management requires careful balancing of **infrastructure development, ecological protection, and regulatory compliance**.

Land Maps to be Included in Passbooks in Telangana

Source: [The Hindu](#)

Relevance: **GS Paper III - Agriculture / Governance (Land Reforms, Digital Land Records, Land Administration)**

Important Key Words for Prelims and Mains

For Prelims:

- Record of Rights (RoR), Bhudhaar, Unique Land Parcel Identification Number (ULPIN), Mutation, Sub-division Map, Land Survey, Digital Land Records

For Mains:

- Land Governance, Digitisation of Land Records, Land Titling System, Transparency in Land Administration, Reduction of Land Disputes



Source: *The Hindu*

Why in News?

- The Government of Telangana has decided to include **survey and subdivision maps in land passbooks and land transactions**

under the Telangana Bhuharati (Record of Rights in Land) Act, 2025.

- The reform is being implemented through the **Bhu Bharati portal**, initially operationalised in selected mandals.
- Under the new system, every land transaction such as mutation or inheritance will require submission of a **survey map**, which will be incorporated into the official passbook and land records.

Background

- Land records in many parts of India traditionally contain textual descriptions of ownership and land area but lack precise spatial representation.
- The absence of accurate mapping has often led to discrepancies between land recorded in official documents and the land physically possessed by the owner, commonly referred to as **"Vivat Kabja."**
- To modernise land administration and reduce disputes, the Telangana government enacted the **Bhu Bharati (Record of Rights in Land) Act, 2025**, replacing the earlier system of maintaining land records.
- The new framework integrates **digital records, spatial mapping, and unique identification of land parcels** to improve transparency and reliability in land transactions.

Key Highlights of the Reform

- Survey or subdivision maps must be submitted along with applications related to land transactions.
- The requirement applies to processes such as mutation, inheritance, and transfer of ownership.
- The map will be incorporated into the **land**



passbook, ensuring that the official record reflects the exact boundaries of the land parcel.

- Each land parcel involved in a transaction will receive a **unique identification number called Bhudhaar**, which corresponds with the national **ULPIN system**.
- Landowners will be able to verify the boundaries of their land through the **Revenue Department's digital portal**.
- The reform will also facilitate **incremental survey of agricultural land**, as maps will be updated whenever a transaction occurs.
- The system draws inspiration from the land administration model followed in Karnataka, where integration of maps with property registration has been successfully implemented.

ULPIN and Bhudhaar System

Aspect	Details
ULPIN	Unique Land Parcel Identification Number introduced by the Government of India
Structure	14-digit unique number assigned to each land parcel
Basis	Generated using geo-coordinates and satellite mapping
Telangana Version	Called Bhudhaar
Purpose	Ensures unique identification of land parcels
Benefit	Prevents double registration and improves land record accuracy
Integration	Linked with digital land record portals and Revenue Department databases

Telangana Bhu Bharati (Record of Rights) Act, 2025

Aspect	Details
Reform & Purpose	Introduces a new Record of Rights framework to replace Dharani shortcomings and ensure transparent, accountable land governance.
Background	Dharani portal (2020) led to record discrepancies, centralised control, and limited grievance redressal.
Objectives	Focuses on decentralisation, correction of land records, accurate documentation, and provision of cost-free services.
Key Features	Includes record rectification, mandatory survey and mapping, regularisation of <i>sada bainamas</i> , and timely mutation of hereditary property.
Grievance Redressal	Establishes a two-tier system with Revenue Divisional Officer and District Collector for efficient dispute resolution.
Implementation & Outcome	Pilot-based rollout leading to statewide implementation by June 2025; aims at transparency, accessibility, and faster resolution of land issues.

Significance

- **Improves transparency in land administration**
 - by clearly identifying the location and

boundaries of land parcels.

- **Reduces land disputes**
 - arising from unclear boundaries or overlapping ownership claims.
- **Prevents double registration** of the same land parcel by
 - assigning a unique identification number.
- **Enhances digital governance** by
 - integrating spatial mapping with land records.
- **Strengthens security of land ownership**, which can support agricultural credit and rural development.

Issues and Challenges

- Many rural areas still have **outdated land surveys**, which may complicate mapping of boundaries.
- Farmers may face **technical or procedural difficulties** while submitting survey maps during transactions.
- Digital access and awareness among landowners may be limited in some regions.
- Coordination between survey departments and revenue authorities is essential for effective implementation.

Way Forward

- Conduct **awareness programmes** for **farmers** about the new land record system.
- Strengthen **digital infrastructure** and **survey capacity** in rural areas.
- Provide **technical assistance** for preparing **survey maps** during land transactions.
- Integrate the system with the **Digital India Land Records Modernization Programme (DILRMP)** to ensure nationwide standardisation.

Conclusion

The decision of Telangana to incorporate land maps into passbooks represents an important step towards modernising land governance. By linking textual records with spatial mapping and unique parcel identification numbers, the reform can enhance transparency, reduce disputes, and improve the efficiency of land administration.

'Mana Isuka Vahanam' Scheme (Telangana)

Source: [The Hindu](#)

Relevance: **GS Paper II - Governance (E-Governance, Transparency, Local Administration, Resource Management)**

Important Key Words for Prelims and Mains

For Prelims:

- **Sand Mining Regulation, Online Booking Portal, Tahsildar, Panchayat Verification, Siddipet District**

For Mains:

- **E-Governance, Transparency in Resource Allocation, Curbing Illegal Mining, Digital Public Service Delivery, Local Governance, Accountability Mechanisms.**

Why in News?

The Telangana government has introduced the 'Mana Isuka Vahanam' scheme in Siddipet district to facilitate online booking of sand. The initiative aims to eliminate the role of intermediaries and bring greater transparency in sand distribution. It is part of a broader effort to regulate sand mining and curb illegal transportation. The scheme also reflects

the increasing use of digital platforms in public service delivery. It has been accompanied by strict enforcement measures against illegal mining activities.



Source: The Hindu

Background and Context

- Sand is a critical resource for construction and infrastructure development, but its extraction is often associated with illegal mining and environmental degradation.
- Traditional systems of sand distribution in many states have been prone to corruption, cartelisation, and exploitation by middlemen.
- These issues lead to revenue loss for the government and higher costs for consumers. Recognising these challenges, several states have adopted digital platforms to regulate sand supply.
- The 'Mana Isuka Vahanam' scheme represents Telangana's effort to streamline this sector through technology.

Concept of the Scheme

- The scheme is based on the principles of e-governance and transparency in resource allocation.

- It allows citizens to book sand directly through an online portal without relying on intermediaries.
- The system integrates digital application, verification, and payment processes to ensure accountability.
- By digitising the supply chain, the scheme aims to reduce corruption and improve efficiency.
- It also strengthens the role of local administrative authorities in monitoring and verification.

Key Features

- The scheme enables citizens to register on an official portal, submit their requirements, and make payments online.
- Applications are verified by local officials, including the village panchayat secretary and the Tahsildar, ensuring administrative oversight.
- Sand is supplied at government-fixed rates, preventing price manipulation. The system eliminates dependence on brokers and middlemen.
- Strict legal action is provided against illegal sand transportation to enforce compliance.

Nature and Characteristics

The scheme is technology-driven and focuses on digital delivery of public services.

It is decentralised in implementation, involving local authorities in verification and approval.

- It promotes transparency by ensuring that transactions are recorded and monitored digitally.
- The model combines administrative control with citizen accessibility. It reflects a shift towards data-driven governance in resource management.

Causes / Reasons

- Illegal sand mining has been driven by high demand from the construction sector and weak regulatory enforcement.
- The absence of transparent allocation mechanisms has enabled middlemen to dominate the supply chain.
- Limited monitoring capacity and lack of digital infrastructure in the past have further aggravated the problem.
- Additionally, price distortions and supply shortages have incentivised illegal activities.

Implications

- **Governance Dimension:** The scheme enhances transparency and reduces corruption by eliminating intermediaries and digitising transactions.
- **Economic Dimension:** It ensures fair pricing of sand and reduces costs for consumers, particularly in the construction sector.
- **Environmental Dimension:** Better regulation of sand supply can help curb illegal mining and reduce environmental degradation.
- **Administrative Dimension:** It strengthens local governance by involving panchayat and revenue officials in verification and monitoring processes.

Challenges / Criticisms

- The success of the scheme depends on digital literacy and access to online platforms, which may be limited in some areas.
- There may be initial resistance from stakeholders who benefit from the existing system.
- Ensuring timely verification and delivery is essential to maintain public trust. Technical

issues and system inefficiencies could affect implementation.

- Continuous monitoring is required to prevent new forms of malpractice.

Way Forward

The scheme should be expanded across other districts with necessary infrastructure support. Awareness campaigns can improve public adoption and digital literacy. Integration with GIS and tracking systems can enhance monitoring of sand transportation. Strengthening coordination between departments will improve efficiency. Regular audits and feedback mechanisms can ensure transparency and accountability.

Conclusion

The 'Mana Isuka Vahanam' scheme represents a significant step towards transparent and technology-driven governance in resource management. By addressing issues of corruption and inefficiency, it has the potential to transform the sand supply system. Its success will depend on effective implementation, monitoring, and citizen participation.

'Copy-Paste' Development Model Debate: India's Growth Strategy and Telangana Perspective

Source: [The Hindu](#)

Relevance: **GS Paper II & III - Governance, Development, Economy, Science & Technology**

Important Key Words for Prelims and Mains

For Prelims :

- Telangana Model of Development;

Hyderabad IT Hub; Startup Ecosystem; Unicorn Startups; Digital Infrastructure (3G, 4G, 5G); Artificial Intelligence; Skill Development; Demographic Dividend

For Mains :

- Development Models; Self-reliant Growth; Innovation Ecosystem; AI and Employment; Skill Gap; Entrepreneurship; Demographic Dividend vs Demographic Burden; Knowledge Economy; Urban Growth (Hyderabad Model)



Source: The Hindu

Why in News?

K. T. Rama Rao stated during a discussion at Columbia University that **India can no longer rely on 'copy-paste' development models from other countries**, highlighting the need for **context-specific and innovation-driven growth strategies**.

Context and Background

Over the past decade, India has made significant progress in:

- **Physical infrastructure** (roads, logistics, urban expansion)
- **Digital infrastructure** (rapid adoption of 3G, 4G, 5G technologies)

India has, in some sectors, **leapfrogged traditional development stages**, unlike many developed nations. However, the changing global environment, especially due to **Artificial Intelligence and automation**, requires a shift in development thinking.

Key Observations by K.T. Rama Rao

- India is at a **critical juncture in its development trajectory**.
- Blind imitation of Western or other models is no longer feasible.
- **Artificial Intelligence poses a real and immediate threat** to jobs and governance systems.
- Economic growth must be supported by a **strong innovation and entrepreneurship ecosystem**.
- India's youth population is both:
 - A **demographic dividend**
 - A potential **demographic burden** if not skilled properly

Telangana / Hyderabad Model of Development

Hyderabad has emerged as a leading **innovation and startup hub**, demonstrating a region-specific development model.

Key features include:

- Presence of **incubators, accelerators, and co-working spaces**
- Strong network of **mentors and investors**
- Growth of **unicorn startups**
- Policy support combined with **institutional ecosystem building**

The model emphasises that development requires not just policy, but a **holistic ecosystem approach**.

Artificial Intelligence and Employment Concerns

The rise of **Artificial Intelligence (AI)** is transforming the global job landscape.



- AI is expected to **disrupt traditional employment patterns**
- Routine and low-skill jobs are most vulnerable
- Governments are **not fully prepared** for this transition

This creates an urgent need for:

- **Reskilling and upskilling**
- Aligning education with industry requirements
- Promoting **technology-driven employment opportunities**

Core Debate: Copy-Paste vs Indigenous Development Model

The central issue is whether India should adopt external models or develop its own.

Limitations of Copy-Paste Model:

- Ignores local socio-economic conditions
- May lead to policy mismatch
- Fails to address India's unique demographic and institutional realities

Need for Indigenous Model:

- Context-specific policy design
- Focus on **innovation, technology, and entrepreneurship**
- Integration of **local strengths and global best practices**

Implications

- Encourages shift towards **self-reliant and innovation-driven growth**
- Strengthens India's position in the **global knowledge economy**
- Highlights importance of **state-level models like Telangana**
- Emphasises need for **skill-based economic planning**

Challenges

- Persistent **skill gap** between education and industry

- Risk of **jobless growth due to AI and automation**
- Uneven development across regions
- Overdependence on **service sector and urban hubs**

Way Forward

- Develop **India-specific development models** combining global best practices with local realities
- Strengthen **skill development and vocational training systems**
- Promote **entrepreneurship and startup culture**
- Invest in **AI governance and workforce transition policies**
- Encourage **balanced regional development**

Conclusion

The debate on 'copy-paste' development highlights the need for **contextual, innovation-driven growth strategies**. India's future lies in leveraging its **demographic strength, technological capability, and regional success models like Hyderabad**, while addressing emerging challenges such as AI-driven disruption.

Telangana Government Pushes for Completion of Irrigation Projects and Development of Adilabad

Source: [The Hindu](#)

Relevance: **TSPSC - Telangana Specific (Irrigation, Regional Development, Tribal Areas, Welfare Policies)**

Important Key Words

For Prelims:

- Pranahita-Chevella Project, Tummidihatti,

Adilabad, Godavari Basin, Lift Irrigation, Komaram Bheem

For Mains:

- Irrigation Development, Regional Imbalance, Tribal Development, Water Resource Management, Inclusive Growth

Why in News?

A. Revanth Reddy has announced that the State government will complete all pending irrigation projects and restart the Pranahita-Chevella project. The announcement was made during a public meeting in Adilabad district as part of the “Prajapalana - Pragathi Pranalika” programme.



Source: The Hindu

Background

- Telangana is largely located on the Deccan Plateau, where rainfall is uneven and agriculture depends heavily on irrigation facilities.
- Many regions, particularly in northern Telangana, **Adilabad**, **Komaram Bheem Asifabad**, **Mancherial**, **Nirmal**, **Nizamabad**, **Kamareddy** have historically faced water scarcity and uneven development.
- The region is dominated by the **Godavari River** and its tributaries.

- Over the years, the State has invested heavily in major irrigation projects, especially those based on the Godavari and Krishna river systems.

Key Announcements

- The Chief Minister made several important commitments related to irrigation and regional development.
- He stated that all pending irrigation projects in the State would be completed on priority. He also announced that the Pranahita-Chevella project would be restarted at Tummidihatti, with the objective of providing irrigation water to drought-prone regions.
- In addition to irrigation, the government has proposed multiple development initiatives for Adilabad district.
- These include plans for establishing an airport, developing the region as an industrial hub, and setting up a university.
- The government also reiterated its commitment to welfare measures such as free bus travel for women, provision of 200 units of free electricity, and construction of Indiramma houses.

Irrigation : Telangana

- Agriculture in Telangana depends significantly on irrigation due to the semi-arid climate of the region.
- The State primarily relies on the waters of the Godavari and Krishna rivers.
- Given the plateau terrain, Telangana has adopted **lift irrigation techniques**, where water is pumped from rivers to higher elevations.
- This has enabled irrigation in areas that were previously unsuitable for canal-based



irrigation.

- Major irrigation projects in the State include the Kaleshwaram Lift Irrigation Project, the Pranahita-Chevella Project, and the Sriram Sagar Project.
- These projects have been central to the State's strategy for agricultural growth and water management.

Pranahita-Chevella Project

- The Pranahita-Chevella project is an important irrigation project designed to utilise the waters of the Godavari River.
- The project is located at Tummidihatti and aims to supply irrigation water to several districts in northern Telangana, including Adilabad, Nirmal, Karimnagar, and Warangal.
- The project has the potential to transform dryland farming areas into irrigated agricultural zones, thereby improving crop yields and enhancing farmers' incomes
- It is also significant in the broader context of water resource utilisation in the Godavari basin.

Development of Adilabad

- **Agricultural Base** - Predominantly agrarian with cotton, soybean, and maize as major crops; largely rain-fed with gradual irrigation support.
- **Tribal Development Focus** - Significant tribal population (Gonds, Kolams); development through ITDA, forest rights, and welfare schemes.
- **Industrial Growth (Limited)** - Presence of cement and paper industries (e.g., Sirpur Paper Mills), but overall low industrial diversification.
- **Infrastructure Improvement** - Better road connectivity and drinking water supply (Mission Bhagiratha), yet gaps remain in

remote tribal areas.

- **Eco-Tourism Potential** - Attractions like Kuntala Waterfalls and Kawal Tiger Reserve support tourism-led development.
- **Key Challenges** - Regional imbalance, tribal poverty, dependence on monsoon, and migration due to limited employment opportunities.

Historical and Tribal Linkages

- Komaram Bheem was a prominent leader of the Gond tribal community in the Adilabad region during the early 20th century.
- He led an armed resistance against the Nizam of Hyderabad, opposing the exploitation of tribal lands and forest resources.
- He is best known for popularising the slogan "**Jal, Jungle, Jameen**", which represents the demand for tribal rights over water, forest, and land resources.
- This slogan has since become a symbol of tribal assertion and environmental justice movements in India.
- Komaram Bheem's movement was significant because it highlighted the issues of **forest rights, land alienation, and administrative exploitation faced by tribal communities**.
- His struggle is considered an early expression of organised tribal resistance in the Deccan region.
- Another important related event is the **Indravelli Incident (1981)**, which took place in Adilabad district.
- It involved a protest by tribal communities demanding land rights and implementation of protective laws.
- The incident became a turning point in shaping tribal policies and administrative approaches in Telangana.



Significance

- The announcement is significant because it emphasises the role of irrigation in driving agricultural development and reducing rural distress.
- By focusing on completing pending projects, the government aims to ensure better utilisation of water resources.
- The development initiatives for Adilabad indicate a shift towards more balanced regional development, which is essential for inclusive growth.
- At the same time, the integration of irrigation, infrastructure, and welfare measures reflects a comprehensive approach to development.

Challenges

- Despite the positive outlook, several challenges remain.
- Irrigation projects often face delays due to financial constraints, land acquisition issues, and environmental concerns.
- Lift irrigation systems also require substantial energy inputs, which can increase operational costs.
- Ensuring equitable distribution of water and balancing development with environmental sustainability are additional challenges that need to be addressed.

Way Forward

- The government needs to ensure timely completion of irrigation projects through effective monitoring and resource allocation.
- There should be a focus on improving water use efficiency and promoting sustainable agricultural practices.
- Development initiatives in regions like Adilabad must be implemented in a manner

that respects tribal rights and environmental concerns.

- A coordinated approach integrating irrigation, infrastructure, and social welfare will be essential for achieving long-term development goals.

Telangana Launches Digital Surrogacy & ART Portal After Baby Selling Racket

Source: [The Hindu](#)

Relevance: TSPSC - Telangana Specific (Health Governance, Regulation, Digital Governance, Social Issues)

Important Key Words for Prelims and Mains

For Prelims:

- Surrogacy Portal Telangana, ART (Assisted Reproductive Technology), Universal Srushti Fertility Centre, Surrogacy Act, ART Act, World Health Day

For Mains:

- Health Governance in Telangana, Regulation of Fertility Clinics, Digital Governance in Health Sector, Transparency in Licensing, Ethical Issues in Surrogacy

Why in News?

The Government of Telangana has introduced a **digital Surrogacy and ART portal** to regulate fertility services after a baby-selling racket was exposed in Hyderabad in 2025.



Source: The Hindu

Background

- A major scam involving illegal surrogacy and baby selling was uncovered at a fertility centre in Hyderabad.
- The incident exposed serious gaps in the State's ability to track and regulate surrogacy and Assisted Reproductive Technology (ART) services.
- Officials found that there was no clear system to identify which clinics were authorised, how approvals were granted, or how cases were being monitored.

Issues Identified

- The investigation revealed multiple administrative and regulatory weaknesses.
- There was heavy reliance on **manual record-keeping**, which made tracking difficult and delayed decision-making.
- The approval process for surrogacy cases was **complex and fragmented**, involving multiple authorities at district and State levels.
- There was **no centralised system** to monitor applications, track approvals, or maintain data on ongoing cases.

- Even basic information, such as the number of applications or their status, was not readily available.

Existing Legal Framework

The regulation of surrogacy and Assisted Reproductive Technology (ART) services in India is governed by two key legislations:

- The **Surrogacy (Regulation) Act, 2021**
- The **Assisted Reproductive Technology (Regulation) Act, 2021**
- These Acts provide a comprehensive legal framework for regulating fertility services and protecting the rights of all stakeholders involved. They mandate that only **registered and authorised clinics** are permitted to operate.
- Surrogacy is allowed only under specific conditions and follows an **altruistic model**, which prohibits commercial exploitation.
- The law also requires **mandatory approvals**, including medical certification, eligibility verification, and insurance coverage for the surrogate mother.

The Surrogacy Act 2021

1. Regulates surrogacy in India by allowing only altruistic surrogacy and prohibiting commercial surrogacy.
2. Works in conjunction with the ART (Assisted Reproductive Technology) Act, 2021 to regulate assisted reproduction.
3. Altruistic surrogacy permits only medical expenses and insurance for the surrogate mother; no additional payment allowed.
4. Commercial surrogacy is banned and punishable with imprisonment up to 10 years and a fine up to ₹10 lakh.
5. Only legally married Indian couples with proven infertility are eligible; age limits prescribed for both partners.



6. A single woman (widow or divorcee) aged 35–45 years is also eligible under specified conditions.
7. The intending couple should not have a surviving child, except in cases of disability or life-threatening disorder.
8. The surrogate mother must have previously given birth and can act as a surrogate only once in her lifetime.
9. National and State Surrogacy Boards are established for supervision and regulation.
10. Mandatory registration of all surrogacy clinics; unregistered clinics are prohibited from operating.
11. The child born through surrogacy is treated as the biological child of the intending couple, and abandonment is prohibited.
12. Issues include restrictive eligibility, exclusion of LGBTQ+ and unmarried couples, and challenges in effective implementation.

Assisted Reproductive Technology (Regulation) Act, 2021

1. The Act regulates Assisted Reproductive Technology (ART) services such as IVF, sperm donation, and embryo transfer in India.
2. The law aims to ensure ethical practices, prevent exploitation of women, and provide legal clarity in fertility treatments.
3. The scope of ART includes techniques like in-vitro fertilization (IVF), intrauterine insemination (IUI), gamete donation, and embryo storage.
4. The Act establishes National and State ART Boards for regulation, supervision, and policy guidance.
5. The law mandates compulsory registration of ART clinics and ART banks, prohibiting unregistered operations.

6. The provisions allow ART access to married couples and single women under prescribed conditions.
7. The Act requires written informed consent of all parties involved, including donors and intending parents.
8. The law prescribes eligibility conditions for gamete donors and limits the number of donations.
9. The Act prohibits sex selection and misuse of embryos or gametes for non-medical purposes.
10. The provisions ensure confidentiality of donors and patients, with strict data protection rules.
11. The Act provides penalties, including fines and imprisonment, for violations and malpractice.
12. The law faces issues such as high cost, regulatory challenges, ethical concerns, and overlap with surrogacy laws.

Key Features of the New Portal

- To address these issues, the State government has developed a digital portal covering the entire lifecycle of surrogacy and ART services.
- The portal will allow applicants to submit documents online, reducing the need to visit multiple offices.
- It will provide timeline-based tracking, enabling applicants and officials to monitor the progress of applications.
- The system will schedule and record interviews and approvals digitally, ensuring accountability.
- It aims to create a single integrated platform for all approvals, licensing, and monitoring activities.

Comparison between Earlier and New System

The transition from the earlier system to the new

digital portal represents a significant administrative reform.

Aspect	Earlier System	New Portal System
Records	Maintained manually	Maintained digitally
Tracking of applications	Not available	Real-time tracking available
Data management	Fragmented across offices	Centralised database
Licensing process	Unstructured and manual	Online, standardised, and monitored
Transparency and accountability	Limited	Significantly improved

Significance

- The initiative strengthens **health governance in Telangana** by introducing transparency and accountability in a sensitive sector.
- It creates a **digital trail for surrogacy cases**, which helps prevent illegal activities such as baby selling.
- The portal simplifies the process for applicants by reducing administrative delays and improving access to services.
- It also positions Telangana as a State adopting **digital solutions in health regulation**, which may serve as a model for other states.

Challenges

- Effective implementation will require proper training of officials and stakeholders to use the digital system.

- Ensuring **data privacy and protection** is critical due to the sensitive nature of medical and personal information.
- Monitoring compliance of private fertility clinics remains a challenge.
- There may be initial difficulties in transitioning from manual to digital systems.

Way Forward

- The government should ensure **strict enforcement of regulations** through the portal.
- Capacity building and awareness programmes should be conducted for both officials and applicants.
- Data security measures must be strengthened to protect sensitive information.
- The system can be expanded and integrated with national-level platforms for better coordination.

Telangana Govt's U-Turn on Kaleshwaram Project: Repairs Ordered for Barrages

Source: [Telangana Today](#)

Relevance: GS Paper III - Infrastructure, Water Resources | GS Paper II - Governance

Important Key Words

For Prelims

- Kaleshwaram Lift Irrigation Project (KLIP), Medigadda Barrage, Annaram Barrage, Sundilla Barrage, Godavari River, NDSA, CWPRS, Lift Irrigation

For Mains

- Large irrigation projects, Dam safety governance, Infrastructure accountability, Water resource management, Federal irrigation policy, Environmental compliance

Why in News?

In a significant policy reversal, the Telangana government has decided to undertake repairs of the three key barrages – Medigadda, Annaram, and Sundilla – of the Kaleshwaram Lift Irrigation Project (KLIP). The decision comes after long-pending recommendations by the National Dam Safety Authority (NDSA), which had earlier highlighted structural issues in the project.



Source: The Hindu

What is the Issue?

The government had earlier maintained that the barrages were inoperable and used this as a political critique of the previous regime. However, it has now reversed its stance and initiated steps to restore the barrages to operational condition.

The Chief Minister has directed:

- Immediate repair works as per NDSA recommendations

- Preparation of a detailed action plan
- Continuous monitoring of progress
- Completion of critical studies before the monsoon

The decision reflects a shift from political positioning to infrastructure restoration and safety compliance.

About Kaleshwaram Lift Irrigation Project (KLIP)

The Kaleshwaram Lift Irrigation Project is a multi-purpose irrigation project on the Godavari River in Telangana and is considered the world's largest multi-stage lift irrigation scheme.

- It is located near the confluence of the Godavari and Pranahita rivers, a region with significant untapped water potential.
- The project is designed to lift and redistribute water across multiple districts through an extensive network of pumps, reservoirs, canals, and tunnels.

Key Structural Features of KLIP

The project consists of:

- 3 major barrages – Medigadda (Lakshmi), Annaram (Saraswathi), Sundilla (Parvathi)
- 14 reservoirs
- 31 lift systems
- Over 1,800 km of canals, tunnels, and pipelines

It is divided into multiple links and packages, enabling staged lifting of water from lower to higher elevations.

The system involves reverse pumping of water from the Godavari basin to upland areas for irrigation and drinking purposes.

Purpose and Water Allocation

The project aims to utilise around 240 TMC of water, allocated as:

- Irrigation – 169 TMC
- Drinking water – 10 TMC

- Hyderabad municipal supply – 30 TMC
- Industrial use – 16 TMC
- Remaining – evaporation losses

It seeks to expand irrigation coverage across 13 districts and stabilise existing agricultural areas.

Barrages Under Repair

- **Medigadda Barrage (Lakshmi Barrage)**
This is the main storage structure of the project and has suffered severe structural damage, including sinking pillars.
- **Annaram Barrage (Saraswathi Barrage)**
Located upstream, it has also developed structural issues requiring major repair work.
- **Sundilla Barrage (Parvathi Barrage)**
Forms part of the three-stage system and is also included in the repair plan.

Technical and Administrative Action Plan

The government has outlined a detailed technical response:

- Conducting structural studies across the entire 1.6 km stretch of the barrage, not limited to damaged sections
- Drilling around 500 borewells near Medigadda for geotechnical investigation
- Engaging the Central Water and Power Research Station (CWPRS) for scientific analysis
- Involving the Central Water Commission (CWC) at all stages
- Finalising engineering designs for repairs
- Setting up a dedicated multi-agency team including irrigation officials, engineers, and consultants
- Establishing a base camp at the project site for continuous supervision

The government has also committed to ensuring adequate funding and strict timelines, with

completion targeted before or soon after the monsoon.

Role of National Dam Safety Authority (NDSA)

The NDSA had earlier identified:

- Structural flaws
- Design defects
- Quality control lapses

Its recommendations had remained unimplemented for a long time. The current decision marks the first serious attempt to act on those findings, highlighting the importance of institutional oversight in large infrastructure projects.

Key Issues and Concerns

- **Structural Integrity and Design Flaws:** Reports have pointed to engineering deficiencies and poor construction quality, raising concerns about long-term sustainability.
- **Delay in Action:** Despite early warnings, corrective measures were not taken promptly, increasing the risk of damage.
- **Environmental Concerns:** The National Green Tribunal had earlier observed that the project did not fully comply with environmental regulations.
- **Financial Implications:** Large-scale repair and redesign may increase project costs significantly.
- **Governance and Accountability:** The episode raises questions about decision-making, project monitoring, and accountability in mega infrastructure projects.

Significance of the Decision

- The move signals a shift toward prioritising



infrastructure safety and operational restoration.

- It highlights the role of regulatory institutions like NDSA in ensuring compliance and safety.
- The repairs are crucial for ensuring water security for irrigation, drinking, and industrial needs in Telangana.
- The decision also has implications for public trust in large-scale government projects.

Conclusion

The Telangana government's decision to repair the Kaleshwaram barrages marks an important course correction in managing one of India's largest irrigation projects. While the project remains critical for water security and agricultural development, the episode underscores the need for robust design, timely intervention, and institutional accountability in infrastructure governance. Ensuring long-term sustainability will depend not just on repairs, but on systemic improvements in planning, execution, and monitoring.

Telangana Promotes Use of AI to Enhance Revenue Collection

Source: [The Hindu](#)

Relevance: GS Paper III – Economy / Science & Technology / Governance

Important Key Words for Prelims and Mains

For Prelims

- Artificial Intelligence, GST, CGST, SGST, IGST, GST Council, MMDR Act 1957, Motor Vehicles Act 1988, Registration Act 1908, Stamp Duty, Land Monetisation

For Mains

- Technology-driven governance, AI in tax administration, Revenue augmentation, Digital compliance ecosystem, Illegal mining regulation, Fiscal capacity of states, Data integration in governance, Public finance efficiency

Why in News?

The Deputy Chief Minister of Telangana, Mallu Bhatti Vikramarka, has urged revenue-generating departments to adopt modern technologies such as Artificial Intelligence (AI).

- The objective is to strengthen tax administration, monitor illegal economic activities, and increase the State's financial resources.
- The announcement was made during a Cabinet Sub-Committee meeting on revenue generation and resource mobilisation.

AI and Technology in Tax Administration

Governments are increasingly deploying **Artificial Intelligence (AI)**, **big data analytics**, and **automated monitoring systems** to strengthen tax administration.

- These technologies analyse large volumes of financial data to detect **irregular transaction patterns, tax evasion, and suspicious financial activities**.
- Integration of databases across departments such as **transport, mining, and taxation** helps identify discrepancies in tax filings and unauthorised economic activities.
- Continuous digital monitoring of revenue streams improves transparency, reduces leakages, and enhances efficiency in revenue collection.



Source: The Hindu

Increase in GST Revenue

The government reported a **15% increase in GST revenue over the past three months**, attributed to improved monitoring and stricter enforcement.

- Goods and Services Tax was introduced through the 101st Constitutional Amendment Act.
- GST replaced several indirect taxes such as **central excise duty, service tax, value added tax (VAT), and entry tax**, creating a unified tax system.
- India follows a **dual GST structure** consisting of CGST, SGST and IGST.
- Decisions regarding GST rates, exemptions and policy reforms are taken by the GST Council.
- Digital tracking of invoices and transactions has significantly improved tax compliance and revenue mobilisation.

Regulation of Sand Mining and Quarry Operations

Authorities have directed strict action against **illegal sand mining, unauthorised crusher operations, and illegal transportation of minerals**.

- Mining activities in India are governed by the Mines and Minerals (Development and Regulation) Act, 1957.

- Minor minerals such as **sand, gravel, and clay** fall under the regulatory authority of State Governments.
- Illegal sand mining causes **riverbank erosion, groundwater depletion, destruction of aquatic ecosystems, and loss of government revenue**.
- Monitoring tools such as **satellite imagery, drones, and digital surveillance systems** are increasingly used to detect illegal mining activities.

Monitoring Illegal Transportation and Vehicle Overloading

Authorities have emphasised strict enforcement against **illegal transportation and overloading of vehicles carrying minerals and construction materials**.

- Road transport regulation in India is governed by the Motor Vehicles Act, 1988.
- Overloading of vehicles leads to **damage to highways, increased risk of accidents, and significant economic losses** due to infrastructure deterioration.
- Technologies such as **weigh-in-motion sensors, GPS-based tracking systems, and Automatic Number Plate Recognition (ANPR)** enable real-time monitoring of vehicles and enforcement of transport regulations.

Land Revenue and Property Registration

Property transactions in India are governed by the Registration Act, 1908.

- Buyers are required to pay stamp duty and registration charges during property transfer.
- These charges constitute a significant source of revenue for State Governments.
- States periodically revise guideline values



or circle rates to prevent undervaluation of property transactions and ensure that property prices reflect market values.

- Digital land registration systems improve transparency, reduce delays in registration, and help prevent fraudulent property transactions.

Land Monetisation and Urban Development

The government is promoting land assets managed by the Hyderabad Metropolitan Development Authority to attract investment and enhance revenue.

- Metropolitan development authorities are responsible for urban planning, infrastructure development, and land management in metropolitan regions.
- Land monetisation allows governments to generate financial resources by leasing or selling public land assets.
- Revenue generated through land monetisation is often used to finance infrastructure projects such as metro rail systems, urban transport networks, and housing development.

Analytical Insights

Adoption of advanced technologies such as Artificial Intelligence reflects a shift from conventional administrative practices to technology-driven governance.

- AI-based monitoring allows governments to predict revenue trends and identify irregularities before they escalate, strengthening fiscal management.
- Integration of data across sectors such as taxation, transport, and mining reflects a whole-of-government approach to governance.

- Improved GST compliance and coordination between the Union and States reinforces the principle of cooperative federalism within the GST framework.
- At the same time, increased digital monitoring raises concerns related to data privacy, potential surveillance overreach, and the digital divide in administrative systems.

Conclusion

The Telangana government's initiative demonstrates how integrating Artificial Intelligence and digital technologies into governance can significantly enhance revenue mobilisation, improve compliance, and reduce illegal economic activities. It reflects a broader transition towards **data-driven public finance management**, combining efficiency with transparency in state administration.

Jyotirao Phule and Contemporary Relevance of Social Justice

Source: [The Hindu](#)

Relevance: **GS Paper I (Modern India), GS Paper II (Social Justice), GS Paper IV (Ethics)**

Important Key Words for Prelims and Mains

For Prelims

- Jyotirao Phule, Satyashodhak Samaj, Ghulamgiri, Savitribai Phule, Poona (Pune), caste reform, women education

For Mains (Horizontal Keywords)

- Social justice, caste hierarchy, anti-caste movement, education as empowerment,

gender equality, inclusive development, substantive equality, ethical leadership, social reform tradition

Why in News?

- Telangana Chief Minister A. Revanth Reddy paid tributes to Jyotirao Phule on his birth anniversary.
- The tribute emphasised that present-day governance continues to draw inspiration from Phule's ideals of **social justice, equality, and access to opportunities for marginalised sections.**



Source: The Hindu

About Jyotirao Phule

- Jyotirao Govindrao Phule was born on **11 April 1827 in Poona (present-day Pune).**
- He belonged to the **Mali caste**, which was socially classified as a lower caste under the traditional hierarchy.
- His early experiences of caste discrimination shaped his lifelong commitment to social reform.
- In 1888, he was honoured with the title "**Mahatma**" for his extraordinary

contribution to society.

- He is regarded as one of the earliest thinkers to systematically challenge **caste inequality and social exclusion in India.**

Ideological Foundations

- Phule believed that **social inequality was not natural but socially constructed**, and therefore it could be dismantled through reform.
- He strongly criticised **Brahmanical dominance**, arguing that religious and social systems were used to justify inequality.

He proposed an alternative vision of society based on:

- Equality of all individuals
- Dignity of labour
- Access to education

Phule used **symbolic narratives** such as Raja Bali to represent an egalitarian social order, directly challenging dominant cultural symbols.

- He believed that **education is the most powerful instrument for social transformation**, especially for oppressed communities.
- His ideology also strongly supported **women's rights**, making him one of the earliest advocates of gender justice in India.

Major Contributions and Reform Initiatives

1. Establishment of Satyashodhak Samaj

- Founded in 1873 with the objective of

promoting **truth, rationality, and social equality**.

- The organisation worked to liberate lower castes from social oppression and religious domination.
- It rejected priestly mediation and encouraged **direct access to knowledge and social participation**.

2. Educational Reforms

- In 1848, Phule and his wife started the **first school for girls in Poona**, which was a revolutionary step in a deeply patriarchal society.

He established multiple schools for:

- Girls
- Lower caste children
- Marginalised communities

He emphasised that **education must reach the most deprived sections**, not just elite groups.

- He advocated for **state-supported and compulsory primary education**.

3. Women's Empowerment and Social Reform

- Phule strongly opposed practices such as:
 - Child marriage
 - Widow exploitation
 - Female infanticide
- He established homes for **widows and abandoned children**, ensuring dignity and protection.
- He supported **widow remarriage**, which was highly controversial at that time.
- His work laid the foundation for later movements on gender justice in India.

4. Literary Contributions

Ghulamgiri (Slavery)

- A seminal work by Jyotirao Phule that presents a powerful critique of caste-based oppression.
- It draws parallels between the exploitation of lower castes in India and the institution of slavery in other parts of the world.
- The work exposes the socio-religious justifications used to sustain inequality.

Sarvajanik Satyadharma

- In this work, Phule proposed the idea of a universal religion grounded in truth, equality, and moral values.
- It rejected caste hierarchies and ritualistic practices, advocating a rational and inclusive social order.

5. Administrative and Civic Role

- Jyotirao Phule served as a member of the Poona Municipal Committee in 1876.
- In this role, he actively worked towards improving:
 - Public sanitation
 - Civic infrastructure
 - Living conditions of marginalized and oppressed communities
- His administrative contributions reflected his commitment to social justice beyond intellectual and reformist work.

Role of Savitribai Phule

- Savitribai Phule was one of the first female teachers in India.
- She played a crucial role in establishing and running schools, especially for girls and lower-caste children.

- Despite facing severe social **opposition, harassment, and discrimination**, she continued her work with determination.
- Her efforts laid the foundation for women's education and empowerment in India.

Constitutional and Ethical Linkages

- **Article 14** (Equality before law): Reflects Phule's vision of equal treatment for all individuals.
- **Article 15(4)**: Permits special provisions for socially and educationally backward classes, aligning with his idea of upliftment.
- **Article 21A**: Guarantees the right to education, a principle central to Phule's reform movement.
- **Directive Principles (Article 46)**: Directs the State to promote the educational and economic interests of weaker sections.
- Phule's ideas significantly influenced later leaders such as B. R. Ambedkar, especially in shaping the concept of **substantive equality**, which goes beyond mere formal equality.

Conclusion

Jyotirao Phule's contribution represents a transformative phase in India's social history. His emphasis on **education, equality, and dignity** continues to guide India's constitutional vision and public policy. His legacy reminds us that social reform is essential for building a just and inclusive society.

Telangana CM Proposes GSDP-Based Delimitation Model to Safeguard Southern States

Source: [The Hindu](#)

Relevance: TSPSC - Telangana Specific (Polity, Federalism, Delimitation, Regional Balance)

Important Key Words for Prelims and Mains

For Prelims:

- Delimitation, Article 81, Article 82, Freeze on Delimitation (1976-2026), GSDP (Gross State Domestic Product), 84th Constitutional Amendment

For Mains:

- Federalism in India, Regional Imbalance, Representation vs Population Debate, Delimitation Reform, Economic Criteria in Representation

Why in News?

A. Revanth Reddy has proposed the inclusion of **Gross State Domestic Product (GSDP)** as a criterion in delimitation, arguing that population-based seat allocation alone would disadvantage southern States.

Background of the Issue

- The issue arises in the context of a possible increase in the strength of the Lok Sabha.
- Currently, seats in the Lok Sabha are allocated primarily based on population.
- However, States that have successfully controlled population growth may lose relative representation, creating concerns of regional imbalance.

Key Proposal

The Chief Minister has suggested a **hybrid model of seat allocation**:

- 50% of seats to be allocated based on **population (pro-rata basis)**
- 50% of seats to be allocated based on **GSDP (economic contribution)**

For example, out of 272 additional seats:

- 136 seats → population basis
- 136 seats → GSDP basis

The proposal aims to ensure that economically contributing States are not politically marginalised.



Source: *The Hindu*

Delimitation Framework in India

Delimitation refers to the process of **redrawing constituency boundaries and reallocating seats**.

- **Article 81** → Allocation of seats in Lok Sabha
- **Article 82** → Readjustment after Census

The process is carried out by the **Delimitation Commission**, whose decisions are final and binding.

Historical Evolution

- The Delimitation Commission is a

statutory, independent, and quasi-judicial body constituted by the Government of India to redraw the boundaries of **Lok Sabha and State Legislative Assembly constituencies** based on Census data.

- It ensures the principle of **“one person, one vote, one value”** by maintaining roughly equal population across constituencies.
- Delimitation exercises conducted in **1967 and 1976**
- **Constitutional Basis:**

Article	Provision
Article 82	Parliament enacts a Delimitation Act after every Census
Article 170	Readjustment of State Assembly constituencies
Articles 330 & 332	Reservation of seats for SCs and STs
Article 327	Parliament's power to legislate on elections
Article 329(a)	Delimitation orders are non-justiciable

- **42nd Amendment (1976)** → Freeze on seat redistribution
- **84th Amendment (2001)** → Extended freeze till post-2026 Census

Thus, the next delimitation exercise is expected after 2026.

Issue of Regional Imbalance

- Population-based delimitation may increase the representation of northern States more than southern States.

For example:

- Uttar Pradesh → 80 seats → may increase to 120
- Kerala → 20 seats → may increase to 30



This widens the gap and may reduce the relative political influence of southern States

Significance of Proposal

- The proposal introduces the idea of combining **population with economic contribution** in representation.
- It attempts to address concerns of States that have achieved population control and contributed significantly to economic growth.
- It highlights the need to balance **democratic representation with federal fairness**.

Challenges

- Constitutional framework currently based on population
- Resistance from States benefiting from current system
- Difficulty in determining appropriate weightage
- Political consensus required for reform

Way Forward

- Conduct **all-party consultations and expert review**
- Ensure balance between **population and economic contribution**
- Strengthen cooperative federalism through dialogue
- Develop a transparent and acceptable delimitation model

Telangana Hate Speech and Hate Crimes (Prevention) Bill, 2026 – Promise and Concerns

Source: [The Hindu](#)

Relevance: **TSPSC - Telangana Specific (Polity, Fundamental Rights, Governance, Social Issues)**

Important Key Words for Prelims and Mains

For Prelims:

- Telangana Hate Speech Bill 2026, Cognizable Offence, Non-bailable Offence, Article 19(1)(a), Article 19(2), IPC Section 153A, Section 505, Select Committee

For Mains:

- Freedom of Speech vs Reasonable Restrictions, Hate Speech Regulation, Misuse of Law, Digital Regulation, Civil Liberties, State Power vs Individual Rights

Why in News?

The Telangana government introduced the **Telangana Hate Speech and Hate Crimes (Prevention) Bill, 2026**, which has generated debate over its provisions and potential impact on freedom of speech.

Background

The Bill was introduced in the State Assembly with the objective of addressing the growing concerns related to hate speech, communal tensions, and targeted violence.

- The initiative was influenced by similar legislative efforts in other States and by increasing incidents of hate speech, especially through digital platforms and social media.

Key Provisions of the Bill

- The Bill defines hate speech broadly as any expression – spoken, written, or digital – that promotes disharmony or ill-will based

on religion, caste, gender, or sexual orientation.

- It prescribes **stringent punishments**, including imprisonment ranging from one to seven years for first-time offences and up to ten years for repeat offences.
- The offences are classified as **cognizable and non-bailable**, which allows the police to arrest individuals without a warrant.
- The Bill also empowers a **Designated Officer** to remove or block online content without prior judicial approval.



Source: The Hindu

Constitutional and Legal Framework

- The issue of hate speech is closely linked to **freedom of speech and expression under Article 19(1)(a)** of the Constitution.
- However, this freedom is not absolute and is subject to **reasonable restrictions under Article 19(2)**, which include grounds such as public order, decency, morality, and incitement to an offence.
- Thus, any law regulating hate speech must maintain a balance between **protecting public order and preserving individual freedoms**.

Existing Legal Provisions

India does not have a specific law exclusively

defining hate speech, but several provisions address related offences:

- **IPC Section 153A** → Promotes enmity between groups
- **IPC Section 505** → Statements leading to public mischief
- **Representation of the People Act, 1951** → Disqualification for misuse of speech during elections
- **Protection of Civil Rights Act, 1955** → Penalises promotion of untouchability
- **Religious Institutions (Prevention of Misuse) Act, 1988** → Prohibits use of religious spaces for promoting hatred

Issues and Criticism

- The Bill has been criticised for its **broad and vague definition of hate speech**, which may lead to subjective interpretation.
- The classification of offences as **non-bailable and cognizable** raises concerns about potential misuse and arbitrary arrests.
- The provision allowing removal of digital content without judicial oversight has been described as a form of **executive overreach**.
- Political parties and civil society groups have argued that such provisions may be used to suppress dissent and limit free speech.

Need for the Law

- Supporters of the Bill argue that existing legal provisions are not sufficient to deal with the **speed and scale of online hate speech**.
- Recent incidents of communal violence and targeted attacks indicate the need for a more **comprehensive and preventive legal framework**.
- The Bill aims to protect vulnerable



communities and maintain **social harmony**.

Role of Select Committee

- Due to widespread criticism, the Bill has been referred to a **Select Committee of the Assembly**.
- The Committee is expected to review the provisions, address concerns related to misuse, and recommend necessary changes.
- Its role is crucial in ensuring that the law achieves a balance between **security and liberty**.

Significance

- The Bill highlights the increasing importance of regulating **digital and online speech** in modern governance.
- It raises critical questions about the balance between **State authority and fundamental rights**.
- The debate surrounding the Bill reflects broader issues of **federalism, civil liberties, and democratic accountability**.

Challenges

- Defining hate speech precisely without ambiguity remains a major challenge, as vague definitions can lead to inconsistent interpretation and enforcement.
- Preventing the misuse of legal provisions is equally important, since such laws may be exploited to target political opponents or suppress dissent.
- Ensuring adequate judicial oversight in enforcement is necessary to maintain fairness and protect fundamental rights.
- At the same time, there is a constant need to balance freedom of expression with the requirement of maintaining social harmony in a diverse society.

Way Forward

- The Bill should be redrafted with **clear definitions and safeguards** against misuse.
- Judicial oversight should be incorporated before actions such as arrests or content removal.
- The law should complement existing provisions rather than duplicate them.
- A balanced approach is necessary to protect both **fundamental rights and public order**.

Jeh Aerospace–Liebherr Agreement and the Expansion of Aerospace Manufacturing in Telangana

Source: [Telangana Today](#)

Relevance: **TSPSC - Telangana Specific (Industry, Aerospace, Defence Manufacturing, Economic Geography)**

Important Key Words for Prelims and Mains

For Prelims:

- Jeh Aerospace, Liebherr-Aerospace, Landing Gear System, Hyderabad, DRDL, RCI, Bharat Dynamics Limited, Hindustan Aeronautics Limited, Aerospace and Defence Park (Adibatla), TS-iPASS

For Mains:

- Aerospace Industry in Telangana, Industrial Clusters, Global Supply Chains, High-Precision Manufacturing, Defence Ecosystem, Industrial Policy

Why in News?

Jeh Aerospace has entered into a long-term agreement with Liebherr-Aerospace for the

manufacture and supply of high-precision landing gear components. These components will be produced at the company's facility in Hyderabad, thereby strengthening Telangana's position in global aerospace manufacturing networks.



Source: The Hindu

Key Facts from the Development

- The production of components under this agreement will take place in Hyderabad, reinforcing the city's role as an industrial hub.
- The component involved is the landing gear system, which is a flight-critical part of an aircraft and essential for safe operations.
- The agreement is linked to commercial aviation programmes, particularly single-aisle aircraft, which form a major segment of global air transport.
- It is structured as a long-term agreement, indicating sustained industrial collaboration and stable integration into global supply chains.
- Jeh Aerospace has already demonstrated its manufacturing reliability by delivering more than 200,000 aerospace components without any quality defects, which reflects a high level of precision and adherence to international standards.

Background

- Telangana, particularly Hyderabad, has

gradually emerged as a major centre for aerospace and defence manufacturing in India.

- This growth has been supported by a combination of institutional presence, industrial infrastructure, and policy initiatives.
- The State has increasingly attracted both domestic and international companies in high-technology sectors, enabling it to participate in advanced manufacturing segments that require precision engineering and strict quality control.

Key Features of the Agreement

- The agreement focuses on the manufacture of landing gear components, which are among the most technically demanding parts of an aircraft.
- Jeh Aerospace will produce these components at its Hyderabad facility and supply them as part of Liebherr-Aerospace's global industrial network.
- Given the nature of aerospace manufacturing, the production process must comply with strict international certification standards, and even minor deviations can affect safety. The long-term nature of the agreement indicates confidence in the company's technical capability and manufacturing consistency.

Aerospace and Defence Ecosystem in Telangana

- Hyderabad has developed into one of India's leading aerospace clusters due to the presence of key research and manufacturing institutions.
- Important organisations located in the region include the Defence Research and Development Laboratory, which is involved



in missile system development, and the Research Centre Imarat, which focuses on guidance and avionics technologies.

- Public sector enterprises such as Bharat Dynamics Limited contribute to missile production, while Hindustan Aeronautics Limited supports aircraft manufacturing and related activities.
- The State has also developed industrial infrastructure such as the Aerospace and Defence Park at Adibatla in Ranga Reddy district.
- In addition to public sector institutions, private companies, including those associated with global aerospace firms, have established operations in this cluster, further strengthening the ecosystem.

Industrial Policy Framework

- The growth of the aerospace sector in Telangana is closely linked to its industrial policy.
- The State has implemented the Telangana State Industrial Project Approval and Self-Certification System (TS-iPASS) Act, 2014, which provides time-bound approvals for industrial projects and reduces procedural delays.
- The policy framework gives priority to high-technology sectors such as aerospace, defence, and electronics.
- It also promotes cluster-based development, with Hyderabad functioning as the central node for industrial and technological activities.

Industrial and Technological Significance of Landing Gear

- The landing gear system is a critical component of an aircraft. It supports the aircraft during take-off, landing, and taxiing operations on the ground.

- The system consists of components such as wheels, braking systems, shock absorbers, and structural supports.
- During landing, it must absorb extremely high impact forces as the aircraft touches the runway, which requires the use of high-strength materials and precise engineering.
- Because of its role in ensuring safety, the landing gear is classified as a flight-critical system, where failure is not acceptable.
- Manufacturing such components requires strict adherence to international standards and extremely tight tolerances.

Telangana in Global Aerospace Supply Chains

- The agreement reflects the growing integration of Telangana into global aerospace manufacturing networks.
- It indicates a shift from traditional manufacturing activities towards high-precision engineering and specialised production.
- By participating in the production of critical aircraft components, industries in Telangana are becoming part of global supply chains that operate at Tier-1 and Tier-2 levels, supplying directly or indirectly to major aircraft manufacturers.

Significance for Telangana

- The agreement strengthens Hyderabad's position as a major aerospace manufacturing hub in India.
- It demonstrates the ability of local industries to meet global standards in advanced manufacturing.
- The development contributes to industrial diversification and enhances the State's role in high-technology sectors.

- It also creates opportunities for skill development and technological advancement within the workforce.

Challenges

- The aerospace sector requires continuous technological advancement and a highly skilled workforce.
- Maintaining international certification standards is a demanding process that requires sustained investment.
- The sector is also influenced by global trends in aviation, which can affect demand and production cycles.

Way Forward

- There is a need to strengthen technical education and specialised training in aerospace manufacturing.
- Collaboration between research institutions and private industry should be enhanced to support innovation.

Continued policy support and infrastructure development will be important to sustain growth and attract further investment.

Backwardness Index (CBI), Backward Classes (BC), Scheduled Castes (SC), Scheduled Tribes (ST), Article 15(4), Article 16(4), Article 46, Article 340, Mandal Commission

For Mains:

- Social Justice, Reservation Policy, Substantive Equality, Caste Inequality, Data-driven Governance, Intra-caste Inequality



Source: *The Hindu*

Telangana Caste Survey Reveals Deep Inequality Across Communities

Source: [Telangana Today](#)

Relevance: TSPSC - Polity | Social Justice | Governance | Welfare State

Important Key Words for Prelims and Mains

For Prelims:

- SEEEPC Survey 2024, Comprehensive

Why in News?

- The Telangana government has released the findings of the **Socio-Economic, Educational, Employment, Political and**
- on targeted welfare policies and the need for data-based identification of backward classes.

This topic is highly important for aspirants preparing through best APPSC Group 1 coaching, best APPSC Group 2 coaching, and APPSC online coaching, as it relates to governance, economy, and administrative reforms—key areas in the APPSC Group 1 syllabus and APPSC Group 2 syllabus in Telugu PDF.



Background of the Survey

- The SEEEPC Survey 2024 was conducted as a comprehensive socio-economic exercise by the Telangana government to understand the real conditions of different caste groups across multiple dimensions such as education, employment, income, and social status.
- Recognising the importance of objective analysis, the State constituted an Independent Expert Working Group under the leadership of Justice B. Sudershan Reddy.
- The mandate of this group was to verify, interpret, and analyse the collected data and present scientifically grounded findings.
- The rationale behind such a survey lies in the constitutional requirement that policies related to backward classes must be based on empirical evidence rather than assumptions.
- Therefore, this survey plays a crucial role in informing future policy decisions related to reservation, welfare schemes, and social justice.

Such developments are frequently covered in APPSC test series, APPSC Group 1 test series, and APPSC Group 2 mock tests, making them crucial for APPSC Group 1 preparation strategy 2026.

Key Findings of the Survey

The survey presents a detailed picture of caste-based inequality in Telangana:

- Total number of castes identified → **242**
- Castes above State average backwardness → **135**
- Share of these castes in total population → **67%**

The **State average Comprehensive Backwardness Index (CBI)** score has been calculated as **81**, which acts as a benchmark to identify relative

backwardness.

Category-wise Observations

- Scheduled Castes (SC) and Scheduled Tribes (ST) are found to be **three times more backward than General Castes**
- Backward Classes (BC) are **2.7 times more backward than General Castes**

The survey also identifies major caste groups by population size:

- Madiga (SC)
- Shaik Muslim (BC)
- Mudiraj (BC)
- Lambadi (ST)
- Yadava (BC)
- Reddy (OC)
- Goud (BC)

A crucial conceptual finding of the report is that **“every backward caste is not equally backward.”**

This highlights the presence of **intra-category inequality**, which has significant policy implications.

Comprehensive Backwardness Index (CBI)

The Comprehensive Backwardness Index (CBI) is a composite indicator used to measure the level of backwardness across different caste groups.

It is based on multiple parameters such as:

- Social status and historical disadvantage
- Educational attainment
- Economic conditions and income levels
- Employment patterns and occupational status

A higher CBI score indicates a higher degree of backwardness.

The use of such an index represents a shift from traditional classification systems towards a **quantitative, data-driven approach**, which allows policymakers to identify and target the most disadvantaged groups more accurately.



Constitutional Framework of Backward Classes

The Constitution of India provides enabling provisions for the advancement of backward classes, but deliberately avoids defining the term “backward classes.”

This is because backwardness is considered to be dynamic and context-specific.

Key constitutional provisions include:

- **Article 15(4)** → Allows the State to make special provisions for socially and educationally backward classes
- **Article 16(4)** → Permits reservation in public employment for backward classes not adequately represented
- **Article 46** → Directs the State to promote the educational and economic interests of weaker sections

These provisions are based on the principle of **substantive equality**, which recognises that equal treatment may not lead to equal outcomes, and therefore corrective measures are necessary.

Article 340 and Backward Class Commissions

Article 340 provides the institutional mechanism for identifying backward classes. It empowers the President to appoint a commission to investigate the conditions of socially and educationally backward classes and recommend measures for their advancement.

Important Commissions

- Kaka Kalelkar Commission (1953) → First Backward Class Commission
- Mandal Commission (1979) → Used multi-dimensional criteria and recommended 27% reservation for OBCs

The Supreme Court, in the Indra Sawhney Case, upheld the validity of reservations and emphasised that backwardness must be determined using objective criteria.

In this context, the Telangana caste survey performs a similar role at the State level by providing a **data-based foundation for identifying backward classes**.

Concept of Backwardness in India

- Backwardness in India refers to a condition of **social, educational, and economic disadvantage** faced by certain groups.
- It is **not defined explicitly in the Constitution**, but has been interpreted through policies and judicial decisions.

Constitutional Basis

- Article 15(4) enables the State to make **special provisions for socially and educationally backward classes**.
- Article 16(4) allows **reservation in public employment** for backward classes not adequately represented.
- Article 46 directs the State to **promote the educational and economic interests of weaker sections**, especially SCs and STs.

Identification of Backward Classes

- Backwardness is primarily identified as **social and educational backwardness**, not purely economic.
- The **Mandal Commission (1979)** identified Other Backward Classes (OBCs) using social, educational, and economic indicators.
- The **Indra Sawhney v. Union of India (1992)** clarified that backwardness must be **social and educational**, and not solely economic.

Implications of the Survey

The findings of the survey have several important implications:

- They provide empirical support for **targeted welfare policies**



- They strengthen the case for **sub-categorisation within backward classes**
- They improve the accuracy of reservation policies
- They promote transparency and accountability in governance
- They help in identifying the most disadvantaged groups for focused intervention

Challenges and Concerns

Despite its importance, the survey also raises certain challenges:

- Caste-based data is politically sensitive and may lead to social tensions
- Implementing sub-categorisation can be administratively complex
- There is a risk of politicisation of data
- Ensuring accuracy and periodic updating of data remains a challenge

Way Forward

There is a need to use the survey findings for designing **evidence-based and targeted policies**.

Sub-categorisation within backward classes should be considered to ensure equitable distribution of benefits.

Institutional mechanisms must be strengthened to ensure transparent and effective implementation.

Periodic surveys should be conducted to update data and reflect changing socio-economic conditions.

Conclusion

The Telangana caste survey represents a significant step towards **data-driven governance and social justice**. By highlighting both inter-caste and intra-caste inequalities, it provides a more nuanced understanding of backwardness and lays the foundation for more effective and inclusive policy-making.

Chenchu Tribals Oppose Relocation from Amrabad Tiger Reserve

Source: [Telangana Today](#)

Relevance: **TSPSC - Environment | Tribal Welfare | Forest Rights | Biodiversity Conservation**

Important Key Words for Prelims and Mains

For Prelims:

- Chenchu Tribe, Amrabad Tiger Reserve, Project Tiger, Forest Rights Act, 2006, Wildlife Protection Act, 1972, National Tiger Conservation Authority (NTCA), Core Zone, Buffer Zone, Particularly Vulnerable Tribal Group (PVTG), Nallamala Forests

For Mains:

- Forest Conservation, Tribal Rights, Protected Area Management, Human-Wildlife Interface, Tribal Livelihood Security, Conservation versus Community Rights, Participatory Forest Governance

Why in News?

- The Chenchu tribe residing in the Amrabad Tiger Reserve have opposed relocation from core forest areas, stating that it would disrupt their livelihood, social structure, and traditional way of life.
- During the Prajavani Programme Telangana, tribal representatives from various hamlets highlighted their complete dependence on forest resources and expressed inability to survive outside the forest ecosystem.

- The Telangana State Planning Board assured that no forced eviction would take place and called for consultations, bringing focus again on the broader issue of balancing wildlife conservation with tribal rights.



Source: Indian Express

About the Chenchu Tribe

The Chenchus are one of the oldest tribal communities of South India and are classified as a **Particularly Vulnerable Tribal Group (PVTG)**, which means they are among the most socially and economically vulnerable tribal groups in India.

They are mainly found in:

- Telangana
- Andhra Pradesh
- Nallamala forest region
- Areas around Amrabad and Srisailem forests

Traditionally, the Chenchus are forest-dependent hunter-gatherers. Their economy, culture, and identity are closely linked with the forest ecosystem.

Their livelihood depends on:

- Collection of honey
- Gathering of fruits, roots, and tubers
- Minor forest produce
- Medicinal plants
- Small-scale hunting traditions
- Seasonal forest-based occupations

The forest is not only their source of income but also the centre of their social life, belief systems, and cultural identity. Forced displacement from forests therefore affects not just livelihood, but also community survival itself.

About Amrabad Tiger Reserve

- It is one of the largest tiger reserves in India, located in the **Nallamala Hills** of southern Telangana, primarily spread across **Nagar Kurnool and Nalgonda districts**.
- The reserve was formed in 2014 after the bifurcation of Andhra Pradesh, when the northern part of the earlier Nagarjunsagar-Srisailem Tiger Reserve came under Telangana.
- It forms part of the **Eastern Ghats landscape** and is characterized by rugged terrain, deep valleys, plateaus, and dense dry deciduous forests.
- The area is drained by the **Krishna River** and its tributaries, which play a crucial role in sustaining the forest ecosystem.
- It is home to important wildlife species such as **tiger, leopard, sloth bear, wild dog, deer species**, and diverse flora and fauna, making it a significant biodiversity hotspot.
- The reserve is also notable for the presence of the **Chenchu tribe**, a Particularly Vulnerable Tribal Group (PVTG), who traditionally depend on forest resources for their livelihood.
- The region has historical significance, with ancient human habitation and cultural sites, including connections to the **Nagarjunakonda Buddhist heritage region**.
- It is managed under **Project Tiger** with a **core-buffer strategy**, aiming to conserve wildlife while addressing the needs of local communities.



- The reserve plays an important role in maintaining ecological balance, acting as a **carbon sink, biodiversity reservoir, and watershed for the Krishna basin.**

Important Features of Amrabad Tiger Reserve

- One of the largest tiger reserves in India
- Rich biodiversity and dense dry deciduous forests
- Habitat for tigers, leopards, sloth bears, deer, wild dogs, and many bird species
- Important watershed area in the Krishna river basin
- Home to forest-dwelling tribal communities, especially the Chenchus

Background of the Issue

Tiger reserves are managed with the objective of creating secure habitats for wildlife, especially tigers. For this reason, the forest department often encourages relocation of human settlements from the core area of the reserve.

The idea is that reduced human activity helps:

- Prevent habitat disturbance
- Reduce poaching risks
- Protect prey species
- Improve breeding conditions for tigers
- Maintain biodiversity and ecological balance

However, the Chenchu community argues that they have lived in these forests for generations without harming wildlife and that they should not be treated as encroachers in their own ancestral lands.

They believe that relocation would:

- Destroy their livelihood systems
- Break traditional community networks
- Create economic insecurity
- Disconnect them from cultural and spiritual traditions linked to the forest

This reflects the long-standing policy challenge of

balancing conservation goals with tribal rights.

Forest Conservation and Tribal Rights

This issue represents one of the most important debates in environmental governance: whether conservation should exclude people or promote coexistence between wildlife and indigenous communities.

Conservation Perspective

Tiger reserves require strong habitat protection because:

- Tigers need large undisturbed territories
- Human interference may affect breeding and movement
- Illegal activities such as poaching must be controlled
- Habitat fragmentation weakens biodiversity protection

Under Project Tiger, the idea of creating “inviolable spaces” has often been used to justify relocation of villages from core forest zones.

Tribal Rights Perspective

For communities like the Chenchus:

- Forest is their home, not merely a resource
- Traditional knowledge helps sustainable use of forests
- Forest-based living often supports ecological balance
- Tribal identity is deeply connected to the land

Many experts argue that tribal communities should be treated as partners in conservation rather than obstacles to conservation.

This issue therefore raises an important governance question: should forest protection happen through exclusion or through community participation?

Forest Rights Act, 2006

- The **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006**, commonly



known as the Forest Rights Act (FRA), was enacted to correct the historical injustice faced by forest-dwelling communities.

- For many decades, tribal communities lived in forests without legal recognition of their traditional rights. The FRA was introduced to legally recognise those rights.

Major Provisions of the Act

The Act provides:

- Individual rights over forest land used for livelihood
- Community rights over forest resources
- Access to minor forest produce
- Grazing rights
- Rights over water bodies and traditional access routes
- Rights for habitat and cultural practices
- Recognition of traditional forest use patterns

It also recognises the role of forest communities in protecting and managing forest resources.

Protected Area Management in Tiger Reserves

- Tiger reserves in India are established under **Project Tiger (1973)** and are governed by the provisions of the Wildlife Protection Act, 1972, with policy oversight by the National Tiger Conservation Authority.
- Each reserve is managed through a legally notified structure consisting of a **core area (Critical Tiger Habitat)** and a **buffer area**, designed to balance strict conservation with sustainable human use.
- The core area is kept inviolate to ensure undisturbed conditions for tiger breeding and habitat preservation, where activities like commercial exploitation, grazing, and settlement expansion are highly restricted.
- The buffer area functions as a transition zone where regulated human activities are

permitted, including sustainable resource use, eco-development programmes, and livelihood support for local communities.

- Management practices include habitat improvement, water conservation measures, anti-poaching operations, wildlife monitoring using modern technologies, and protection of prey base.
- Scientific management is promoted through periodic tiger estimation, biodiversity assessments, and landscape-level planning to ensure ecological connectivity between reserves.
- The rights of forest-dwelling communities are recognised under the Forest Rights Act, 2006, requiring that any displacement process must involve prior recognition of rights and consent of the Gram Sabha.

Buffer Zone

The buffer zone surrounds the core zone and acts as a transition area.

Its features include:

- Limited and regulated human use
- Support for local livelihoods
- Reduced pressure on the core zone
- Scope for coexistence of people and wildlife

This approach is meant to create balance rather than complete exclusion.

Wildlife Protection Act, 1972

- The Act provides the primary legal framework for wildlife conservation in India, extending to the entire country and aiming to protect wild animals, birds, and plants.
- The Act classifies species under **six schedules (I-VI)**, with Schedule I and Part II of Schedule II granting the highest level of protection and strictest penalties.
- The Act empowers the government to declare protected areas such as National



Parks, Wildlife Sanctuaries, Conservation Reserves, and Community Reserves.

- The Act originally permitted regulated hunting but was amended in 1991 to impose a near-complete ban on hunting of wild animals.
- The Act provides for the establishment of the National Board for Wildlife (NBWL) and State Boards for Wildlife for policy and advisory functions.
- The Act prohibits trade in wildlife and wildlife products, aligning India with international commitments like CITES.

Implications of the Issue

This issue is important because it highlights:

- Conflict between environmental conservation and livelihood security
- Need for proper implementation of the Forest Rights Act
- Importance of tribal participation in conservation decisions
- Debate over voluntary versus forced relocation
- The larger challenge of inclusive environmental governance

It also reminds policymakers that conservation cannot succeed if local communities lose trust in the system.

Challenges

Several practical and legal challenges exist:

- Balancing biodiversity protection with livelihood rights
- Delays in recognition of forest rights claims
- Conflict between forest department administration and FRA provisions
- Lack of trust regarding rehabilitation promises
- Weak participation of tribal communities in decision-making

- Administrative preference for relocation over coexistence models

These issues make implementation difficult on the ground.

Way Forward

A balanced and rights-based approach is necessary.

The following steps are important:

- Ensure full and proper implementation of the Forest Rights Act
- No forced relocation without Gram Sabha consent
- Promote coexistence-based conservation models wherever possible
- Include tribal communities as partners in forest governance
- Improve livelihood support and healthcare access for forest communities
- Ensure transparent dialogue between officials and tribal representatives
- Build trust through long-term rehabilitation planning where relocation is genuinely necessary

Conservation must be based on justice, not displacement alone.

Conclusion

The Chenchu issue in Amrabad Tiger Reserve reflects one of the most important governance challenges in India – how to protect forests without displacing the people who have historically lived within them.

- Forest conservation and tribal rights should not be treated as opposing goals. Sustainable conservation becomes stronger when indigenous communities are recognised as stakeholders and protectors of biodiversity.
- Protecting wildlife must go together with protecting dignity, livelihood, and constitutional rights of tribal communities.

Telangana MLC Nominations and Constitutional Debate over Governor's Quota

Source: [The Hindu](#)

Relevance: **GS Paper II - Polity | State Legislature | Governor | Constitutional Governance | Federalism**

Important Key Words for Prelims and Mains

For Prelims:

- Legislative Council, Vidhan Parishad, Article 171, Article 163, Article 164(4), Governor's Quota, MLC Nomination, Six-Month Rule for Ministers, Bicameral Legislature, Governor's Powers

For Mains:

- Governor-State Relations, Constitutional Morality, Aid and Advice, Legislative Council Reforms, Responsible Government, Federal Tensions, Bicameralism at State Level, Constitutional Accountability

Why in News?

- Telangana Chief Minister A. Revanth Reddy recently met Governor Shiv Pratap Shukla and urged early approval of the pending nominations of Prof. M. Kodandaram and Mohammad Azharuddin to the Telangana Legislative Council under the Governor's quota.
- The issue has become constitutionally significant because Mohammad Azharuddin is currently serving as a Minister without being a member of either the Legislative Assembly or the Legislative

Council and is approaching the six-month constitutional deadline prescribed under Article 164(4).

- The delay in the Governor's approval has raised important constitutional questions regarding the powers of the Governor, the binding nature of Cabinet advice, and the functioning of bicameralism at the state level.



Source: *The hindu*

Background of the Issue

- The State Cabinet had earlier approved the names of Prof. Kodandaram and Mohammad Azharuddin for nomination to the Legislative Council under the Governor's quota.
- However, these names remained pending with the Raj Bhavan during the tenure of the previous Governor, Jishnu Dev Varma, and continue to remain unresolved after the appointment of the new Governor.
- The urgency has increased because a Minister who is not a member of the legislature cannot continue in office beyond six months unless he becomes an MLA or MLC. Since Azharuddin is nearing the end of this constitutional period, the government is pressing for immediate approval.



- The issue has also revived the larger debate over delays by Governors in acting on the advice of elected State governments.

Legislative Council: Constitutional Position

- The Legislative Council, also known as Vidhan Parishad, is the Upper House of the State Legislature.
- Unlike the Legislative Assembly, the Legislative Council is not compulsory for every state. Its creation or abolition depends on the decision of the concerned State Legislature under Article 169 of the Constitution.
- It is a permanent house and cannot be dissolved. One-third of its members retire every two years.
- The purpose of the Council is to function as a revising chamber, provide representation to intellectual and professional groups, and ensure more detailed legislative scrutiny.

States such as Telangana, Andhra Pradesh, Karnataka, Maharashtra, Bihar, and Uttar Pradesh currently have Legislative Councils.

Composition of Legislative Council

- The composition of the Legislative Council is provided under Article 171 of the Constitution.
- Its total strength cannot exceed one-third of the total strength of the Legislative Assembly and cannot be less than forty members.
- The Constitution provides a mixed method of representation to ensure diversity in membership.
- One-third of the members are elected by local bodies such as municipalities and district boards.

- One-twelfth are elected by graduates.
- One-twelfth are elected by teachers.
- One-third are elected by members of the Legislative Assembly.
- The remaining one-sixth are nominated by the Governor.
- This one-sixth Governor's quota is the constitutional basis of the present Telangana issue.

Governor's Nomination Power under Article 171

- Article 171(5) empowers the Governor to nominate one-sixth of the members of the Legislative Council.
- These nominated persons must possess special knowledge or practical experience in literature, science, art, cooperative movement, or social service.
- The constitutional objective behind this provision is to bring expertise and informed public service into the legislative process beyond ordinary electoral politics.
- However, in practice, this provision has often been used for political accommodation rather than for genuine expert representation, leading to repeated controversies.
- The nominations of Prof. Kodandaram and Mohammad Azharuddin are being considered under this constitutional provision.

Six-Month Rule for Ministers under Article 164(4)

- Article 164(4) provides that a person can be appointed as a Minister even if he is not a member of the State Legislature at the time of appointment.
- However, such a person must become a member of either the Legislative Assembly or the Legislative Council within six months.



- If the person fails to secure membership within this period, he automatically ceases to be a Minister.
- This provision ensures legislative accountability of the executive and prevents non-elected individuals from continuing indefinitely in ministerial office.
- In the present case, Mohammad Azharuddin is nearing the end of this six-month constitutional period, making the nomination process urgent.

Governor's Role and Constitutional Debate

- Although Article 171 formally gives the Governor the power to nominate MLCs, this power must be read together with Article 163, which states that the Governor ordinarily acts on the aid and advice of the Council of Ministers.
- This creates an important constitutional question: can the Governor independently delay or reject nominations recommended by the elected government?
- Judicial interpretation has generally held that the Governor's discretionary powers are limited and that the Governor should normally act according to Cabinet advice except in exceptional constitutional situations.
- The absence of a fixed constitutional time limit for such decisions, however, has created repeated friction between Raj Bhavan and elected State governments across India.

Bicameralism at the State Level

- The Legislative Council reflects the principle of bicameralism in state legislatures.

- Its purpose is not to challenge the directly elected Assembly but to improve legislative quality through review, deliberation, and expert participation.
- It acts as a chamber of revision where laws can be examined more carefully before final passage.
- It also allows representation of groups such as teachers, graduates, and experts who may not directly participate in electoral politics.
- At the same time, critics argue that Legislative Councils often become centres of political rehabilitation and unnecessary expenditure rather than institutions of genuine democratic value.

Federal Tensions and Political Implications

- The Telangana MLC nomination issue reflects a broader constitutional pattern of tensions between Governors and elected State governments.
- Since Governors are appointed by the Union Government, delays in matters such as bills, nominations, and appointments are often viewed as affecting the federal balance.
- Such disputes raise important questions about cooperative federalism, constitutional morality, and the democratic legitimacy of executive action.
- When constitutional offices are used for prolonged political delays, governance efficiency and public trust are weakened.
- This issue is therefore larger than a simple nomination dispute—it concerns the functioning of Indian federalism itself.

Previous Telangana Example

- This is not the first such controversy in Telangana.
- During the previous BRS government,



Governor Tamilisai Soundararajan rejected the nominations of Dasoju Sravan and Kurra Satyanarayana recommended by the State government.

- That episode also triggered major political and legal debate regarding the limits of gubernatorial discretion.
- The present case continues the same constitutional tension, showing that the issue is structural rather than isolated.

Significance of the Present Issue

- The present controversy is important because it directly involves legislative accountability, ministerial legitimacy, and the constitutional role of the Governor.
- It tests whether the principle of responsible government will function effectively when ministerial continuation depends upon time-bound legislative membership.
- It also highlights the need for constitutional clarity regarding the Governor's obligation to act within a reasonable time.
- For Telangana, the issue affects both governance continuity and the larger debate over Centre-State institutional relations.

Challenges

- The Constitution does not provide a clear timeline within which the Governor must act on nominations.
- This allows delays to become politically sensitive and administratively disruptive.
- The original constitutional purpose of expert nomination is often diluted by political considerations.
- Repeated disputes between Raj Bhavan and State governments weaken public confidence in constitutional institutions.
- There is also a continuing debate regarding

whether Legislative Councils themselves are serving their intended democratic purpose effectively.

Way Forward

- There is a need for clearer constitutional conventions or judicial guidelines requiring time-bound decisions by Governors on matters involving Cabinet advice.
- The nomination process should focus on genuine expertise and public service rather than political accommodation.
- Greater transparency in nominations can strengthen the legitimacy of the Legislative Council.
- Healthy federal functioning requires mutual constitutional respect between Governors and elected governments rather than prolonged institutional confrontation.
- Strengthening constitutional morality is essential for preserving democratic accountability.

Conclusion

The Telangana MLC nomination issue is not merely an administrative delay but an important constitutional debate involving Articles 163, 164, and 171 of the Constitution.

- It highlights the relationship between the Governor and the elected government, the accountability of Ministers to the Legislature, and the intended purpose of the Legislative Council.
- How such issues are handled determines not only political outcomes but also the strength of India's constitutional democracy and federal structure.

Qutb Shahi Legacy in Telangana: Beyond Monuments and Architecture

Source: [The Hindu](#)

Relevance: TSPSC - History | Culture | Heritage | Medieval Deccan | Architecture | Telangana History

Important Key Words for Prelims and Mains

For Prelims:

- Qutb Shahi Dynasty, Charminar, Golconda Fort, Muhammad Quli Qutb Shah, Sultan Quli Qutb Shah, Mir Momin Astarabadi, Bahmani Sultanate, Deccani Culture, Hyderabad Foundation, Persian Influence

For Mains:

- Deccan Syncretic Culture, Indo-Persian Architecture, Urban Planning in Medieval India, Cultural Integration in Deccan, Qutb Shahi Legacy, Heritage Conservation, Telangana Historical Identity

Why in News?

- On the occasion of World Heritage Day, historian Salma A. Farooqui delivered a lecture at the Salar Jung Museum in Hyderabad on the cultural contributions of the Qutb Shahi Dynasty, with special reference to the Charminar.
- She emphasized that the Qutb Shahi legacy should not be understood only through visible monuments such as Charminar and Golconda Fort, but also through the deeper

ideological, philosophical, and social processes that shaped a unique Deccani identity.

- The discussion has renewed focus on the historical and cultural significance of the Qutb Shahi period in Telangana.



Source: [The Hindu](#)

Background of the Qutb Shahi Dynasty

- The Qutb Shahi Dynasty was one of the five Deccan Sultanates that emerged after the decline of the Bahmani Sultanate.
- It ruled the Golconda kingdom from 1518 to 1687 and played a major role in shaping the political, cultural, and urban history of the Deccan region.
- The dynasty is especially important in Telangana because it laid the foundation of Hyderabad and established Golconda as a major centre of power, trade, architecture, and cultural exchange.
- Its rule is remembered for strong Persian influence combined with deep integration into local Deccani society.

Origin and Rise of the Dynasty

- The founder of the dynasty was Sultan Quli Qutb-ul-Mulk, who originally came from the Hamadan region of Persia.
- He entered the Deccan during the Bahmani period and later established independent rule over Golconda after the weakening of



the Bahmani Sultanate.

- Golconda gradually developed from a regional fort into a powerful kingdom capable of resisting Mughal expansion for a long period.
- The Qutb Shahis ruled for nearly 170 years before the kingdom was annexed by Mughal emperor Aurangzeb in 1687.
- Their political stability allowed major developments in administration, economy, literature, architecture, and urban planning.

Foundation of Hyderabad and the Charminar

- One of the most significant contributions of the Qutb Shahis was the foundation of Hyderabad.
- In 1591, Muhammad Quli Qutb Shah established Hyderabad as the new capital and built the Charminar as its central symbol.
- The city was shifted from Golconda because of increasing population pressure and water scarcity.
- The Charminar was not merely constructed as a monument but as the central nucleus of an entirely planned urban settlement.
- It represented political authority, religious symbolism, and civic planning.
- The name Hyderabad and the city's layout reflected the vision of a cosmopolitan and organised urban centre.

Mir Momin Astarabadi and Urban Planning

- The urban planning of Hyderabad is closely associated with Mir Momin Astarabadi, the Prime Minister of Muhammad Quli Qutb Shah.
- He was a Persian scholar and administrator who designed Hyderabad using Persian models of city planning inspired by cities such as Isfahan and Mashhad.

- The city was planned around the Charminar with a carefully structured grid system.
- Important elements such as Char Kaman, Jama Masjid, royal palaces, markets, and administrative complexes were integrated into a coherent urban layout.
- This demonstrates that Hyderabad was one of the earliest examples of planned urban development in medieval India.
- The planning reflected both political strategy and cultural symbolism.

Cultural Contributions of the Qutb Shahis

- The Qutb Shahis made major contributions to literature, language, architecture, painting, and social life.
- They promoted Persian culture while also supporting local Telugu and Deccani traditions.
- Muhammad Quli Qutb Shah himself was a noted poet and one of the earliest rulers to compose poetry in Dakhni Urdu.
- Their patronage encouraged the growth of multilingual literary traditions involving Persian, Telugu, Arabic, and Dakhni.
- Architecture during this period combined Persian arches and domes with local Deccan construction styles.
- Mosques, palaces, stepwells, gardens, and tombs built during this era continue to define Hyderabad's heritage landscape.

Syncretic Deccani Identity

- One of the most important contributions of the Qutb Shahis was the development of a syncretic Deccani identity.
- The Deccan was never culturally uniform. Arabs, Persians, Africans, Armenians, North Indians, local Deccanis, and many other groups lived together in the region.
- Political stability required not only military power but also cultural accommodation and



social negotiation.

- The Qutb Shahis encouraged coexistence among diverse communities and created a political culture that blended Persian influences with local traditions.
- This process gave rise to a unique Deccani identity that was neither purely Persian nor purely local, but a synthesis of both.
- This remains one of the strongest cultural foundations of present-day Hyderabad.

Golconda as a Political and Economic Centre

- Golconda under the Qutb Shahis became one of the most powerful kingdoms of South India.
- It was famous for its military strength, diamond trade, and international commercial connections.
- The Golconda diamond mines were among the richest in the world and were linked to global trade networks.
- The fort itself was a major strategic military structure and symbol of political authority.
- Its economic prosperity helped finance the development of Hyderabad and major architectural projects.
- Golconda's importance extended far beyond regional politics and connected the Deccan to global commerce.

Qutb Shahi Legacy in Telangana

- The Qutb Shahi dynasty (1518–1687) established independent rule over the Deccan with capital at Golconda.
- They founded Hyderabad in 1591 under Muhammad Quli Qutb Shah.
- Construction of iconic monuments like Charminar and the Golconda Fort reflects Indo-Persian architecture.
- The rulers promoted a composite culture

blending Persian, Turkish, and Telugu traditions, contributing to the growth of Deccani language and literature.

- They developed advanced irrigation systems such as tanks and stepwells, supporting agriculture in the semi-arid region.
- The region became a major center of diamond trade, including famous mines like Kollur Mines.

Significance :

- This issue is important because it connects heritage conservation with state identity and cultural policy.
- World Heritage Day discussions help highlight the need to preserve not just monuments but also historical understanding.
- The focus on ideological and social contributions broadens historical understanding beyond architecture.
- For Telangana, protecting Qutb Shahi heritage strengthens tourism, education, and regional pride.
- It also helps in understanding the historical foundations of Hyderabad's plural and cosmopolitan character.

Challenges in Heritage Conservation

- Many original Qutb Shahi structures were destroyed during Mughal invasions and later urban expansion.
- Rapid urbanisation and encroachment continue to threaten heritage sites.
- Public understanding often remains limited to monuments without awareness of their deeper historical significance.
- Conservation efforts sometimes focus on physical restoration without preserving cultural narratives.



- There is also a need for stronger institutional coordination in heritage management.

Way Forward

- Heritage conservation should combine architectural preservation with historical education and public awareness.
- Urban planning must protect heritage zones from encroachment and insensitive development.
- Academic institutions and museums should promote deeper research on Deccan history and syncretic culture.
- Tourism policy should focus on cultural interpretation rather than monument-based tourism alone.
- The Qutb Shahi legacy should be preserved as both a historical resource and a living cultural identity.

Conclusion

The Qutb Shahi legacy in Telangana goes far beyond monuments like the Charminar.

It represents the formation of a unique Deccani civilisation built through political adaptation, cultural synthesis, and planned urban development.

Understanding this legacy requires looking beyond architecture toward the larger processes of identity formation, coexistence, and historical continuity.

Telangana Pitches for Norwegian, Italian and Dutch Investments in Life Sciences and Advanced Manufacturing

Source: [The Hindu](#)

Relevance: **GS Paper III - Economy, Industry, Foreign Investment, Science and Technology, Industrial Development**

Important Key Words for Prelims and Mains

For Prelims

- Genome Valley, Telangana Medical Devices Park, TS-iPASS Act, 2014, TGIIC, Life Sciences Hub, Green Hydrogen, Industrial Decarbonisation, Precision Engineering, MedTech, Plug-and-Play Infrastructure, Medical Devices Cluster, Innovation Councillor

For Mains

- Foreign Direct Investment, Global Manufacturing Hub, Ease of Doing Business, Industrial Corridors, Life Sciences Ecosystem, MedTech Industry, Green Technology Partnerships, Cluster-Based Development, Innovation-led Growth, International Economic Cooperation

Why in News?

- Telangana IT and Industries Minister D. Sridhar Babu held separate meetings in Hyderabad with delegations from Norway, Italy, and the Netherlands to attract investments into life sciences, healthcare, medical devices, advanced manufacturing, green technologies, and innovation-driven industries.
- The Minister invited Norwegian companies to explore partnerships in life sciences and green technologies, urged Italian firms to invest in advanced manufacturing, and encouraged Dutch MedTech entrepreneurs and researchers to collaborate with Telangana-based universities and institutions.

- The State government also proposed dedicated working groups with Norway and Italy to institutionalise long-term industrial cooperation.
- This reflects Telangana's strategy of positioning itself as a global destination for manufacturing, MedTech, life sciences, and clean technology investments.



Source: The Hindu

Background

- Telangana has emerged as one of India's strongest industrial destinations due to policy stability, strong infrastructure, skilled workforce, and specialised industrial clusters.
- Hyderabad has become a major national hub for pharmaceuticals, biotechnology, vaccine manufacturing, Information Technology, aerospace and defence, medical devices, and electronics manufacturing.
- Hyderabad is known as the "**Vaccine Capital of the World**", with nearly one-third of global vaccine production linked to the city, and also as the "**Bulk Drug Capital of India**" because of its strong API manufacturing base.
- The State government strengthened this ecosystem through industrial parks,

international investment outreach, and **TS-iPASS**, one of India's fastest single-window approval systems for industries.

- Institutions such as **Genome Valley** – India's first and largest life sciences cluster – and **Telangana Medical Devices Park** – one of the largest medical devices parks in India – have made Telangana highly competitive in attracting global investments in research-intensive sectors.
- The government is now focusing on high-value manufacturing, semiconductors, electronics, EVs, and innovation-led industrial growth in line with **Make in India** and **Atmanirbhar Bharat**.

Meetings with Norway, Italy and Netherlands Delegations

Norway Delegation

The Norwegian delegation was led by Ambassador May-Elin Stener.

The Minister stated that Telangana is ready to become Norway's preferred partner in India for:

- Life Sciences
- Healthcare
- Digital Health
- Biotechnology
- Medical Devices
- Climate Tech
- Green Hydrogen
- Electric Mobility
- Clean Energy
- Battery Technology
- Industrial Decarbonisation
- Cybersecurity
- He proposed the creation of a Telangana-Norway Working Group for regular coordination between investors, industries, and government agencies.
- The Norwegian Ambassador stated that

Norway is keen to work with progressive states such as Telangana and agreed to strengthen bilateral engagement.

Italy Delegation

The Italian delegation was led by Ambassador Antonio Bartoli.

The discussions focused on:

- Machinery
- Precision Engineering
- Industrial Automation
- Automotive Systems
- Pharmaceuticals
- Food Processing
- Advanced Manufacturing
- The Minister said Telangana offers one of the most conducive environments in India for manufacturing industries due to strong infrastructure and investor-friendly governance.
- He also proposed a Telangana-Italy Working Group to deepen industrial cooperation.

Netherlands Delegation

- A delegation of MedTech entrepreneurs and university researchers from the Netherlands also met the Minister.

The delegation was led by Innovation Councillor Jan Reint Smit.

The Minister highlighted Telangana's strong ecosystem for:

- Medical research
- Artificial Intelligence applications
- High-end medical device manufacturing
- University-industry collaboration
- He invited the delegation to partner with Telangana-based universities and research institutions for innovation and collaborative industrial growth.

Telangana's Industrial and Investment Pitch

- Telangana positions itself as a high-growth industrial and investment destination by combining policy stability, strong infrastructure, faster approvals, and sector-specific industrial clusters. The state promotes itself as an investor-friendly hub for both domestic and global companies seeking manufacturing, technology, and innovation-based expansion.
- A major strength is **TS-iPASS (Telangana State Industrial Project Approval and Self-Certification System)**, which provides time-bound single-window clearances for industries and gives legal backing to approvals, significantly improving ease of doing business and investor confidence.
- The state offers specialised industrial ecosystems such as **Genome Valley** for life sciences, **Telangana Medical Devices Park** for medical technology, **HITEC City** for IT and electronics, and strong aerospace and defence clusters around Hyderabad. These reduce production costs and create integrated supply chains.
- Telangana highlights Hyderabad's global reputation as the "**Vaccine Capital of the World**" and "**Bulk Drug Capital of India**", making it highly attractive for pharmaceutical, biotech, and healthcare investments.
- The government is increasingly pitching the state for future sectors such as semiconductors, electric vehicles (EVs), battery manufacturing, green energy, electronics, and advanced manufacturing under national initiatives like **Make in India**, **PLI schemes**, and **Atmanirbhar Bharat**.



- Its focus is not only on attracting industries but also on positioning Telangana as a centre for innovation, exports, R&D, and high-value manufacturing in India's long-term industrial strategy.

Telangana Medical Devices Park

The Telangana Medical Devices Park is located at Sultanpur near Hyderabad.

It is one of India's largest dedicated clusters for medical device manufacturing.

It provides:

- Ready industrial plots
- Common testing facilities
- Regulatory support
- Manufacturing infrastructure
- Plug-and-play industrial systems
- Research and innovation support
- The park supports both domestic and international firms involved in medical equipment manufacturing.
- It is a major pillar of Telangana's ambition to become India's MedTech capital.
- This location is very important for prelims.

Genome valley

- **Genome Valley** is India's first and largest organised life sciences cluster, located in Hyderabad, Telangana, established to promote pharmaceuticals, biotechnology, vaccine manufacturing, bio-services, and medical research through an integrated industrial and R&D ecosystem.
- It provides world-class infrastructure including research laboratories, manufacturing units, incubation centres, testing facilities, and specialised industrial parks, making Hyderabad a major global hub for life sciences and innovation-driven healthcare industries.
- Major companies such as Bharat Biotech and Biological E operate here, which is why Hyderabad is known as the "**Vaccine Capital of**

the World", with a significant share of global vaccine production linked to the city.

- Genome Valley strengthens Telangana's industrial competitiveness by attracting global investment, promoting exports, generating high-skilled employment, and supporting national initiatives like **Make in India, Atmanirbhar Bharat**, pharmaceutical self-reliance, and healthcare security.

TS-iPASS and Industrial Policy Support

- A major strength of Telangana's industrial policy is the TS-iPASS Act, 2014.
- TS-iPASS means Telangana State Industrial Project Approval and Self-Certification System.

It provides:

- Single-window industrial approvals
- Time-bound clearances
- Deemed approvals if delays occur
- Legal accountability for delays
- Reduced bureaucratic interference
- This system significantly improved investor confidence and made Telangana one of India's leading states in Ease of Doing Business.
- Industrial infrastructure development is supported by TGIIC (Telangana State Industrial Infrastructure Corporation).

Major Sectors for Collaboration

The investment discussions focused on the following sectors:

Sector	Importance
Life Sciences	Strong Hyderabad ecosystem and export potential
Healthcare	Expanding hospitals, biotech and digital health
Medical Devices	Supported by Medical Devices Park



Biotechnology	Strengthened by Genome Valley
Precision Engineering	High-value manufacturing and exports
Industrial Automation	Advanced manufacturing competitiveness
Green Hydrogen	Future clean industrial energy
Climate Tech	Sustainability and decarbonisation
Battery Technology	EV and renewable sector growth
Electric Mobility	Public transport and clean mobility
AI and Cybersecurity	Technology-driven industrial systems
Food Processing	Agro-industrial diversification

These sectors reflect Telangana's shift toward high-value industrial growth.

Telangana as a Global Manufacturing Hub

1. Telangana is among the few states with a legally backed **Right to Industrial Clearance** through **TS-iPASS**, ensuring faster approvals and reducing policy uncertainty, which significantly improves investor confidence and industrial expansion.
2. The state is developing **Hyderabad Pharma City**, one of the world's largest integrated pharmaceutical industrial clusters, aimed at strengthening bulk drug manufacturing, Active Pharmaceutical Ingredients (API) production, and reducing India's

dependence on imports from countries like China.

3. Telangana has a strong presence in the textile sector through the **Kakatiya Mega Textile Park** at Warangal, which supports the "farm to fabric" model by integrating cotton production, ginning, spinning, weaving, and garment manufacturing in one ecosystem.
4. The state is leveraging Hyderabad's position as a major logistics and export centre with strong air cargo connectivity, dry ports, industrial corridors, and proximity to major southern markets, helping Telangana become an export-driven hub for pharmaceuticals, electronics, defence equipment, and high-value manufacturing.

Telangana-Specific Static Facts for TGPSC

Topic	Important Fact
Capital	Hyderabad
Major Industrial Region	Hyderabad-Ranga Reddy industrial belt
Medical Devices Park	Sultanpur, Sangareddy district
Genome Valley	Shamirpet region, Hyderabad
Aerospace Hub	Adibatla
Pharma City	Hyderabad Pharma City project
Major Pharma Hub	Hyderabad known as Vaccine Capital of India
TS-iPASS	Enacted in 2014
TGIIC	Telangana State Industrial Infrastructure Corporation
Major Export Sectors	Pharmaceuticals, IT, Life Sciences, Engineering

These facts are highly important for TGPSC prelims.



Significance for Telangana Economy

- These partnerships can increase Foreign Direct Investment and strengthen industrial diversification.
- They improve technology transfer and help domestic industries move toward high-value manufacturing.
- They generate employment opportunities in sectors such as biotechnology, precision engineering, AI, medical devices, and industrial automation.
- They improve Hyderabad's role as an international innovation city and strengthen export competitiveness.
- This supports Telangana's transition from a service-dominated economy to a balanced model combining services, manufacturing, and research.
- It also improves long-term economic resilience and industrial competitiveness.

Challenges

- Global investors require long-term regulatory stability and policy certainty.
- Competition from Karnataka, Tamil Nadu, Gujarat, and Maharashtra remains strong.
- Land acquisition and environmental clearances can still slow project implementation.
- Technology-intensive industries require highly skilled manpower and strong research institutions.
- Many investment discussions remain at the MoU stage and need actual execution.
- University-industry collaboration must move from theory to institutional practice.
- Industrial growth must also remain environmentally sustainable.

Way Forward

- The proposed working groups with Norway and Italy should be established quickly and given clear implementation targets.
- Formal research collaborations should be created between Dutch institutions and Telangana universities.
- More plug-and-play clusters should be developed for green hydrogen, climate tech, and advanced electronics.
- Skill development aligned with MedTech and precision manufacturing must be prioritised.
- Export-oriented policy support should be strengthened to integrate Telangana into global value chains.
- Greater R&D incentives can help Telangana move from manufacturing destination to innovation leader.
- Industrial expansion must be balanced with environmental safeguards and sustainable urban planning.

Conclusion

Telangana's outreach to Norway, Italy, and the Netherlands reflects a strategic attempt to build long-term global industrial partnerships in future-oriented sectors. The focus on life sciences, medical devices, advanced manufacturing, and green technologies shows a clear shift toward high-value economic development.

With institutions like Genome Valley and Telangana Medical Devices Park, along with strong policy support through TS-iPASS, Telangana is positioning itself as one of India's most attractive destinations for global industrial investment.

This approach can significantly strengthen the State's long-term economic growth and global competitiveness.



Telangana SREEPC Survey and Composite Backwardness Index: IEWG Says Survey Can Be a National Model

Source: [The Hindu](#)

Relevance: **GS Paper II - Polity | Social Justice | Governance | Welfare State | Backward Classes**

Important Key Words for Prelims and Mains

For Prelims

- SREEPC Survey, Composite Backwardness Index (CBI), Independent Expert Working Group (IEWG), Article 15(4), Article 16(4), Article 340, Backward Classes, Mandal Commission, Rohini Commission, Social Justice, Sub-categorisation of OBCs

For Mains

- Evidence-based Welfare Policy, Social Justice, Backward Class Identification, Caste Census, Reservation Policy, Inclusive Governance, Substantive Equality, Multidimensional Backwardness, Federal Social Policy

Why in News?

- The Independent Expert Working Group (IEWG) has stated that Telangana's Social, Economic, Educational, Employment, Political and Caste (SREEPC) Survey was conducted using a robust and scientifically sound methodology and can serve as a model for other States and even for the country.

- The survey covered more than 3.5 crore people across 242 castes and used 75 data fields along with 42 parameters to assess backwardness.
- A major innovation in the report is the introduction of the Composite Backwardness Index (CBI), a unique metric used for the first time to measure backwardness across communities.
- The IEWG stated that the survey moves beyond caste population numbers and focuses on actual deprivation levels, making it a stronger tool for evidence-based policymaking

Background of Telangana SREEPC Survey

- The Telangana government conducted the Social, Economic, Educational, Employment, Political and Caste Survey (SREEPC) during 2024-25.
- The objective was to create a comprehensive database of caste-wise social and economic conditions across the State.
- Unlike traditional caste enumeration, the survey did not focus only on population share. It attempted to understand the actual extent of backwardness by studying multiple dimensions such as income, education, occupation, political participation, and access to welfare.
- This makes it one of the most comprehensive caste-based socio-economic surveys conducted by any Indian State.
- The findings were later examined by the Independent Expert Working Group headed by former Supreme Court judge Justice B. Sudershan Reddy.

What the Survey Covered?

The survey covered:

- More than 3.5 crore people

- 242 castes
- 75 different data fields
- Six major domains of backwardness

These six domains were:

Domain	Coverage
Social	Social exclusion, social status, discrimination
Economic	Income, landholding, assets, financial status
Educational	Literacy, higher education, English-medium access
Employment	Nature of occupation, formal and informal work
Political	Representation and participation in governance
Caste	Traditional caste-based disadvantage

This broad structure makes the Telangana survey much wider than earlier caste-based assessments.

Composite Backwardness Index (CBI)

- The most important feature of the survey is the Composite Backwardness Index (CBI).
- This is a new metric developed to measure backwardness using 42 parameters.
- Instead of simply counting population numbers, CBI attempts to quantify deprivation and compare communities on a measurable scale.
- Higher the CBI score, greater the backwardness.
- This is considered a major methodological shift because it focuses on deprivation rather than population strength.
- The average state-wide CBI score was found to be 81.
- This allowed direct comparison across communities and helped identify which

groups were more deprived than the state average.

- It is one of the first large-scale exercises in India to use a single measurable backwardness score.

Major Findings of the Survey

Population Composition

Category	Share in Population
Backward Classes (BCs)	56.4%
Scheduled Castes (SCs)	17.4%
Scheduled Tribes (STs)	10.4%
Other Castes (OCs)	11.9%

Average CBI Scores

Category	Average CBI Score
Scheduled Castes	96
Scheduled Tribes	95
Backward Classes	86
General Categories and some advanced BC groups	11-31

These figures show that SCs and STs are nearly three times more backward than the more privileged communities.

Other Important Findings

- 135 out of 242 castes had a CBI score above the state average of 81
- These 135 castes account for nearly 67% of the total population
- More than 1.1 crore people earn below ₹1 lakh annually



- 58% of these low-income individuals belong to BCs
- Around 20% of relatively less backward communities were still receiving welfare schemes such as Rythu Bharosa and free power
- More than 30% of private sector professionals were from OCs, compared to only 14% from SCs and 4% from STs

The report also highlighted that access to English-medium education strongly influences long-term socio-economic mobility.

Comparison with Mandal Commission

The Telangana survey is often compared with the Mandal Commission because both deal with backward class identification.

Feature	Mandal Commission	Telangana SEEEPC Survey
Year	1979	2024-25
Parameters Used	11 indicators	42 indicators
Focus	OBC identification	Multidimensional backwardness
Method	Social + educational + economic indicators	Social + economic + educational + employment + political + caste
Output	OBC list and reservation recommendation	Composite Backwardness Index and evidence-based deprivation mapping

The IEWG described the Telangana report as an “X-ray of society” because of this wider and deeper approach.

Constitutional Basis of Backward Class Identification

The Constitution does not define the term “Backward Classes” directly. This is because backwardness is dynamic and differs across regions and time. Instead, the Constitution provides enabling provisions.

Article 15(4)

- Inserted by the First Constitutional Amendment Act, 1951. It allows the State to make special provisions for the advancement of socially and educationally backward classes, along with SCs and STs.
- This forms the legal basis for reservations in education and welfare measures.

Article 16(4)

It allows reservation in public employment for backward classes that are not adequately represented in government services. This provision connects backwardness with representation.

Article 340 and Backward Class Commissions

Article 340 empowers the President to appoint a commission to investigate the conditions of socially and educationally backward classes.

- Its purpose is to ensure that backward class identification is based on evidence and not political assumption.

This led to major commissions such as:

- Kaka Kalelkar Commission
- Mandal Commission

These commissions shaped India’s reservation framework.

The Telangana SEEEPC survey performs a similar function at the State level by creating a data-based foundation for policy decisions.

Sub-categorisation of OBCs and Rohini



Commission

- The survey found major differences even within Backward Classes.
- This supports the idea that “every backward caste is not equally backward.”
- This is directly linked to the debate on sub-categorisation of OBCs.
- The Rohini Commission was created by the Union Government to study equitable distribution of OBC reservation benefits.
- Its objective is to ensure that dominant OBC groups do not capture most of the reservation benefits while more deprived OBC groups remain excluded.
- The Telangana survey provides strong empirical support for such sub-categorisation debates

Significance of the Survey

- The survey strengthens evidence-based policymaking by identifying deprivation more accurately.
- It helps reduce inclusion errors where relatively better-off groups receive welfare benefits.
- It improves the possibility of targeted welfare for truly deprived communities.
- It expands the idea of backwardness beyond caste population numbers and includes political and employment deprivation.
- It supports constitutional justification for reservation and affirmative action.
- It also creates a model for other States that may conduct similar exercises.
- This reflects a broader shift toward decentralised and data-driven governance.

Challenges and Concerns

- Any caste-based survey can generate political contestation and demands for

reservation revision.

- Methodology must remain transparent and publicly defensible.
- Using CBI for policy decisions may trigger legal scrutiny regarding reservation limits and constitutional validity.
- Updating beneficiary lists based on dynamic deprivation scores may create social tensions.
- The survey provides data, but policy recommendations require political and legal consensus.
- There is also a challenge in converting statistical findings into fair administrative action.

Way Forward

- The data should be used carefully for improving welfare targeting and not only for political mobilisation.
- Sub-categorisation of backward classes should be based on transparent empirical evidence.
- Education reforms, especially English-medium access, should be prioritised for mobility.
- Welfare schemes must be periodically reviewed using updated deprivation indicators.
- Other States can study the Telangana model for better social justice policy.
- A national framework for evidence-based backwardness identification may emerge in the future.

Conclusion

The Telangana SEEEPC survey marks an important shift from population-based caste politics to deprivation-based social justice policy.

- Its use of the Composite Backwardness



Index provides a stronger empirical foundation for welfare and reservation debates.

- By combining caste data with multidimensional indicators, the State has created one of the most advanced social justice datasets in India.
- If used carefully, this model can improve both fairness and efficiency in governance and may become a template for other States and the country.

INCOIS flags rising Marine Heatwaves in Arabian Sea

Source: [The Hindu](#)

Relevance: **GS Paper III - Environment | Climate Change | Oceanography | Disaster Management | Telangana Current Affairs**

Important Key Words for Prelims and Mains

For Prelims

- INCOIS, Marine Heatwave, MAHAS, Arabian Sea, Sea Surface Temperature, Coral Bleaching, El Niño, Ocean Stratification, Blue Economy, Potential Fishing Zone, Tsunami Early Warning System, Ministry of Earth Sciences

For Mains

- Climate Change and Oceans, Marine Ecosystem Stress, Fisheries Sustainability, Coastal Vulnerability, Blue Economy, Ocean Governance, Early Warning Systems

The Indian National Centre for Ocean Information Services has reported marine heatwave conditions in the Arabian Sea, with sea surface temperatures exceeding normal limits and crossing the 90th percentile threshold. According to its MAHAS report, different regions are under Watch, Alert, and Warning categories, indicating varying levels of thermal stress. The warming is affecting areas such as the Andaman and Nicobar Islands, India's eastern coast, and parts of the western coast extending towards Oman, raising concerns over marine ecosystems, fisheries, and coral health.

INCOIS

- The **Indian National Centre for Ocean Information Services (INCOIS)** is an autonomous scientific institution under the Ministry of Earth Sciences.
- It is located in **Hyderabad, Telangana**, an important prelims fact because despite dealing entirely with marine and ocean sciences, it is situated in a landlocked inland city.
- It serves as India's central operational oceanographic institution and provides scientific ocean information and advisory services for fishermen, shipping and maritime navigation, coastal zone management, offshore industries, disaster management authorities, and defence-related maritime operations.
- INCOIS collects data through satellites, ocean buoys, research vessels, underwater sensors, bottom pressure recorders, and real-time forecasting models.

Its major functions include:

1. **Ocean State Forecasting** - It predicts waves, tides, ocean currents, sea surface temperature, and storm surges, which are important for ports, coastal safety, and offshore operations.

Why in News?

2. **Tsunami Early Warning Centre** - INCOIS operates India's Tsunami Early Warning System for the Indian Ocean Region using seismic and ocean observation networks.
3. **Potential Fishing Zone (PFZ) Advisory** - It identifies areas where fish are likely to aggregate using satellite indicators like chlorophyll concentration and thermal gradients. This helps improve catch efficiency and reduces fuel costs for fishermen.
4. **Marine Heatwave Advisory Services (MAHAS)** - This specialised system monitors sea surface temperature anomalies and provides early warning for marine heatwaves. The present Arabian Sea warning has been issued through this system.

Marine Heatwave: Meaning and Scientific Basis

- A Marine Heatwave is a prolonged period of unusually high ocean temperature in a specific marine region.
- It is not a temporary rise in temperature for one or two days. It is a sustained thermal stress event that affects the functioning of the marine ecosystem. Scientifically, a Marine Heatwave is defined as:
- **when sea surface temperature remains above the 90th percentile of historical climatological values for at least five consecutive days.**

Let us understand this clearly.

- **Suppose the normal sea temperature of a region during April is based on long-term historical records. If the current sea temperature remains unusually higher than what is observed in 90% of past years, and this condition continues for at least five days, it is classified as a Marine Heatwave.**
- This makes it different from normal summer

warming. It represents persistent abnormal warming and not just seasonal heat. Marine heatwaves are now increasing in frequency, duration, and intensity because of climate change. Earlier they were rare events. Now they are becoming recurring oceanic climate disturbances.

Classification of Marine Heatwaves

Category	Meaning	Impact
Watch	Initial stage where unusual warming begins and early signs of thermal stress appear	Treated as an advance warning
Alert	Stronger and more persistent warming conditions	Marine ecosystems begin to experience visible stress; fish productivity and coral health may start getting affected
Warning	Most serious category with severe and prolonged heat stress	Causes major ecological disruption such as coral bleaching, fish migration shifts, and reduction in ocean productivity

Causes of Marine Heatwaves

Cause	Explanation
Global Warming	The long-term rise in Earth's average temperature due to greenhouse gas emissions is the biggest reason behind rising ocean temperatures.



	Oceans absorb more than 90% of excess atmospheric heat, making them major heat reservoirs.
El Niño Events	El Niño alters global atmospheric circulation and weakens normal oceanic cooling systems, leading to widespread abnormal ocean warming.
Weak Monsoon Winds	Normally, strong winds help vertical mixing of ocean layers and bring cooler water upward. When monsoon winds weaken, this mixing reduces and heat gets trapped near the surface.
Ocean Stratification	When warm water remains at the top and cooler water stays below without proper mixing, heat accumulates at the surface. This is called stratification and it increases marine heatwave intensity.
Changes in Ocean Currents	Warm ocean currents can transport higher temperatures into new regions, intensifying local marine heatwaves. This is particularly important in the Arabian Sea.

Arabian Sea Warming and Indian Ocean Context

- The **Arabian Sea** is warming faster than many other tropical ocean regions and has

emerged as a major hotspot of marine heatwaves in the northern Indian Ocean.

- It lies to the west of India and is bounded by India, Pakistan, Iran, Oman, Yemen, Somalia, and the Maldives. It connects to the **Red Sea** through the Gulf of Aden and to the **Persian Gulf** through the Gulf of Oman and the Strait of Hormuz.
- Compared to the **Bay of Bengal**, the Arabian Sea was traditionally considered less cyclone-prone due to relatively cooler waters and stronger vertical wind shear.
- However, in recent years, rising **Sea Surface Temperature (SST)** has increased the frequency and intensity of cyclones in the Arabian Sea.

Examples include Cyclones Tauktae, Nisarga, Biparjoy, and Tej, which showed unusually high intensity.

This warming directly affects:

- Southwest Monsoon behaviour
- Cyclone formation and rapid intensification
- Coral reefs and marine biodiversity
- Fisheries productivity, especially tuna and deep-sea species
- Coastal livelihoods and maritime economy
- The Arabian Sea also plays an important role in the **Indian Monsoon system** because warm SST enhances moisture supply for monsoon winds.
- Marine heatwaves in this region are now spreading along India's western coast, towards Oman, the southern Indian Ocean, Mauritius, South Africa, and Western Australia, indicating a broader **Indian Ocean warming pattern** rather than an isolated regional event.
- This is important for prelims because increasing Arabian Sea warming is directly



linked to climate change, monsoon variability, stronger cyclones, and marine ecosystem stress.

Birds of Mangalajodi: A Visual Journey into Chilika's Avian Paradise

Source: [The Hindu](#)

Relevance: **GS Paper III - Environment | Biodiversity | Wetlands | Ecology**

Important Key Words

For Prelims:

- Chilika Lake, Mangalajodi, Ramsar Site, Brackish Water Lagoon, Central Asian Flyway, Nalabana Bird Sanctuary, Irrawaddy Dolphin, Bar-headed Goose, Migratory Birds

For Mains:

- Wetland Conservation, Biodiversity Protection, Community-Based Conservation, Migratory Bird Habitats, Ecological Sustainability.

Why in News?

A coffee table book titled *Birds of Mangalajodi – A Visitor's Guide to the Bird Paradise of Chilika Lake* was released in Hyderabad, bringing renewed attention to the ecological richness of Mangalajodi, located on the northern fringe of Chilika Lake.

Chilika Lake: Location, Type and International Recognition

Location and Type

- Chilika Lake is situated in the state of Odisha along the eastern coastline of India,

adjoining the Bay of Bengal.

- It lies to the south-west of the Mahanadi delta and extends across the districts of Puri, Khordha, and Ganjam.
- The lake is connected to the Bay of Bengal through a sea mouth, the maintenance of which is crucial for regulating salinity and sustaining ecological balance.
- A key development in recent decades has been the opening of a new sea mouth in 2000, which significantly improved water exchange, enhanced fish production, and restored the lagoon's ecological health.
- Chilika Lake is a **brackish water coastal lagoon**, formed by the mixing of freshwater inflows from rivers such as Daya and Bhargavi with saline seawater.
- It is the **largest brackish water lagoon in India** and one of the largest in the world.
- The lake exhibits a clear ecological zonation, with freshwater conditions dominating the northern sector, brackish conditions in the central region, and marine influence in the southern part.
- This gradient supports high biodiversity, including fisheries and species such as the Irrawaddy dolphin, making it ecologically and economically significant.

International Recognition

- Chilika Lake has been recognized as a wetland of global importance under the Ramsar Convention since 1981.
- Its inclusion highlights its ecological significance, particularly as a habitat for migratory birds along the Central Asian Flyway and for its rich aquatic biodiversity.
- A major point of importance in current affairs is its association with the Montreux Record.
- Chilika was the **first Indian wetland to be**



- placed on the **Montreux Record** due to ecological degradation caused by siltation, reduced salinity, and declining biodiversity.
- However, through targeted restoration measures, including hydrological interventions and community-based management, the lake witnessed substantial ecological recovery.
 - As a result, it became the **first wetland in Asia to be removed from the Montreux Record**, a globally acknowledged success in wetland restoration.

Mangalajodi: Freshwater Marsh Zone of Chilika

- Mangalajodi is located on the **northern fringe of Chilika Lake** in Odisha.
- It represents the **freshwater marsh zone** of Chilika, unlike the lagoon's brackish and marine-influenced sectors.
- The area receives freshwater mainly from distributaries of the Mahanadi River.
- It consists of **shallow wetlands, mudflats, and marshy vegetation**, not deep open water.
- Water depth is generally **very shallow (often <1 metre)**, suitable for wading birds.
- It supports **large congregations of migratory birds during winter season**.
- It lies along the **Central Asian Flyway**, an important migratory route.
- It is known for hosting **lakhs of birds annually**, especially waterfowl species.
- Common bird groups include **ducks, geese, herons, egrets, and waders**.
- It is recognized as one of the **major birding hotspots in India**.
- It is often called the **"Bird Paradise of Chilika"**.
- It differs from the southern part of Chilika which is **marine-influenced due to**

proximity to the Bay of Bengal.

- It is associated with **community-led conservation model (local villagers involved in bird protection)**.
- It forms part of the **Chilika Ramsar Wetland system** under the Ramsar Convention.

Central Asian Flyway and Migratory Bird Movement

- Mangalajodi lies on the Central Asian Flyway, which is one of the world's major migratory bird routes.
- This flyway connects the breeding grounds of birds in Siberia, Arctic regions, Central Asia and Northern Eurasia with wintering grounds in India and South Asia.
- Every year between October and March, nearly two lakh migratory birds arrive in Mangalajodi.
- These birds migrate mainly due to harsh winters in northern regions and search for warmer climate, food-rich wetlands and safe breeding conditions.

Important Migratory Birds

- **Northern Pintail (Anas acuta)** is one of the **most dominant and abundant migratory duck species**.
- **Bar-headed Goose (Anser indicus)** is notable for its **high-altitude migration across the Himalayas**.
- **Gadwall, Northern Shoveler, and Common Teal** are common dabbling ducks found in large numbers.
- **Black-tailed Godwit and other waders (sandpipers, plovers)** are common in **shallow marsh zones like Mangalajodi**.
- Bird population monitoring is conducted annually by the Chilika Development Authority.

Nalabana Bird Sanctuary inside Chilika

- Nalabana Bird Sanctuary is the core protected bird habitat located inside Chilika Lake.
- The word Nalabana means “weed-covered island.”
- It remains seasonally submerged during the monsoon and reappears during the dry season, making it a unique wetland island ecosystem.
- It was declared a bird sanctuary in 1987 and serves as one of the most important nesting and resting sites for migratory birds visiting Chilika.
- Nalabana is also the principal site for annual bird census operations and is one of the most protected avian habitats in eastern India.
- Its location inside Chilika is a very common prelims question.

Irrawaddy Dolphin and Other Important Fauna

- Chilika Lake is internationally famous for the presence of the Irrawaddy Dolphin.
- This species is mainly found in coastal, estuarine and brackish water ecosystems and is different from the Gangetic river dolphin.
- In India, Chilika is one of the most well-known habitats of the Irrawaddy Dolphin, especially near the outer channel and sea mouth region.
- The species is listed as Endangered by the IUCN.

Apart from dolphins and birds, Chilika also supports fish species, crustaceans, prawns, amphibians and seagrass ecosystems, making it one of India’s most productive wetland systems.

26th Formation Day: BRS set to push a new narrative of ‘Reclaiming Telangana’

Source: [The Hindu](#)

Relevance: **GS Paper II - Polity | Federalism | Regional Parties | Political Parties | State Reorganisation.**

Important Key Words

For Prelims:

- Bharat Rashtra Samithi (BRS), Telangana Rashtra Samithi (TRS), Article 3, Andhra Pradesh Reorganisation Act 2014, State Reorganisation, Tenth Schedule, Anti-Defection Law, Section 29A of RPA 1951, Election Symbols Order 1968

For Mains:

- Regionalism, Federalism, Statehood Movements, Role of Regional Parties, Constitutional Position of Political Parties, Cooperative Federalism.

Why in News?

- Bharat Rashtra Samithi is observing its 26th Formation Day while attempting to rebuild its political base after losing power in Telangana following a decade of governance from 2014 to 2023.
- The party, originally founded as Telangana Rashtra Samithi (TRS), is now trying to shift from a leader-centric structure to a cadre-driven organisation and promote a new political narrative of “Reclaiming Telangana.”
- This development brings attention to two important constitutional themes: the



formation of Telangana as a separate state and the constitutional position of political parties in Indian democracy.

Formation of Telangana: Historical and Constitutional Background

Formation of Telangana

- Telangana became the 29th State of India on **2 June 2014** after the bifurcation of the erstwhile Andhra Pradesh through the Andhra Pradesh Reorganisation Act, 2014.
- It was formed under **Article 3 of the Constitution of India**, which gives Parliament the power to create new states, alter boundaries, and change the names of existing states.

This issue becomes important in current affairs whenever regional parties like Bharat Rashtra Samithi (BRS) raise the narrative of “Telangana identity” and “reclaiming Telangana.”

Historical Background

- Before Independence, the Telangana region was part of the princely State of Hyderabad ruled by the Nizam.
- Unlike Coastal Andhra and Rayalaseema, Telangana was under princely administration and had a different political, administrative, and land system.
- After Independence, Hyderabad did not immediately join India. It was integrated into the Indian Union through Operation Polo (Police Action) in 1948.
- After this, Hyderabad became a Part B State, and Telangana remained within Hyderabad State.

Merger with Andhra (1956)

- In 1953, Andhra State was created for Telugu-speaking people after the death of

Potti Sriramulu. However, Telangana remained separate.

- The States Reorganisation Commission (SRC), 1955, recommended that Telangana should remain a separate state for some time because:
 - It was economically less developed
 - People feared domination by Andhra elites
 - Safeguards were needed in jobs and education

Despite this, Telangana was merged with Andhra State on **1 November 1956**, forming Andhra Pradesh.

This merger was based on the **Gentlemen's Agreement (1956)**, which promised safeguards regarding:

- Government jobs
- Educational opportunities
- Use of financial resources
- Political representation
- Regional autonomy

Later, many people felt these promises were not properly implemented.

Reasons for Separate Telangana Demand

1. **Economic Neglect:** People believed that Telangana's revenue was being used more for the development of Coastal Andhra and Rayalaseema. Irrigation, industries, and infrastructure development were seen as unequal.
2. **Employment Issues:** Local people felt that government jobs were going to people from other regions. Violation of **Mulki Rules** and local reservation protections created major dissatisfaction.
3. **Water Disputes:** Telangana raised concerns over unfair sharing of Krishna and Godavari river waters. Irrigation projects were considered unequal.
4. **Cultural Identity:** Telangana had a separate

historical experience under the Hyderabad State and developed its own dialect, traditions, and social identity. People wanted recognition of this distinct identity.

5. **Political Domination:** There was a perception that leadership and decision-making remained dominated by Coastal Andhra elites. This created a strong regional political demand.

Article 3 and Creation of New States

- The constitutional basis for creation of Telangana lies in **Article 3 of the Constitution of India**.
- Article 3 empowers Parliament to form new states by separation of territory from an existing state, unite states, alter boundaries, increase or diminish area, and change the name of a state.
- This reflects the flexible nature of Indian federalism, where Parliament has significant authority over internal territorial reorganisation.
- Unlike many federations, Indian states do not possess constitutional permanence regarding boundaries

Procedure for State Reorganisation under Article 3

- A Bill for creation of a new State can be introduced only in Parliament and only with the prior recommendation of the President.
- Before introduction, the President refers the Bill to the concerned State Legislature for expressing its views within a specified time.
- The opinion of the State Legislature is only advisory and not binding.
- Even if the State Legislature opposes the Bill, Parliament can still proceed.
- The Bill is passed by a simple majority and not by a special majority.
- After Presidential assent, it becomes law.

- This makes state reorganisation easier than constitutional amendment.

Andhra Pradesh Reorganisation Act, 2014

- The Parliament passed the **Andhra Pradesh Reorganisation Act, 2014**, which formally created Telangana.
- Major provisions included the creation of Telangana, Hyderabad serving as a joint capital for up to ten years, division of assets and liabilities, allocation of government employees, sharing of river waters, distribution of public institutions and division of public debt.
- Hyderabad eventually became the permanent capital of Telangana, while Andhra Pradesh initiated the development of Amaravati as its new capital.
- This Act remains one of the most important examples of Article 3 in practice.

Political Parties in the Constitutional Framework

- Political parties are essential to parliamentary democracy because they connect citizens with the government, contest elections, form governments and provide opposition.
- Interestingly, the Constitution originally did not contain detailed provisions regarding political parties.
- Their formal constitutional recognition came later through constitutional amendments and election laws.
- Political parties derive their basic legitimacy from **Article 19(1)(c)**, which guarantees the right to form associations and unions.
- This provides the foundation for citizens to organise themselves politically.

Constitutional Recognition through the Tenth Schedule

- Political parties received formal constitutional recognition through the **52nd Constitutional Amendment Act, 1985**, which introduced the **Tenth Schedule**, also known as the Anti-Defection Law.
- This law deals with defection of legislators, party discipline and disqualification for violating the party whip.
- It gave political parties constitutional significance by linking legislative membership with party loyalty.
- The Tenth Schedule is therefore the strongest constitutional recognition of political parties in India.

Registration and Recognition of Political Parties

- Political parties are registered under **Section 29A of the Representation of the People Act, 1951**.
- A party must apply to the Election Commission of India and declare commitment to the Constitution, democracy, secularism, socialism and national integrity.
- Registration gives legal identity but does not automatically make it a recognised party.
- Recognition is granted separately by the Election Commission under the **Election Symbols (Reservation and Allotment) Order, 1968**.
- Recognition can be as a State Party or a National Party depending on vote share and electoral performance.
- Recognised parties receive reserved symbols, consultation rights with ECI, free airtime on state media and star campaigner benefits.

Groundwater Resource Assessment 2025 - Telangana

Source: [The Hindu](#)

Relevance: **GS Paper III - Environment | Agriculture | Water Resources | Disaster Management**

GS Paper II - Governance | Resource Management

Important Key Words

For Prelims:

- Groundwater Resource Assessment (GWRA), Over-exploited Block, Semi-critical Block, Critical Block, Safe Category, Dynamic Groundwater Resources, Water-intensive Crops, Rabi Paddy, Borewell Irrigation, Aquifer Recharge, Kalwakurthy Lift Irrigation Scheme

For Mains:

- Groundwater Governance, Crop Diversification, Sustainable Agriculture, Water Security, Irrigation Management, Demand-side Water Management

Why in News?

- The Telangana Government has released the **Groundwater Resource Assessment (GWRA) 2025** and initiated the assessment process for 2026.
- During the State-level committee meeting, the issue of groundwater depletion and paddy cultivation during the Rabi season became a major policy discussion.
- While the official report strongly advised discouraging paddy cultivation during Rabi due to groundwater stress and dependence on borewells, the Secretary of Irrigation and Command Area Development stated that banning paddy is not the solution and



emphasized the need to focus on groundwater recharge and better water management.

Groundwater Resource Assessment (GWRA): Institutional Framework

- The Groundwater Resource Assessment is conducted by the Telangana Ground Water Department with the support of various departments and technical institutions that form the State-level Groundwater Resource Assessment Committee.
- The committee is chaired by the Secretary of the Irrigation and Command Area Development Department and consists of 18 members.
- Its main purpose is to scientifically assess groundwater availability, extraction levels, recharge potential, and stress categories across mandals of the State.
- The exercise helps in identifying areas where groundwater extraction has crossed sustainable limits and where policy intervention is required.
- The assessment for 2026 has already been initiated, and data collection will begin in May 2026. The next review meeting is expected in August 2026.

Groundwater Use Pattern in Telangana

- Agriculture is the **largest consumer**, with most groundwater used for irrigation.
- **Rapid increase in extraction** in recent years due to expansion of irrigated area.
- Heavy dependence on **borewells**; sharp rise in number of wells since 2014.
- Groundwater accounts for a **major share of irrigation** compared to surface sources in many regions.
- **Regional variation**: higher dependence in hard rock areas of the Deccan Plateau with

limited surface water.

- Cultivation of **water-intensive crops** like paddy and maize increases groundwater demand.
- **Overall utilisation around 40–45%**, but localized over-exploitation exists.
- Continuous extraction has led to **declining water table** in several districts

Mandal-wise Groundwater Classification

- Telangana has a total of 620 mandals, and these are classified based on the stage of groundwater extraction.
- The categories include Safe, Semi-critical, Critical, and Over-exploited.

As per the 2025 assessment:

Category	Position
Safe Category	76% of mandals
Policy Intervention Required	24% of mandals
Total Mandals Requiring Attention	About 148 mandals

- The number of over-exploited mandals has reduced from 31 to 23.
- However, 25 more mandals have entered the semi-critical category.
- Five additional mandals have entered the critical category.
- This shows that while extreme over-exploitation reduced, groundwater stress is spreading into new areas

Increase in Borewell Dependence

- The report records a 16 percent increase in groundwater extraction wells between 2024 and 2025.
- This means farmers are increasingly depending on borewells for irrigation, particularly during dry spells and Rabi cultivation.
- Borewell dependence creates long-term groundwater stress because extraction often



exceeds natural recharge capacity.

- In semi-arid regions of Telangana, this becomes a major governance issue.

Rabi Paddy and Groundwater Stress

- Telangana has emerged as one of the **largest rice-producing states** after state formation, with a sharp increase in paddy area.
- Expansion linked to **large irrigation projects** (e.g., Kaleshwaram) but groundwater use remains high in non-command areas.
- **MSP-based procurement system** encourages farmers to prefer paddy over less water-intensive crops.
- Paddy cultivation shows **low crop diversification**, increasing long-term pressure on water resources.
- **Cropping intensity has increased** (kharif + rabi paddy), leading to year-round groundwater extraction.
- Paddy fields cause **high evapotranspiration losses**, further increasing irrigation demand.
- In hard rock regions, **limited aquifer recharge capacity** makes groundwater depletion faster under paddy cultivation.
- Shift from traditional crops (millets, pulses) to paddy has **altered agro-ecological balance**.
- Paddy cultivation contributes to **methane emissions**, linking groundwater-irrigated agriculture with climate change.
- Government has promoted alternatives like **oilseeds, pulses, and millets**, but adoption remains limited.

Kalwakurthy Lift Irrigation Scheme and Groundwater Relief

- The Kalwakurthy Lift Irrigation Scheme was referred to as an important example of reducing groundwater dependency.

- It is part of the larger Krishna basin irrigation development in Telangana and provides irrigation support to drought-prone areas, especially in Nagarkurnool and surrounding regions.
- By bringing surface irrigation water to dry regions, the project reduces exclusive dependence on deep borewells.
- This improves agricultural stability and helps in groundwater recharge indirectly.

Groundwater Categories in India

Groundwater assessment in India follows a standard classification system:

Category	Stage of Extraction
Safe	Less than 70%
Semi-critical	70–90%
Critical	90–100%
Over-exploited	More than 100%

Telangana to Deploy AI-Based Surveillance System in Amrabad Tiger Reserve

Source: [The Hindu](#)

Relevance: **GS Paper III - Environment | Biodiversity | Conservation**

GS Paper III - Science and Technology | Artificial Intelligence | Internal Security in Forest Governance

Important Key Words

For Prelims:

- Amrabad Tiger Reserve, Project Tiger, Nallamala Hills, Eastern Ghats, Krishna River, Chenchu Tribe, Thermal Imaging Camera, PTZ Camera, AI Surveillance,



Wildlife Crime Monitoring, GIS Mapping, Forest Fire Detection

For Mains:

- Technology in Conservation, AI in Wildlife Protection, Human-Wildlife Interface, Forest Governance, Smart Surveillance Systems

Why in News?

The Telangana Government has decided to deploy an Artificial Intelligence (AI)-based forest and wildlife surveillance system on a pilot basis in the Amrabad Tiger Reserve for strengthening forest monitoring and wildlife protection.

- The system will function as an integrated standalone surveillance network using normal cameras, thermal imaging cameras, wireless communication systems, control room monitoring, and AI-enabled alerts.
- The project is aimed at improving tiger conservation, preventing poaching, detecting illegal mining, checking forest infiltration, identifying wildlife crime-prone zones, and providing data-based decision support for the Forest Department.
- This development is important because it combines biodiversity conservation with modern AI-based governance tools.

About Amrabad Tiger Reserve

- Amrabad Tiger Reserve is located in the districts of Nagarkurnool and Nalgonda in Telangana.
- It lies in the Nallamala Hills, which form part of the Eastern Ghats.
- The southern boundary of the reserve is formed by the Krishna River, making riverine ecology an important feature of the landscape.
- It was officially established in 2014 after the

bifurcation of Andhra Pradesh and was earlier part of the larger Nagarjunasagar-Srisailem Tiger Reserve.

- It is one of the largest tiger reserves in India and forms a major forest block in southern India.
- Its rugged plateau terrain, deep valleys, dense forests, and water systems make it an ideal habitat for large carnivores.

Geographical Location and Ecological Importance

- The reserve lies in the Deccan Plateau region and acts as a major ecological corridor connecting tiger habitats between central India and southern India.
- It supports gene flow between tiger populations and helps maintain landscape-level biodiversity.
- The Nallamala forest system is one of the largest stretches of dry deciduous forests in peninsular India.
- Because of the Krishna River boundary, the reserve also supports important riparian ecosystems and aquatic biodiversity.
- The presence of valleys, rocky escarpments, and seasonal streams creates ideal shelter and prey habitats for predators.

Flora and Fauna of the Reserve

The dominant forest type is Southern Tropical Dry Deciduous Forest.

Major vegetation includes:

- Teak (*Tectona grandis*)
- Hardwickia / Axlewood
- Terminalia species
- Bamboo
- Mixed dry deciduous species

Important animal species include:

- Tiger (*Panthera tigris tigris*) – flagship species under Project Tiger
- Leopard (*Panthera pardus*)
- Dhole (*Cuon alpinus*) – endangered wild dog



- Sloth Bear (*Melursus ursinus*)
- Indian Pangolin (*Manis crassicaudata*)
- Chital (*Axis axis*)
- Sambar (*Rusa unicolor*)
- Nilgai (*Boselaphus tragocamelus*)

Riverine and reptilian fauna include:

- Mugger Crocodile (*Crocodylus palustris*)
- Monitor lizards
- Various snake species

Chenchu Tribe and Conservation Interface

- Amrabad Tiger Reserve is unique because of the presence of the Chenchu tribe, a Particularly Vulnerable Tribal Group (PVTG).
- The Chenchus are traditional forest-dwelling hunter-gatherer communities who have lived inside these forests for generations.
- This makes Amrabad one of the rare tiger reserves where indigenous communities continue to live within core forest areas.
- Their livelihood depends on forest produce, traditional ecological knowledge, and forest access.
- This creates an important governance challenge between wildlife conservation and tribal rights, especially under:
 - **Wildlife Protection Act, 1972**
 - **Forest Rights Act, 2006**

AI-Based Wildlife Surveillance System

The new AI-integrated surveillance system will function through a hybrid model using:

- normal image and video cameras
- thermal sensing cameras
- wireless network communication
- central control room monitoring
- graphical alerts on geomaps
- remote camera operations on a 24x7 basis

- The system will generate alarms and alerts whenever unusual movement, poaching risk, illegal entry, fire incidents, or wildlife movement is detected.
- The control room will be connected to all cameras and will store feed for monitoring and reporting.
- The system will also provide movement pattern analysis of wildlife for better management.

Technical Component	Main Function	Key Benefit
AI-Based Object Detection	Identifies animal, human, and livestock movement	Improves anti-poaching operations
Thermal Imaging Cameras	Detect animals through heat signatures, even in darkness	Helps in night surveillance and tiger tracking
PTZ Cameras	Rotates, zooms, and tracks movement dynamically	Reduces surveillance gaps
Geo-Coordinate Mapping	Links alerts with exact location coordinates	Improves quick response and hotspot mapping
Forest Fire Detection	Detects heat anomalies, smoke, and temperature spikes	Enables early fire warning
GIS and Predictive Analytics	Maps wildlife, terrain, and human activity patterns	Helps identify poaching zones and conflict areas



Challenges in Implementation

Several operational challenges remain:

- maintaining equipment in remote forest terrain
- uninterrupted wireless connectivity in deep forests
- high cost of installation and maintenance
- technical training of field staff
- balancing surveillance with tribal rights and local sensitivities

Telangana Examines Proposals to Link Tummidihatti with Yellampalli under Pranahita–Chevella Framework

Source: [The Hindu](#)

Relevance: **GS Paper I - Geography (Rivers) | GS Paper III - Irrigation | Water Resources | Infrastructure**

Important Key Words

For Prelims:

- Pranahita River, Godavari Basin, Tummidihatti, Yellampalli Project, Kaleshwaram Lift Irrigation Project (KLIS), Medigadda Barrage, Sundilla Barrage, Annaram Barrage, CWPRS, NDSA, Lift Irrigation

For Mains:

- River Interlinking (Intra-basin), Water Management, Irrigation Efficiency, Federal River Issues, Infrastructure Sustainability

Why in News?

- The Telangana government is examining four alternative proposals to link

Tummidihatti with Yellampalli to optimise utilisation of Godavari river waters.

- The proposals are being studied by IIT Hyderabad and RV Associates for feasibility, cost-effectiveness, and irrigation efficiency.
- Simultaneously, restoration of Medigadda, Sundilla, and Annaram barrages under the Kaleshwaram project has been prioritised ahead of the monsoon season.

Geographic Location and River System

- The project is located within the **Godavari river basin**, which is the second-largest river system in India.
- The **Godavari River** originates in the Western Ghats at Trimbakeshwar (Maharashtra) and flows eastward into the Bay of Bengal.
- The **Pranahita River** is its largest tributary in terms of water contribution and is formed by the confluence of:
 - Wardha River
 - Wainganga River
- Tummidihatti is located on the Pranahita River near the Telangana–Maharashtra border.
- The **Sri Sripada Yellampalli Project** is situated downstream on the Godavari River and acts as a major storage and distribution reservoir.
- This linkage represents an intra-basin transfer within the Godavari system, connecting a tributary source (Pranahita) with the main river storage system.

What is the Tummidihatti–Yellampalli Proposal?

The proposal involves diverting water from Tummidihatti (on Pranahita) to Yellampalli reservoir (on Godavari) through a suitable alignment.

Four different alignments are being studied based on:

- elevation differences (critical for lift irrigation)
- distance and canal feasibility
- pumping requirements
- cost efficiency
- water transmission losses

The objective is to ensure that water from the upstream Pranahita region is effectively utilised for irrigation across Telangana.

Pranahita-Chevella Project: Concept and Evolution

- The **Pranahita-Chevella Lift Irrigation Scheme** was originally conceived as a large lift irrigation project.

It aimed to:

- lift water from the Pranahita River
- supply irrigation to drought-prone upland regions
- provide drinking and industrial water
- Due to redesign and engineering modifications, the original plan was restructured into the **Kaleshwaram Lift Irrigation Project**, which is currently operational.
- The present proposals attempt to revive and optimise the original intent of utilising Pranahita waters efficiently.

Kaleshwaram Lift Irrigation Project and Barrage System

The Kaleshwaram project is a multi-stage lift irrigation system built across the Godavari River

Key barrages include:

- **Medigadda Barrage** (Lakshmi Barrage)
- **Annaram Barrage** (Saraswati Barrage)
- **Sundilla Barrage** (Parvati Barrage)
- These barrages regulate river flow and facilitate multi-stage water lifting into canals and reservoirs.
- Yellampalli acts as an important

intermediate storage node within this system.

Technical Aspects of Barrage Restoration

The government has ordered urgent restoration of barrages before the monsoon.

Key technical instructions include:

- Standard Penetration Tests (SPT) at every 1.5 metres
- Permeability tests at every 3 metres
- Bore drilling up to at least 5 metres even in rocky strata

These tests are essential for:

- assessing soil strength
- identifying seepage risks
- ensuring structural stability
- preventing failure during high discharge

Institutional Mechanisms and Agencies Involved

Several institutions are involved in the project:

- IIT Hyderabad – technical feasibility analysis
- RV Associates – engineering consultancy
- **Central Water and Power Research Station (CWPRS)** – hydraulic and structural expertise
- **National Dam Safety Authority (NDSA)** – regulatory oversight

A coordination committee has been formed to monitor restoration works and ensure compliance.

Irrigation Significance for Telangana

The project is crucial for Telangana due to:

- semi-arid climate and rainfall variability
- dependence on lift irrigation in plateau Regions
- need to irrigate upland agricultural zone
- requirement to stabilise existing irrigation systems

It aims to ensure water availability to lakhs of acres and strengthen agricultural productivity.