DAILY CURRENT AFFAIRS

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Topics Covered

The new Constitution Bill, the need for a balancing act

Syllabus :GS Paper II – Polity & Governance

- Salient features of the Constitution (amendment process, constitutional morality, separation of powers).
- Functions & responsibilities of the Union and States; issues and challenges pertaining to the federal structure.
- Parliament & State legislatures – conduct of business, powers, privileges, and issues arising out of these.

The new Constitution Bill, the need for a balancing act

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The Joint Parliamentary Committee needs to carefully recalibrate the formulation of the Constitution (One Hundred and Thirtieth Amendment) Bill, 2025

Moral integrity in the political class is a paradox that India has continually struggled with. While, on the one hand, the electorate demands moral rectitude in the political class, there has, on the other, been a pervading spectre of criminality prevailing in the political class. The proposed Constitution (One Hundred and Thirtieth Amendment) Bill, 2025, that was introduced in the Lok Sabha on August 20, 2025, is aimed at filling this vacuum by providing a condition. Under this, Ministers, Chief Ministers and even the Prime Minister must either resign or automatically be subject to removal if they continue to be in custody even after a consecutive period of 30 days in crimes that carry a maximum punishment of five years or more of imprisonment.

On the surface, the action appears to be a decisive initiative toward enabling cleaner politics. It touches upon the disturbing fact of corrupt leaders in custody holding on to power, a situation that has made people lose trust in governance. But there are political pitfalls and constitutional quandaries that lurk beneath its promise.

The foundation for this Bill rests on Articles 75, 164 and 239AA of the Constitution, which deal with the appointment and tenure of Ministers in the Union, States and Delhi, respectively. While Articles 75(1), 164(1) and 239AA(5) mandate that Ministers shall hold office at the pleasure of the President of India (or Governor), this "pleasure" has been judicially interpreted within the bounds of constitutional morality and legal propriety, as in cases such as *Shamsher Singh and Anr. vs State Of Punjab* and *Nabam Rebia And Etc. Etc. vs Deputy Speaker And Ors.*

Judicial pronouncements

The Supreme Court of India, in *S.R. Bommai vs Union of India*, underscored the role of constitutional morality as a guiding principle, thus pronouncing that democratic institutions must be nurtured through integrity and accountability. Later, in *Manoj Narula vs Union of India*, the Court directly addressed the ethical dimension of ministerial appointments, warning that individuals with serious criminal charges should not be entrusted with executive power. Although the Court stopped short of mandating automatic removal, it clearly signalled that morality is intrinsic to the constitutional framework. The Bill, therefore, draws strength from these pronouncements, seeking to give legislative form to what has long been a judicially recognised moral imperative.

But this Bill's very ambition may be its Achilles' heel. The most glaring issue concerns the principle of presumption of innocence, which forms part of the right to life and liberty under Article 21. To equate arrest and detention with grounds for removal, without conviction or even the framing of charges, risks undermining this foundational constitutional value. Section 8(3) of the Representation of The People Act concerns the disqualification of members on the conviction of certain offences. In the case of *Lily Thomas vs Union of India*, the Supreme Court held that a lawmaker, only upon conviction, immediately stands immediately disqualified. The three-month window to file an appeal and continue as a legislator was also struck down, thus providing jurisprudential support for stringent accountability even before the existence of the Bill. Here, it is important to note that disqualification begins only when someone is convicted, and not when someone is arrested or detained.

The problem is compounded by the Bill's reliance on executive discretion through the insertion of Clause 5A after Clause 5 of Article 75, Clause 4A after Clause 4 of Article 164 and Clause 5A after Clause 5 of Article 239AA of the Constitution. Ministers can be removed on the advice of the Prime Minister or Chief Minister, but automatic removal kicks in if such advice is withheld. This dual mechanism politicises the process: a Prime Minister may shield allies for 30 days, while a hostile Chief Minister may allow rivals to fall by the automatic rule. Instead of insulating governance from partisanship, the Bill risks embedding accountability in the shifting sands of political calculation.

Inconsistency in treatment

The inconsistency in treatment between legislators and Ministers further complicates matters. Members of Parliament and Members of State legislatures face disqualification only upon conviction under the Representation of the People Act. By contrast, Ministers under this Bill would be forced to resign on mere detention. This creates a paradoxical situation wherein a legislator convicted of corruption may technically continue as a Minister until disqualified under the Act, while a Minister only under arrest would be forced out. The asymmetry may appear to elevate the standards for executive office, but it also undermines consistency in the constitutional treatment of public officials. It risks deterring capable individuals from accepting ministerial responsibility, knowing that they face harsher consequences than their legislative peers on the basis of unproven allegations.

There is also the problem of the "revolving door". Because the Bill allows reappointment once a Minister is released from custody, there could be cycles of resignation and reinstatement depending on the pace of legal proceedings. Imagine a Chief Minister who is arrested and detained for 31 days, who is forced to resign, but later released on bail and promptly reinstated by the Governor. The State would have endured weeks of political uncertainty with little to gain in ethical accountability. Such instability may not only weaken governance but also incentivise tactical legal manoeuvres, where political actors use the law as a tool to manipulate executive offices.

Need for a more nuanced model

None of this is to deny the urgency of reform. The rise of criminalisation in politics is a stark reality. According to a comprehensive analysis by the Association for Democratic Reforms and National Election Watch of all 543 winning candidates in the 2024 general election, 251 Members of Parliament (46%) had declared criminal cases against themselves, up from 43% in 2019, 34% in 2014, and 30% in 2009, representing a 55% increase over 15 years. Yet, the bluntness of its approach risks undermining both the principle of fairness and the stability of governance. A more nuanced model would better serve the constitutional goal of clean politics without eroding democratic safeguards.

One pathway could be to link removal not to arrest but, instead, to judicial milestones such as the framing of charges by a competent court. This would ensure that only cases that pass initial judicial scrutiny trigger resignation, filtering out frivolous or politically motivated arrests. Another safeguard could be the establishment of an independent review mechanism, such as a tribunal or a judicial panel, to examine whether the conditions for removal have been met. This would prevent executive overreach and ensure impartial application. Similarly, instead of outright removal, the law could provide for interim suspension of ministerial functions during ongoing trials, allowing governance to continue without compromising accountability. Most importantly, the Bill should refine its scope to apply only to offences involving moral turpitude and corruption, rather than casting a wide net over any offence punishable with five years' imprisonment, which could include relatively minor criminal conduct.

In sum, the Constitution (One Hundred and Thirtieth Amendment) Bill, 2025, stakes out a significant normative position that citizens might welcome as a forceful stand against corruption and criminality. But its formulation elides the inherent tension between safeguarding democratic deliverance of justice and urgent demands for ethical governance. Unless the Joint Parliamentary Committee (JPC) carefully recalibrates to incorporate due process and institutional checks – the Bill is with the JPC – it could transmute constitutional safeguards into instruments of political exclusion, testing the delicate balance of India's democratic experiment. For, in the long run, power without integrity corrodes democracy, and integrity without fairness endangers it.

What is the new Bill to remove PM, CM and Ministers?

What does the 130th Constitutional Amendment Bill state? Is there scope for misuse?

Rangarajan. R

The story so far:

The Union government has introduced the 130th Constitutional Amendment Bill, under which a Minister will be removed from office if they are arrested and detained for 30 days in relation to a criminal offence.

What does the Bill say?

The Bill seeks to amend Articles 75 and 164 of the Constitution that deal with the Council of Ministers at the Union and State level. It provides that a Minister, who has been arrested and detained for 30 consecutive days in relation to an allegation of committing an offence, which is punishable with imprisonment of at least five years, shall be removed from his/her office. They would be removed on the advice tendered by the Prime Minister/Chief Minister (PM/CM). If the PM/CM does not tender such advice, the Minister concerned shall automatically cease to hold office from the 31st day. If the PM/CM is arrested and taken into custody for 30 consecutive days, he/she shall tender his/her resignation on the 31st day. However, the PM, CM, or Minister can be subsequently appointed on being released from custody. It also seeks to amend Article 239AA with similar provisions for the National Capital Territory of Delhi. These amendments to the Constitution would require a two-thirds majority in both houses of Parliament for its passage. Similar amendments have been proposed to parliamentary laws that govern the Union Territories of Jammu & Kashmir and Puducherry. These Bills have been referred to a Joint Parliamentary Committee (JPC) for scrutiny.

What are the existing laws?

The Representation of the People Act, 1951 (RP Act) provides that any person who is convicted in a criminal case and sentenced to not less than two years in jail, shall be disqualified from being a member of Parliament or State legislature for the period of their sentence and six years thereafter. Section 8(4) of the RP Act provided that with respect to a sitting member of Parliament or State legislature, such disqualification shall not take effect if an appeal is filed against such conviction. However, the Supreme Court in *Lily Thomas* (2013) struck down this clause as unconstitutional. It must be noted that the existing law only provides for disqualification for being a member of Parliament or State Legislature and not for being a minister.

In 2016, the Election Commission had recommended that the RP Act be amended to provide that persons against whom charges are framed by a competent court for an offence that is punishable with imprisonment of at least five years be barred from contesting elections.

What are the issues?

Firstly, it will result in elected representatives losing their position by mere police action even before the start of a trial. Secondly, it undermines the principles of parliamentary democracy where the elected PM, CM enjoys the power to choose their cabinet. Finally, it gives the Centre disproportionate power to initiate vindictive action against ministers in opposition-ruled States.

What should be done?

Criminalisation of politics is a malaise plaguing our democratic system. However, the issues surrounding the Bill need careful consideration.

Moreover, the Bill seems to try to address the effect than the cause. Reports by the Association of Democratic Reforms states that 46% of MPs and 45% of MLAs have criminal cases against them. It added that the chances of winning for a candidate with a criminal background was 15.4% as against just 4.4% for a candidate with a clean background. An appropriate step then would be to not field candidates who have criminal records. Parties should instil this self-discipline rather than provide tickets to tainted candidates on the ground of 'winnability'.

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THE GIST

- The Bill seeks to amend Articles 75 and 164 of the Constitution that deal with the Council of Ministers at the Union and State level.
- In 2016, the Election Commission had recommended that the RP Act be amended to provide that persons against whom charges are framed by a competent court for an offence that is punishable with imprisonment of at least five years be barred from contesting elections.
- Criminalisation of politics is a malaise plaguing our democratic system.

Key Takeaways from the Article

The Proposed Bill:

- Constitution (130th Amendment) Bill, 2025 introduced in the Lok Sabha (Aug 20, 2025).
- Ministers (Union & State) and PM/CM must resign or face automatic removal if in custody beyond 30 days for crimes with a punishment of **5 years or more.**

Constitutional Context:

- Anchored in **Articles 75, 164, 239AA** (pleasure of President/Governor/Administrator).
- Judicial precedents:
  - S.R. Bommai vs Union of India → Constitutional morality as a guiding principle.
  - Manoj Narula vs Union of India → Persons with serious criminal cases should not hold executive power.
  - Lily Thomas vs Union of India → Immediate disqualification of convicted lawmakers.

Concerns & Pitfalls:

- **Violation of presumption of innocence (Art. 21):** Removal on detention, not conviction.
- **Inconsistency:** Legislators disqualified only upon conviction, but Ministers forced out upon detention.
- **Politicisation risk:** PM/CM's discretion to delay or trigger removal; may be used against rivals.
- **Revolving door issue:** Reappointment possible after release → instability in governance.
- **Overbreadth:** Covers all offences punishable by 5+ years, even minor ones.

Criminalisation of Politics – Data:

- 2024 Lok Sabha: 251 MPs (46%) with criminal cases (up from 30% in 2009).
- Trend shows steady rise in criminalisation despite legal/judicial interventions.

Suggested Alternatives :

- Trigger removal upon **framing of charges** by a competent court (not mere arrest).
- Creation of an **independent review mechanism** (tribunal/judicial panel).
  - Interim suspension rather than outright removal.
- Restrict scope to **serious offences – corruption, moral turpitude,** not all 5-year+ crimes.

Way Forward

Due Process Safeguard:

- *Link disqualification to judicial scrutiny m*
- ilestones (charge framing) instead of mere detention.

Independent Oversight:

- Establish a neutral judicial/tribunal panel to review cases, reducing partisan misuse.

Consistency in Law:

- Harmonise standards for legislators & ministers to avoid asymmetry and ensure fairness.

Targeted Scope:

- Restrict provisions to serious offences (corruption, crimes of moral turpitude, heinous crimes) instead of blanket 5+ year punishments.

Political Reforms & Awareness:

- Strengthen voter awareness (ADR, ECI initiatives) and intra-party accountability to reduce criminalisation at the source

Nourish to flourish: the nutrition and cognition link

Syllabus :

GS Paper II – Social Justice

- Issues relating to development and management of Social Sector/Services relating to Health, Education and Human Resources.
- Welfare schemes for vulnerable sections, performance of these schemes, and issues arising out of their design and implementation.

GS Paper III – Human Resource Development

- Issues related to children and demographics.

Essay Paper

- Topics related to "Health is wealth", "Human capital & demographic dividend", "Childhood as foundation of future".

Nourish to flourish, the nutrition and cognition link

Imagine that you have a flight to catch at 2 p.m. Given the factors such as the distance to travel, the traffic conditions, and airport check-in time, you are likely to miss the flight unless you leave your house at 12 p.m. The hour between 12 p.m. and 1 p.m. is your critical window to make sure that you catch the flight. Similarly, for a child, the first 1,000 days of his life are that critical window – a once-in-a-lifetime opportunity to lay the foundation for future success. Brain development and maturation as well as adequate growth through nutrition must happen in this period, failing which the child will never reach their full potential.

What the science says

The science is undeniable. By the age of two years, the brain reaches almost 80% of its adult weight. Synapse development peaks during this time, with synaptic density reaching adult levels by preschool age. The development of the frontal lobes, which are believed to control higher cognitive functions (including planning, sequencing and self-regulation), happens in growth spurts during the first two years of life. If the foundational development of the brain and skills is flawed in these earliest days, later developments that build on earlier circuits and skills will be inherently limited.

It is not just cognitive development that is defined in the first 1,000 days. Nutritional deficiencies before the age of three are, in some cases, impossible to reverse. Although India has made strides in overcoming nutritional deficiencies in the decades between 1993 and 2021, at the current rate of decline, stunting prevalence (low height for age) will reach 10% only by 2075. Can we double the pace to hit this target by 2047? To succeed, we must seize the critical window of early childhood by combining efforts on nutrition and cognition, giving children the best chance at a bright future.

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For a child, the first 1,000 days of his life are a critical window to lay the foundation for his future; more needs to be done in India

Nutrition and cognitive development have to go hand in hand. They are , for all intents and purposes, cut from the same cloth. Adequate nutrition is essential for brain function, and without meeting nutritional demands, there can be permanent cognitive damage or disabilities. A birth-cohort study in Vellore, Tamil Nadu, found that early childhood iron deficiency negatively impacts verbal performance and cognitive processing speed at age five and affects expressive language development before the age of two. Research has also indicated that the impact of stand-alone nutrition programmes was low to moderate when compared to combined nutrition and stimulation programmes. Learning is fast and permanent in the first few years. A three-year-old starts speaking in a regional language and never forgets it. Most of us still remember nursery rhymes, thanks to neuroplasticity.

Childcare programmes in India

The Integrated Child Development Services (ICDS) programme, one of the biggest childcare programmes in the world, has the unique ability to prioritise both nutrition and education as pillars of early childhood development. The Ministry of Women and Child Development has launched programmes such as "*Poshan Bhi Padhai Bhi*", which seek to ensure that nutrition and cognitive development go hand in hand.

Additionally, the National Framework for Early Childhood Stimulation for Children from Birth to Three Years - Navchetana provides structured guidance in the form of simple activities for social and cognitive stimulation based on the age of the child. The framework offers 140 activities tailored to the child's age, presented in a 36-month stimulation activity calendar. It is designed to be used by parents, caregivers and Anganwadi or crèche workers, particularly during home visits. These provide an opportunity to learn through play-based activities supported by caregivers, rather than being 'taught' in a formal sense. Well-conducted home visits using the stimulation calendar will help children under the age of three receive adequate, timely, and nutrient-rich food to support their holistic development and reduce the risk of developmental delays due to nutritional deficits.

Areas that need improvement

Though an army of almost 14 lakh Anganwadi centres and workers is at the frontlines of the battle to ensure that children get adequate nutrition and stimulation, especially in the first 1,000 days, more needs to be done. The ICDS programme needs to enhance its coverage and achieve saturation of its target populations with high-quality services in health, nutrition and early learning. It needs to leverage advancements in technology, expand and enhance services in urban areas, and improve the access, capacity and delivery of pre-primary education, including evaluation and measurement of the health, learning and psychosocial well-being of children under six years.

Finally, to empower women to join the productive workforce, we need to expand the crèche provision by exploring multiple models including publicly-run, community-run and public-private partnerships.

We must remember we are what we eat and what we think – and what is lost in the early years can never be regained. Investing in early childhood nutrition and stimulation is not just about health. It is about empowering children and women to reach their full potential and meeting the evolving needs of society.

Investments in early childhood and investment are particularly urgent as we progress towards increased automation, mechanisation and an accelerated pace of technological advancement, which is likely to lead to less employment for low-skilled and unskilled workers.

Key Takeaways from the Article

Critical window – First 1,000 days:

- Child's brain develops rapidly → by age 2, brain reaches **80% of adult weight.**
- Synapse development peaks, frontal lobes (planning, sequencing, self-regulation) mature.
- Nutritional deficiencies in this period → often irreversible cognitive and growth deficits.

India's Nutrition Challenge:

- Decline in stunting between 1993–2021, but slow pace.
- At current trajectory, stunting prevalence will reach 10% only by 2075.
- Target: accelerate to meet **2047 goal (Amrit Kaal / Viksit Bharat vision).**

Evidence of Nutrition-Cognition Link:

- Tamil Nadu cohort study: Early childhood iron deficiency → lower verbal performance, slower cognitive processing, weaker expressive language.
- Research: Combined **nutrition + stimulation** programmes more effective than standalone nutrition schemes.

Broader Socio-Economic Relevance:

- Early investments in nutrition + cognition enhance human capital.
- Urgent in era of automation/AI → lowskilled jobs will shrink, need cognitively strong workforce.

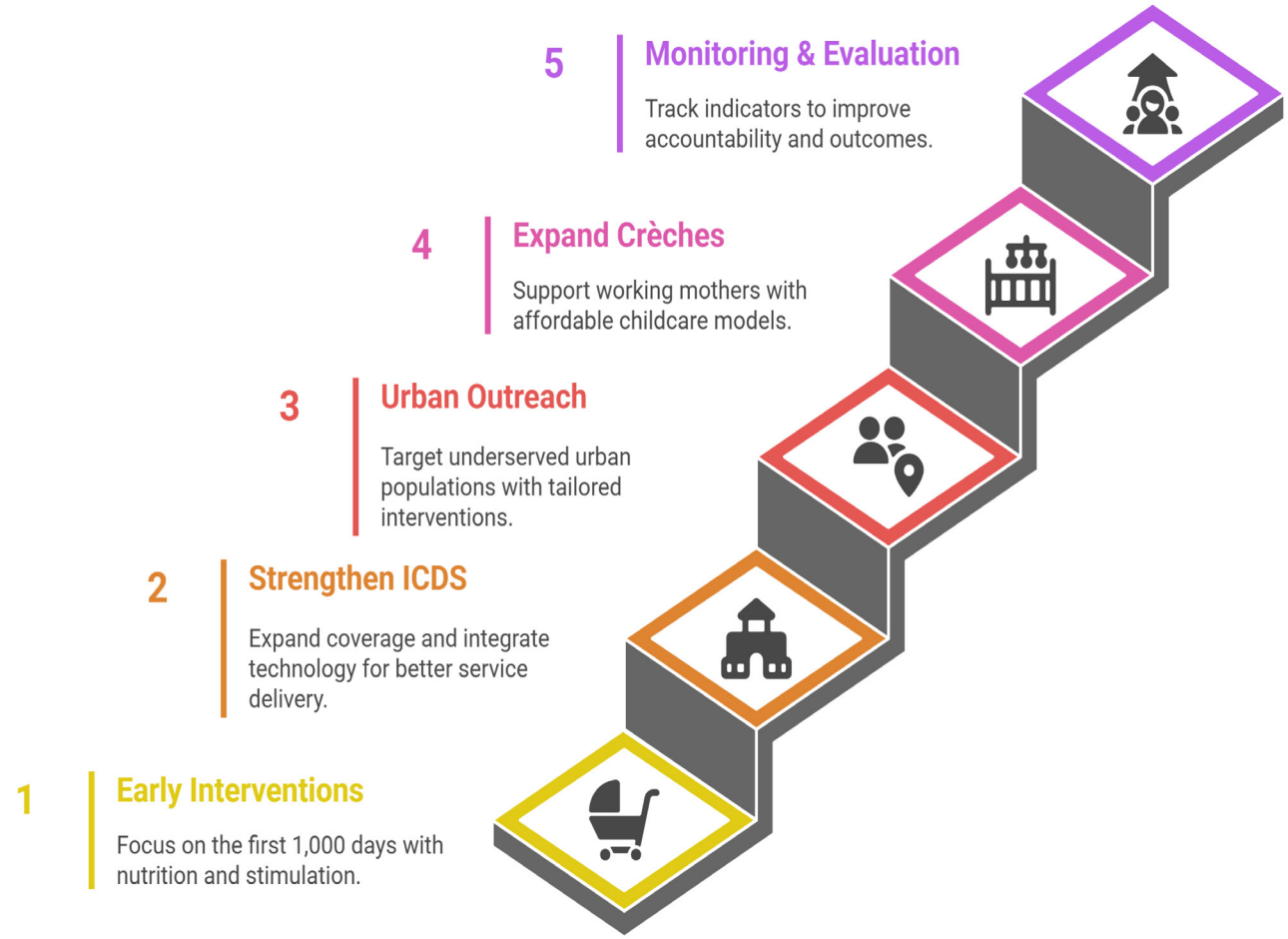
Government Interventions:

- ICDS: World's largest early childhood programme → nutrition + early education.
- **Poshan Bhi Padhai Bhi (2023):** Nutrition integrated with early cognitive development.
- **Navchetana Framework (0–3 years):** 140 ageappropriate activities (play-based stimulation) for parents, caregivers, Anganwadi workers.

Implementation Challenges:

1. Coverage & quality gaps in ICDS services.
2. Need for stronger urban focus (slums, migrant families).
3. Technology not fully leveraged in monitoring & service delivery.
4. Weak crèche provision limits women's workforce participation.
5. Anganwadi network (14 lakh workers) stretched, needs capacity building.

Achieving Comprehensive Child Development



The ASI is facing a credibility crisis

Syllabus :

GS Paper I – Indian Heritage & Culture Indian culture will cover the salient aspects of Art Forms, Literature and Architecture from ancient to modern times.
Archaeological studies and sources of history writing in India.
GS Paper II – Polity & Governance Issues relating to autonomous bodies, institutions & governance challenges.
GS Paper IV – Ethics (Case Studies relevance) Integrity of institutions, objectivity vs politicisation of historical interpretation.

The ASI is facing a credibility crisis

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The Archaeological Survey of India (ASI) has once again drawn public scrutiny following the controversial transfer of archaeologist K. Amarnath Ramakrishna. His leadership of the Keeladi excavation in Tamil Nadu garnered considerable public and academic interest in the history of ancient Tamil civilisation.

The Keeladi excavations

Started in 2014, the excavation at Keeladi uncovered around 7,500 artefacts. The findings indicated the presence of a sophisticated, literate, and secular urban society and offered crucial evidence in bridging the historical gap between the Iron Age (12th-6th century BCE) and the Early Historic Period (6th-4th century BCE). Scholars have since referred to the site as part of the Vaigai Valley Civilisation. The Keeladi settlement could be a part of the second urbanisation that swept the Indian subcontinent between the 6th and 2nd centuries BCE.

The project took a dramatic turn when Mr. Ramakrishna was abruptly transferred to Assam in 2017. His transfer was widely perceived as an effort to downplay the findings. Tensions escalated when the ASI claimed there were no significant findings and halted the third phase of excavation. This sparked a political rift between the Tamil Nadu government and the Union government. The Madras High Court intervened, transferring the site to the Tamil Nadu State Department of Archaeology, which has since unearthed over 18,000 artefacts.

In 2021, Mr. Ramakrishna returned to Tamil Nadu as superintending archaeologist of the Chennai circle. In 2023, he submitted a report on the first two phases, substantiating the earlier findings. However, the ASI requested a revision of the report. Defending his conclusions, Mr. Ramakrishna cited methodological rigour, stratigraphic sequencing, material culture analysis, and Accelerator Mass Spectrometry dating of the carbonaceous material retrieved from various event horizons within the excavated sites. The episodes underscore the politics in archaeological practice and reflect a credibility crisis facing the ASI.

Beyond the erosion of its institutional autonomy amid bureaucratic entanglement and political contingencies, the ASI's epistemic endeavour is increasingly subsumed by nationalistic fervour

An inconsistent approach

The Union government justified its stance saying a single set of findings cannot substantiate alternative historical narratives without broader scientific validation. While this rationale champions methodological rigour and scientific inquiry in knowledge production, it also exposes the inconsistency in the ASI's conduct across other excavation projects.

Excavations at the Adichanallur and Sivagalai sites in the Thoothukudi district of Tamil Nadu exhibited a pattern similar to Keeladi. Although Adichanallur was excavated in the early 20th century by a British archaeologist, Alexander Rea, the site was neglected for nearly a century. When excavations resumed under the leadership of T. Sathyamurthy of ASI in 2004, notable Iron Age artefacts were uncovered, dated to be more than 3,000 years old. However, it took more than 15 years and court intervention for the ASI to publish the findings.

However, the ASI's excavation in Rajasthan assumed a different trajectory. The unearthing of an ancient 23 m-deep paleochannel in Bahaj village prompted some historians and archaeologists to associate the site with the mythical Saraswati River mentioned in the Rig Veda. The excavation report also claimed links to human settlements from the 'Mahabharata period', a controversial time interval debated by scholars. Such uncritical embrace of mytho-historical narratives stands antithetical to the principles of scientific knowledge production.

The ASI's conduct in these instances reveals a trap of methodological nationalism – a framework privileging a singular, state-sanctioned vision of India's past. This approach is often legitimised through methodological rigidity, teleological interpretations, and the construction of a monopolised epistemic regime. The institution's pursuit of portraying India as a civilisational monolith has long drawn criticism from scholarly circles. Ashish Avikunthak (2021) highlighted arbitrary transfers, delayed promotions, exasperating work conditions, and inadequate infrastructure that stifle quality work in the ASI. Supriya Verma and Jaya Menon (2003) critiqued the Ayodhya excavation project for lacking scientific integrity. Jürgen Neuß (2012) and Dilip Kumar Chakrabarti (1988, 2003) pointed to the ASI's continued reliance on the outdated Wheeler method and the lack of comprehensive research designs as impediments to holistic interpretation.

The ASI has largely retained a closed internal review system. Most research is circulated through internal reports, institutional monographs, and bulletins. In contrast, its global counterparts such as the Deutsches Archäologisches Institut in Germany, the Institut National de Recherches Archéologiques Préventives in France, and Japan's Agency for Cultural Affairs regularly publish findings in academic platforms. This fosters transparency, methodological accountability, scholarly rigour, and enhance the accessibility of archaeological findings. It also invites global scholarly engagement.

Beyond these issues, the ASI's epistemic endeavour is increasingly subsumed by nationalistic fervour. The crumbling legitimacy of archaeological enterprise calls for comprehensive structural and institutional reforms, greater methodological and scientific rigour, financial autonomy, and a robust epistemic framework that embraces the plurality of India's historical past.

Key Takeaways from the Article

Keeladi Excavations (2014 onwards):

- ~7,500 artefacts found → evidence of an urban, literate, secular society in Tamil Nadu.
- Linked to the **Vaigai Valley Civilisation,** possibly part of India's "second urbanisation" (6th–2nd BCE).
- Lead archaeologist K. Amarnath Ramakrishna abruptly transferred in 2017 → suspicions of attempts to downplay findings.
- Madras HC transferred site to TN State Archaeology Dept → 18,000+ artefacts excavated later.
- His final report (2023) supported earlier conclusions, but ASI sought revision → credibility crisis.

Pattern of Inconsistency:

- **Adichanallur & Sivagalai (Tamil Nadu):** Excavations showed artefacts >3,000 years old, but ASI delayed publishing results for 15+ years.
- **Bahaj, Rajasthan:** Paleochannel excavation linked to Saraswati River & Mahabharata period — embraced mythological narratives without robust scientific validation.

Institutional Criticism:

- **Methodological nationalism:** privileging state-sanctioned, unitary civilisational narratives.
- **Scholarly critiques:**
  - Reliance on outdated Wheeler method.
  - Arbitrary transfers, poor infrastructure, stifled academic independence.
  - Past controversies (Ayodhya excavation) for lacking scientific integrity.
- **Opaque review system:** Internal reports, limited peer-reviewed publications.
- Global contrast: Institutions in Germany, France, Japan → transparent publication, international scholarly engagement, methodological accountability.

Underlying Issues:

- Politicisation of archaeological narratives.
- Weak structural autonomy & financial dependence.
- Lack of modern scientific methods and collaborative research.

Way Forward

Institutional Autonomy & Reforms:

- Grant ASI greater functional and financial independence; establish a transparent, peer-driven review mechanism.

Scientific Modernisation:

- Adopt advanced archaeological methods (AMS dating, GIS mapping, DNA studies) instead of outdated techniques.

Transparency & Global Engagement:

- Publish findings in open, peer-reviewed platforms; encourage global scholarly collaborations.

Depoliticisation of Archaeology:

- Safeguard excavations and historical interpretations from ideological or political interference.

Capacity Building & Professionalisation:

- Invest in archaeologist training, infrastructure, technology adoption, and institutional work culture.

How have deception techniques evolved?

Syllabus :

GS Paper 3 (Security, Defence Technology) – evolution of warfare, indigenous defence capability.
GS Paper 2 (IR) – strategic autonomy, defence partnerships (Israel, France, US).

How have deception techniques evolved?

What are AI-enabled X-Guard Fibre-Optic Towed Decoy systems? What are some other systems comparable to the X-Guards? How has Ukraine deployed decoys in its war against Russia? Do navies also employ countermeasures to protect warships? How has India fared with deception decoys?

EXPLAINER

Rahul Bedi

The story so far:

In contemporary warfare, deception has evolved alongside the increasing precision and lethality of modern weaponry. As combat platforms – from fighter jets and tanks to warships – become more sophisticated, so too have techniques developed to shield them from detection and attack. Over the decades, the traditional art of battlefield trickery has merged with digital-age innovations, incorporating decoys and countermeasures designed to confuse, mislead, or overwhelm enemy sensors and targeting systems. By creating doubt and sowing confusion, these decoys not only waste enemy munitions but also buy crucial time for the actual platform to evade or retaliate. Hence, decoys turn deception into a strategic asset as critical as firepower.

How has India deployed decoys?

During Operation Sindoor, the Indian Air Force (IAF) is believed to have successfully deployed the AI-enabled X-Guard Fibre-Optic Towed Decoy (FOTD) system –developed by Israel's Rafael – on its Rafale fighters as part of their electronic warfare (EW) suite. Although neither the IAF nor official sources have confirmed the use of X-Guard, former U.S. F-15 pilot Ryan Bodenheimer told Indian media outlets that it was "the best instance of spoofing and deception ever seen." Confusion persists over how many, if any, Rafales were actually lost in a May 7 strike on Islamist camps inside Pakistan. The Pakistan Air Force (PAF) may have downed several X-Guard decoys – trailing about 100 metres behind each aircraft – misidentifying them as real targets.

Analysts believe the PAF's Chinese-origin J-10C fighters, armed with PL-15E beyond-visual-range air-to-air missiles, struggled to distinguish between the decoys and actual aircraft. Several missiles reportedly locked onto the X-Guards instead, leading PAF pilots to prematurely claim multiple shootdowns.

New forms: The INS Karanj submarine is equipped with a state-of-the-art torpedo decoy system. INS Karanj can launch marine commandos for special operations behind enemy lines. FILE PHOTO

How does the FOTD system work?

Acquired via classified channels, the lightweight (30 kg), retractable, and reusable X-Guard mimics the Rafale's Radar Cross-Section (RCS), doppler velocity, and spectral signature across multiple radar bands. It can also replicate the Rafale's onboard electronic countermeasures – creating a convincing illusion for both human operators and tracking systems.

Its 360-degree jamming signal capability integrates seamlessly with the Rafale's SPECTRA (Self-Protection Equipment Countering Threats to Rafale Aircraft) EW suite. While SPECTRA manages threat detection, blocking, and onboard defensive measures, the X-Guard adds a trailing expendable layer, jointly forming a multi-tiered defensive shield. Following Operation Sindoor, the IAF is reportedly fast-tracking additional X-Guard unit acquisitions via the emergency procurement route recently approved by the Ministry of Defence.

Comparable systems include Leonardo UL's BriteCloud, deployed on Eurofighter Typhoons, Sweden's Gripen-Es, and certain F-16 variants; and the AN/ALE-50/55 series from Raytheon/BAE Systems used on the F/A-18E/F Super Hornet. Some of these systems can also be adapted for use on unmanned aerial vehicles such as on Israeli Herons or U.S.-origin MQ-9 Reapers, albeit with onboard signal processing and remote deployment modifications.

What about land-based decoys?

Ground forces too have long relied on decoys to mislead enemy Intelligence, Surveillance, Reconnaissance (ISR) assets and divert precision-guided weapons. Inflatable, radar-reflective, and heat-emitting dummy systems simulating tanks, artillery, missile batteries, and command posts are regularly deployed to bait strikes. From the 1991 Gulf War to the ongoing Ukraine conflict, such decoys have absorbed expensive munitions and disrupted offensive momentum.

With drones and loitering munitions saturating modern battlefields, these ground decoys have become increasingly sophisticated. Russia's Inflatech decoys can simulate entire armoured formations within minutes. Ukraine has deployed wooden and 3D-printed fakes to exhaust Russian drone and missile stocks. The U.S. Army too has trialled decoy vehicles to fool top-attack weapons like Javelin anti-tank guided missiles. China has also invested in camouflage and deception technologies across its ground forces.

In April 2025, the Indian Army issued a request for information to domestic vendors seeking physical decoys of its Russian-origin T-90S/SK main battle tanks to replicate not just its dimensions, but also its thermal and acoustic signatures to deceive enemy drones and munitions.

Navies too employ a layered suite of countermeasures, ranging from floating chaff and acoustic decoys to offboard active deception systems, to protect warships from missile and submarine threats. Among the most effective is the self-propelled Nulka active missile decoy, jointly developed by Australia and the U.S., that operates independently of its launch platform and mimics the radar signature of a much larger vessel, drawing radar-guided missiles away from their real target.

Ultimately, decoys – across air, land, and sea – have become indispensable to modern warfighting. For a relatively low investment, they deliver high-impact protection.

Rahul Bedi is a journalist based in New Delhi and Chandigarh specialising in military, defence and security matters.

THE GIST

- During Operation Sindoor, the Indian Air Force (IAF) is believed to have successfully deployed the AI-enabled X-Guard Fibre-Optic Towed Decoy (FOTD) system on its Rafale fighters as part of their electronic warfare (EW) suite.
- Ground forces too have long relied on decoys to mislead enemy Intelligence, Surveillance, Reconnaissance (ISR) assets and divert precision-guided weapons.
- Navies too employ a layered suite of countermeasures, ranging from floating chaff and acoustic decoys to offboard active deception systems, to protect warships from missile and submarine threats.

Key Takeaways from the Article

Evolution of Deception Techniques

- Traditional: Camouflage nets, dummy tanks, false radio traffic.
- **Cold War era:** Inflatable tanks, radar reflectors, thermal sources.
- **Contemporary:** AI-enabled electronic decoys, fibre-optic towed systems, multispectral camouflage, and unmanned deception platforms.
- **Purpose:** To mislead sensors, waste enemy munitions, and buy time for counteroffensives.

AI-enabled X-Guard Fibre-Optic Towed Decoy (FOTD)
Origin: Developed by Israel's Rafael.
How it works:

- Lightweight, reusable, towed ~100m behind aircraft.
- Mimics aircraft's Radar Cross Section (RCS), doppler velocity, and spectral signatures.
- Integrates with **SPECTRA EW suite** of Rafale.
- Provides a **multi-layered defence** — onboard jamming + external decoy.

Operational Use in India:

- Believed deployed during **Operation Sindoor** by IAF Rafales.
- Reports suggest PAF's J-10C fighters locked onto decoys instead of actual Rafales.

Global Comparisons:

- **BriteCloud (Leonardo)** – used on Typhoon, Gripen, F-16.
- **AN/ALE-50/55 (Raytheon/BAE)** – used on F/A-18, F-35 variants.
- **Nulka (Australia–US)** – naval self-propelled decoy for missile defence.

Ukraine's Decoy Tactics
Ground War Decoys:

- Wooden + 3D-printed fake HIMARS, S-300s, and artillery units.
- Cheap models bait Russian missiles/drones (cost asymmetry: a few hundred $ vs $1–10 million missile).

Operational Impact:

- Exhausts Russian precision-guided missile stockpile.
- Creates doubt in ISR (Intelligence, Surveillance, Reconnaissance).

Global Echo: Similar tactics seen in the 1991 Gulf War with Iraqi dummy Scud launchers.
Naval Countermeasure Systems
Traditional: Chaff, flares, noise-making acoustic decoys.
Advanced:

- **Nulka (Australia–US)** – autonomous, rocket-propelled, mimics large vessel radar signature.
- **Submarine Decoys** – e.g., INS Karanj's torpedo decoy system.
- **Offboard Active Systems** – expendable jammers or falsetarget generators.

India's Deception Capabilities
Air Force:

- Rafales with **X-Guard FOTD.**
- Su-30MKI, Tejas — being upgraded with
- indigenous/external EW decoys.

Army:

- RFI (2025) for **T-90S tank decoys** simulating thermal & acoustic signatures.
- Potential for 3D-printed decoy artillery and SAMs.

Navy:

- Submarine decoys (INS Karanj).
- Floating chaff & acoustic jammers.

Trend: India is shifting from **passive camouflage** to **AI-enabled, multi-domain decoys** (air-land-sea integration).

Why Decoys Matter in Modern Warfare?

- **Cost-Effectiveness:** A few lakh rupees decoy can waste a multi-crore missile.
- **Force Protection:** Preserves high-value assets (jets, tanks, warships).
- **Psychological Impact:** Undermines enemy confidence in weapons and ISR.
- **Strategic Layer:** Complements cyber warfare and EW to create uncertainty.

Is India underestimating the cost of dealing with invasive species?

Syllabus :

GS Paper 3 → Environment, Conservation, Biodiversity, Disaster management, Economy– Environment interface.

Is India underestimating the cost of dealing with invasive species?

In a new assessment, non-native plants have emerged as the most economically impactful invasive species worldwide as well as the costliest group vis-à-vis the cost of management, demanding $926 billion in 1960-2022; next in line were arthropods ($830 billion) and mammals ($263 billion)

Monika Mondal

Damage from non-native plants and animals expanding into new ecosystems has cost society more than $2.2 trillion worldwide, a new study by an international team of researchers has said.

Published in *Nature Ecology & Evolution*, the study used numbers from InvaCost, a public database that records the economic costs of biological invasions by country, and modelling exercises to analyse data from 1960. It concluded that costs may have been underestimated by 16x over previous estimates.

Beyond global economic losses, the study also modelled the impact in 78 countries for which no data was previously available. In India, a nation grappling with numerous environmental and economic challenges, the findings underscore an oft-overlooked financial drain.

A global discrepancy

Europe was found to have the highest potential impact in absolute terms at $1.5 trillion (71.45% of global cost), followed by North America ($226 billion), Asia ($182 billion), Africa ($127 billion), and Australia and Oceania ($27 billion).

Brian Leung, one of the lead researchers and the UNESCO Chair for Dialogues on Sustainability, said, "The cost of invasions might just be higher because of the cost of things in Europe. There's more to damage, the cost of the agricultural products, and the cost of management might be higher."

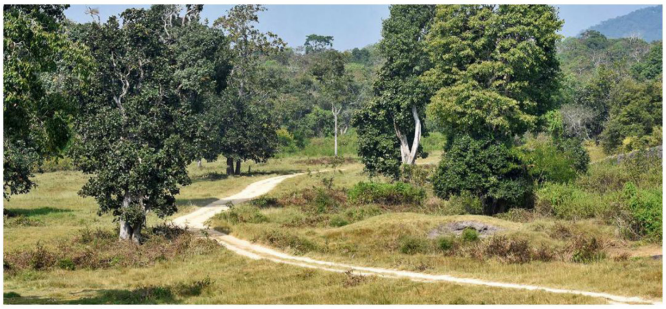
The study did not estimate a total economic damage figure for India in absolute terms but emphasised the magnitude of underreported management costs. In fact, among all the countries assessed, the study found India had the highest percentage discrepancy of management expenditure: 1.16 billion percent.

Per the study, this exceptionally high disparity suggests a significant amount of management spending in India has likely been unrecorded or underreported in the existing data, leading to a substantial "hidden" cost. The researchers were careful to note that India's limited resources could have contributed as much to this gap as a recording bias in the InvaCost database, which may be overlooking reports in languages predominant in Africa and Asia.

Europe reported a discrepancy of 15,044%, followed by Asia (3,090%), and Africa (1,944%). The median cost discrepancy among the assessed countries was 3,241%.

Mr. Leung said he was unsure of India-level specifics or how the figures break down, but noted that general management strategies could include different elements like prevention, eradication, control or suppression, and efforts to slow the spread of invasion. "These are all tools used for managing invasions," he said.

S. Sandilyan, a former fellow on Invasive Alien Species at the Centre for Biodiversity Policy and Law in Chennai, said the findings of the study are plausible. "India is falling short in documenting, reporting, and strategically funding biological invasion management. Lack of centralised data systems, limited inter-agency coordination, and competing conservation priorities exacerbate this," he added.



A large portion of Bandipur National Park is covered by the lantana weed, which is highly combustible when dry. FILE PHOTO

Who are the invaders?

Plants emerged as the most economically impactful invasive species worldwide as well as the costliest group vis-à-vis the cost of management, demanding $926.38 billion in 1960-2022. Next in line were the arthropods ($830.29 billion) and mammals ($263.35 billion). The researchers speculated that these species spread to new ecosystems – where they could thrive at the cost of its incumbents – primarily through trade and travel, helped along by globalisation and bilateral deals. They singled out Japanese knotweed (*Reynoutria japonica*) and common lantana (*Lantana camara*) to be among the costliest to manage per square kilometre.

Leung, however, cautioned that simply eradicating all invasive species would make the problem worse. "A lot of the agricultural products that dominate our system now are not native," he said.

> India is falling short in documenting, reporting, and funding invasion management. Lack of centralised data systems, limited coordination, and competing conservation priorities exacerbate this
>
> **S. SANDILYAN**
> CENTRE FOR BIODIVERSITY POLICY AND LAW IN CHENNAI

"Invasive species transport is a byproduct of trade and importation of living organisms because we want them, and sometimes these are the driving forces behind invasions," Mr. Leung added. "Europe has been doing that for a long time."

This presents a two-faceted challenge: on one hand, there is an imperative to mitigate economic losses; on the other, there is the desire to foster further globalisation. Thus, according to Mr. Leung, efforts must simultaneously be made to curtail the spread of invasive species and address global warming by increasing vegetation. Given these complex, intersecting objectives, reconciling these disparate goals in studying invasive species becomes a significant challenge, he added.

Control measure

The study also acknowledged that several international policies to deal with invasive species are in place, which scientists at large believe have had a positive effect on reducing the rate of biological invasions. Key among them is a regulation concerning shipping traffic and trade practice: the International Convention for the Control and Management of Ships' Ballast Water and Sediments (a.k.a. Ballast Water Management Convention), which is designed to prevent the spread of harmful aquatic organisms from one region to another via ships' ballast water.

Likewise, regulations under the Convention on Biological Diversity call on parties (including India) to "prevent the introduction of, control, or eradicate those alien species which threaten ecosystems, habitats, or species."

These international agreements underscore a global recognition of the threat posed by invasive species and efforts to mitigate their spread through various control points.

As for management costs, Mr. Leung said response strategies can range from preventing new invasions aiming for complete eradication of established populations or controlling their spread to minimise impact.

The large discrepancies in reported costs also underscore the need for improved data collection, comprehensive tracking of expenditures, and robust reporting mechanisms.

"For example, even though the cost estimates in Africa are really quite limited, it doesn't mean the damages are limited," he explained.

While the study does not say anything about the state of invasive species, it may be a call to action. Its specific analysis and the database were based on the measured economic costs, according to Mr. Leung, "because it's often easier to measure and people often understand money better."

(Monika Mondal is a freelance science and environment journalist. a.monikamondal@gmail.com)

THE GIST

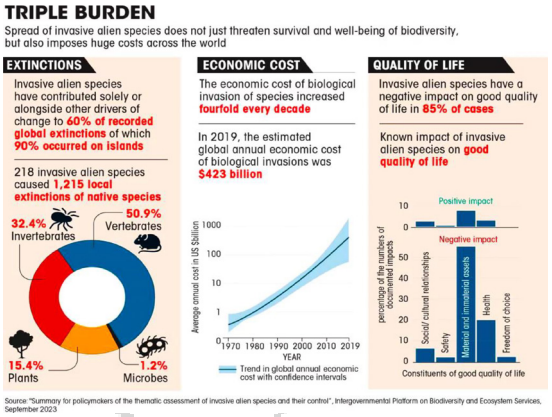
Europe was found to have the highest potential impact in absolute terms at $1.5 trillion, followed by North America ($226 billion), Asia ($182 billion), Africa ($127 billion), and Australia and Oceania ($27 billion)

India had the highest percentage discrepancy of management expenditure: 1.16 billion percent. This suggests spending has likely been unrecorded or underreported, leading to a substantial hidden cost. Europe reported a discrepancy of 15,044%, Asia (3,090%), and Africa (1,944%)

Researchers cautioned that simply eradicating all invasive species would make the problem worse since many agricultural products across the world are not native. Invasive species are a byproduct of trade and importation of living organisms

Key Takeaways from the Article

A recent study published in ***Nature Ecology & Evolution*** has revealed that the global cost of invasive alien species (IAS) has crossed $2.2 trillion between 1960–2022. The study highlights that India has the highest global discrepancy (1.16 billion%) in reporting management costs, suggesting that the actual financial burden of dealing with IAS in India is massively underreported. With invasive species like Lantana camara, Prosopis juliflora, Eichhornia (water hyacinth) spreading across forests, farmlands, and wetlands, the issue has direct implications on India's biodiversity, agriculture, livelihoods, and economy.



Global findings (1960–2022)

- Total cost of invasive species: **$2.2 trillion**
- **Most costly groups:**
  - Non-native plants: **$926 billion**
  - Arthropods: **$830 billion**
  - Mammals**: $263 billion**

Key Takeaways from the Article

India-specific highlights

- India shows the **highest percentage discrepancy** in recorded vs. actual management costs: **1.16 billion %** (i.e., severe underreporting).
- • Reasons:
  - Lack of centralized data system
  - Poor inter-agency coordination
  - Under-reporting in local languages
  - Competing conservation priorities

Economic + ecological impact

- Crop yield loss, fodder depletion, forest fires (lantana), water scarcity, biodiversity decline.
- Hidden costs in **agriculture, health, forestry, and disaster management.**

Global context

- Europe bears highest reported costs: **$1.5 trillion** (71% of global share).
- Discrepancy in reporting:
  - Europe – 15,044%
  - Asia – 3,090%
  - Africa – 1,944%
- India tops in **reporting gap,** not necessarily in actual costs alone.

Examples in India:

- **Lantana camara** in Bandipur, Gir, Satpura (fire hazard + biodiversity loss)
- **Parthenium hysterophorus (Congress grass)** → health hazard, crop losses
- **Water hyacinth** → choking wetlands like Loktak, Harike
- **Prosopis juliflora** → desert spread in Rajasthan, Gujarat, TN

Control measures

- **International:**
  - **Ballast Water Management Convention** – controls marine invasions
  - **Convention on Biological Diversity (CBD)** – calls to prevent/eradicate IAS
- **India:**
  - **National Biodiversity Action Plan (NBAP)** mentions IAS
  - **Forest departments** occasionally conduct eradication drives (e.g., lantana uprooting in Karnataka, Madhya Pradesh).
  - But **no centralised policy or database** exists

Way Forward

- **Institutional:**
  - Establish **National Invasive Species Authority** for data, coordination & funding.
  - Integrate IAS management in **National Action Plan on Climate Change (NAPCC) & State Biodiversity Boards.**
- **Scientific & Monitoring:**
  - Develop **real-time databases** (like InvaCost but India-specific, multilingual).
  - Invest in **early detection & rapid response (EDRR)** mechanisms.

Economic:

- Quantify costs of IAS → integrate into **GDP & Green Accounting frameworks.**
- Dedicated **budget lines in CAMPA funds** for IAS removal.

Community participation:

- Eco-restoration projects with **MGNREGA + local forest communities.**
- Use IAS biomass (e.g., water hyacinth for biogas, lantana for furniture).

International learning:

- Replicate **South Africa's "Working for Water" programme** – combines IAS removal with rural employment.

ISRO holds air-drop test for Gaganyaan Mission

Syllabus :

GS-3 Defence

ISRO holds air-drop test for Gaganyaan mission

A dummy crew capsule weighing around 5 tonnes was dropped by a helicopter to check how the parachute system designed for the human spaceflight mission performs in real-world conditions

The Hindu Bureau
CHENNAI

The Indian Space Research Organisation (ISRO) on Sunday successfully carried out its first Integrated Air Drop Test (IADT-1), a critical milestone in preparations for the country's maiden human spaceflight programme, Gaganyaan.

"ISRO successfully accomplishes first Integrated Air Drop Test (IADT-01) for end-to-end demonstration of parachute-based deceleration system for Gaganyaan missions," the ISRO wrote on X.

The IADT is a specialised trial to ensure the parachute system designed for the Gaganyaan crew module performs reliably in real-world conditions.

During the test, a dummy crew capsule weighing around five tonnes was lifted up through the air before being dropped by a Chinook helicopter. As it descended through a few km, its main parachutes had to open in a specific sequence to decelerate the capsule to a safe splashdown speed.

During an actual flight with astronauts, the main parachutes will have to deploy after the capsule has re-entered the atmosphere and has been slowed first by the heat shields and drogue parachutes. The ascent, descent, and post-splashdown phases of the Gaganyaan mission are expected to be the most risky for the astronauts.

Flight check: The ISRO conducts the first Integrated Air Drop Test for an end-to-end demonstration of the parachute-based deceleration system for the Gaganyaan mission in Bengaluru on Sunday. ANI

According to the ISRO, the effort brought together multiple national agencies – the Air Force, the Defence Research and Development Organisation, the Navy, and the Coast Guard – in what officials described as a coordinated step towards human-rating India's launch and recovery systems.

Earlier this week, Union Minister of State for Science and Technology Jitendra Singh told the Lok Sabha that major preparatory work for Gaganyaan had already been completed. "The propulsion systems for the crew module and service module have been developed and tested. Environmental control and life support system engineering model realised. Crew escape system (CES): five types of motors developed and static tested," Mr. Singh said in a written reply.

He said infrastructure had been established for "orbital module preparation facility, Gaganyaan Control Centre, Gaganyaan control facility, crew training facility, [and] second launch pad modifications". A series of precursor missions, including test vehicle flights, were currently under way, he added.