

The Hindu Important News Articles & Editorial For UPSC CSE

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The Government of India is deliberating a new **Nuclear Bill** to amend the **Atomic Energy Act, 1962** and the **Civil Liability for Nuclear Damage Act, 2010**, with the aim of **allowing private and foreign companies** to participate in building and operating nuclear power plants. This marks a major shift in India's long-standing policy of **state monopoly over nuclear power generation**.

Static Context

(a) Present Legal Framework

- **Atomic Energy Act, 1962:** Grants the **Union Government exclusive control** over atomic energy and related activities including research, mining, production, and operation of nuclear plants.
- **Civil Liability for Nuclear Damage Act (CLNDA), 2010:** Establishes a framework for compensation in case of nuclear accidents.
 - Operator liability is **strict and channelled exclusively** to the operator (i.e., public sector).
 - However, **Section 17(b)** allows the operator to seek recourse against the supplier, which has deterred foreign participation.

(b) Institutional Setup

- Only **three PSUs** can currently operate nuclear plants:
 1. **NPCIL (Nuclear Power Corporation of India Ltd.)**
 2. **BHAVINI (Bharatiya Nabhikiya Vidyut Nigam Ltd.)**
 3. **ASHVINI (Anushakti Vidyut Nigam Ltd.) – a JV of NPCIL and NTPC**

(c) International Context

- India is a signatory to the **Convention on Supplementary Compensation for Nuclear Damage (CSC)**, which aims for a **global regime of nuclear liability harmonisation**.

Current Context

Deliberations continue on proposed nuclear Bill

Questions on private sector's role, radioactive waste disposal yet to be settled; Finance Minister said in Feb. that govt. intends to amend Atomic Energy Act, Civil Liability for Nuclear Damage Act

Jacob Koshy
NEW DELHI

Deliberations within the government continue on bringing in new legislation to allow the private sector to operate nuclear plants in India with questions regarding management of nuclear waste and determining if private players can conduct core research into nuclear technologies still being ironed out.

Drafts of the proposed new Bill were still being deliberated upon by an inter-governmental committee of experts as well as the Law Ministry though there was a "good chance" of it being introduced in the forthcoming Winter Session of Parliament, an official privy to the proceedings told *The Hindu* on condition of anonymity.

Currently, only Nuclear Power Corporation of India Ltd. (NPCIL), Bhartiya Nabhikiya Vidyut Nigam Ltd. (BHAVINI), and NPCIL-NTPC joint venture Anushakti Vidyut Nigam Limited (ASHVINI) can build and operate nuclear power plants in the country.

In February, however,



Nuclear reforms: Currently, only three PSUs can build and operate nuclear power plants in the country. FILE PHOTO

Finance Minister Nirmala Sitharaman said in her Budget speech that the government intended to amend two Acts – the Atomic Energy Act and the Civil Liability for Nuclear Damage Act – to enable private companies, including foreign companies, to form partnerships, and build and operate nuclear plants in India.

Despite the India-U.S. nuclear deal of 2008 formally allowing sale of nuclear technologies to India, though with built-in periodic checks and scrutiny by the International Atomic Energy Agency, clauses in India's Atomic Energy Act and the Civil Liability for Nuclear Damage Act

(2010) have been impediments since they impose practically unlimited liability on foreign suppliers of nuclear equipment in case of an accident.

Alignment of laws

"The effort is to align India's laws on liability with that of conventions such as the Convention on Supplementary Compensation for Nuclear Damage (CSC)," the official noted. "However, we also have to bring clarity on questions such as who will be responsible, whether it is the private sector or the government power plant operators, for safe disposal of nuclear waste as well as the re-processing of spent nuclear

fuel. There is also discussion on enabling research and development of core nuclear technologies."

The government's thrust to encourage greater private sector participation is with the larger objective of installing 100 GW of nuclear capacity by 2047. This is premised not only on importing foreign reactors but also developing Bharat Small Reactors (BSRs) and exploring partnerships with the private sector. BSRs are 220 MW Pressurized Heavy Water Reactors (PHWRs). These reactors are being upgraded to reduce land requirements, making them suitable for deployment near industries such as steel, aluminium, and metals units, serving as captive power plants to aid in decarbonisation efforts.

The plan involves private entities providing land, cooling water, and capital, while the NPCIL handles design, quality assurance, and operation and maintenance. This initiative aligns with India's commitment to achieving 500 GW of non-fossil fuel-based energy generation and meeting 50% of requirements from renewable energy by 2030.

Daily News Analysis

- **Finance Minister Nirmala Sitharaman (Budget 2024–25)** announced that the government will **amend existing Acts** to open the nuclear sector to **private and foreign partnerships**.
- **Objectives:**
 - Enable **100 GW of nuclear capacity by 2047**.
 - Facilitate **foreign reactor imports** and **domestic small modular reactors**.
 - Boost private investment in **infrastructure, cooling water, and capital**.
- The **draft Bill** is being refined by an **inter-ministerial committee** and may be tabled in the **Winter Session of Parliament (2025)**.
- Discussions are ongoing regarding:
 - **Radioactive waste management** responsibility.
 - **Research access** for private firms.
 - **Alignment of India's laws** with international liability norms.

Analytical Perspective (For Mains)

(a) Significance

1. **Energy Security:** Nuclear power provides reliable, base-load, and low-carbon energy — critical for India's **net-zero targets**.
2. **Decarbonisation Push:** Private involvement in **Bharat Small Reactors (BSRs)** can help **industrial decarbonisation** by serving as captive power plants.
3. **Investment & Technology:** Opens avenues for **foreign collaboration**, technology transfer, and innovation.
4. **Employment & Skill Development:** Private sector entry can spur job creation and R&D expansion in high-tech manufacturing.

(b) Challenges

1. **Safety & Regulation:** Ensuring strict adherence to **Atomic Energy Regulatory Board (AERB)** norms when private players enter.
2. **Liability Concerns:** Balancing **investor confidence** with **public safety and accountability**.
3. **Waste Disposal:** Clarifying ownership and funding for **long-term radioactive waste management**.
4. **Strategic Sensitivity:** Nuclear technology involves national security — **research control and safeguards** are crucial.
5. **Public Acceptance:** Past nuclear accidents (e.g., Fukushima) make public perception an important consideration.

Prelims Pointers

Topic	Key Facts
Atomic Energy Act	Passed in 1962; gives Union govt. monopoly over atomic energy
CLNDA, 2010	Liability channelled to operator (usually NPCIL)
CSC	Convention for global liability alignment
Current Operators	NPCIL, BHAVINI, ASHVINI
Bharat Small Reactors (BSR)	220 MW PHWRs for industrial deployment
Goal	100 GW nuclear by 2047

Conclusion

The proposed Nuclear Bill represents a **paradigm shift** in India's atomic energy policy — from a **state-controlled regime to a collaborative model** involving private and foreign partners. While this could significantly accelerate India's **clean energy transition**, the **success of the reform** will depend on how effectively India **balances safety, liability, environmental concerns, and strategic autonomy** in the evolving nuclear landscape.

UPSC Prelims Practice Question

Ques: What is the main objective of the "Civil Liability for Nuclear Damage Act, 2010"?

- (A) To allow private companies to reprocess nuclear waste
- (B) To determine liability and compensation in the event of a nuclear accident
- (C) To promote the export of nuclear technology
- (D) To decentralize nuclear safety regulation

Ans:b)

UPSC Mains Practice Question

Ques: Why is the "Bharat Small Reactors (BSRs)" project considered important for India? Can private sector participation accelerate the development of these reactors and the country's energy transition? Discuss. **(250 Words)**



Scientific research in the **Global South** — particularly in countries like **India and Kenya** — faces chronic challenges such as **bureaucratic red tape, limited funding, and outdated procurement processes**. Yet, scientists continue to innovate and collaborate to keep their work alive. At the **Student Conference on Conservation Science (IISc Bengaluru, September 2025)**, **Dr. Sammy Wambua** from Kenya's **Pwani University** highlighted how creativity, collaboration, and solidarity among researchers in the Global South can overcome structural hurdles that hinder scientific progress.

Static Context

(a) What is the Global South?

- The term refers to **developing or low- and middle-income countries**, primarily in **Asia, Africa, and Latin America**.
- These nations often share colonial histories, structural inequalities, and limited access to global capital and technology.
- In the scientific context, the Global South faces **inequities in funding, visibility, and access to research infrastructure**, compared to the Global North (industrialised nations like the U.S. and Western Europe).

(b) Scientific Research Ecosystem in India

- India has major science agencies: **DST, DBT, CSIR, ICMR, ICAR, and UGC**.
- However, public universities and research institutions face:
 - Delayed funding releases**
 - Lengthy procurement procedures**
 - Rigid "lowest bidder" norms**
 - Limited autonomy**
- According to **UNESCO Science Report**, India spends **~0.7% of GDP on R&D**, far below advanced economies (~2–4%).

'Global South scientists can bypass red tape by thinking, working together'

Bureaucratic delays, outdated procurement rules, and chronic underfunding are all hallmarks of doing science in India; but according to Sammy Wambua from Pwani University in Kenya, there are reasons to be optimistic and to believe creativity and solidarity can keep research ticking

Rishika Parulkar

Bureaucratic red tape, limited funding, and expensive equipment often conspire to make scientific research in the Global South an uphill task. Yet researchers continue to find creative ways to keep going.

At a plenary lecture during the Student Conference on Conservation Science in Bengaluru in September, Sammy Wambua, a conservation genetics scientist from Pwani University in Kenya, outlined how scientists in resource-constrained settings improvise and collaborate around bureaucratic and other hurdles.

The meeting, hosted by the Indian Institute of Science, brought together early-career scientists from India and some other countries. In his talk, "Navigating Conservation Genetics in East Africa: A Personal Journey, Practical Lessons, and a Vision for Equitable Science," Dr. Wambua sketched out the obstacles that researchers in Kenya face and offered lessons that might resonate in India, where young scientists contend with comparable challenges.

A kind of *jajahal* Among other points, he said that the most daunting barriers aren't scientific but bureaucratic. Multiple overlapping policies, opaque approval processes, and inhibitory oral directives often leave researchers stranded, and their experiments often at dead ends. "When you run into hindrances with anything bureaucratic and try to get an explanation, you don't get a satisfactory one," he said. "It tells you immediately that the bureaucrats are not guided by anything that is written."

The Indian experience echoes this. Wildlife biologists often wait months for permits to enter protected areas, with no updates from the forest department. Conservationist Tresh Thakazara, who attended Dr. Wambua's lecture, recalled how one of his permits to work with cheetahs was delayed for eight months until he set in the forest department office for four days. Such experiences are part of what he called *jajahal* — the quintessentially Indian habit of developing quick fixes to navigate inefficiencies.

Even when laws formally allow exceptions, such as buying certain enzymes from a single source because only one supplier exists, oral directives can override them. In India, procurement rules often impose rigid "lowest price" norms even for highly specific reagents, rendering it difficult for labs to procure niche materials. Earlier this year, in fact, the Union Ministry of Finance eased some of these constraints by raising the direct purchase limit from ₹1 lakh to ₹2 lakh and allowing vice-chancellors to approve tenders of up to ₹200 crore ideally. Dr. Wambua said, government offices should function like service counters that communicate application status clearly and proactively. Researchers in both Kenya and India instead face long silences until they make time and follow up.

Collaborations as bridges He also argued that collaboration could provide another way around such hurdles. For example, international projects typically require memoranda of



A row of DNA sequencing machines. According to accounts from researchers in government-funded institutions, Indian public universities often face protracted procurement cycles, sometimes exceeding six months. (STOCK MARKET/GETTY IMAGES)

understanding (MoUs) that are approved by the respective governments — but which often languish in ministries for years. Instead, he said, he and his colleagues use provisional "Framework of Collaboration" that allow them to begin work while formal MoUs are still being processed.

"We apply for the MoUs to be approved, and in the meantime we can get started," he said, emphasising that the approach is legal and pragmatic. Funding shortfalls are the other major obstacle. Dr. Wambua described how his students' applications for postgraduate scholarships were repeatedly rejected. But partnerships with conservation organisations sometimes yielded both science and support. He recalled proposing coral genotyping projects with the condition that the budget be raised to cover students' fees and stipends, in effect linking building capacity to research outcomes.

In India as well, many funding delays have threatened the sustenance of both students and research projects. Reports from Centrally funded universities have admitted arrears in disbursing fellowships. Typically, the Ministry approves scholars' claims but forces them to wait for months to receive their stipends, pushing them to take on personal loans. Collaborative arrangements such as agreements between Indian and foreign labs (e.g., to split research work) are often

When you run into bureaucracy and try to get an explanation, you don't get a satisfactory one. It tells you that they are not guided by anything written

SAMMY WAMBUA
Pwani University Kenya

the only way to bridge the gap in the end. Dr. Wambua also highlighted how rapidly evolving technology makes expensive investments more risky. For instance, buying a DNA sequencing machine might cost tens of lakhs of rupees — only for the model to become obsolete within months. Instead, he said, scientists can ship samples abroad at minimal cost to be processed using state-of-the-art facilities. "It helps to have friends in labs in different countries," he said. "We cannot stop working because there is no money. If you have a PhD, the least you can do is think."

"Find ways to work together" According to accounts from researchers in government-funded institutions, Indian public universities often face protracted procurement cycles, sometimes exceeding six months. Delayed delivery or non-compatibility issues further erode value and within that timeframe, the DNA sequencer may have been rendered unnecessary or irrelevant.

Underlying Dr. Wambua's overarching message was a call for more South-South collaborations. Countries in Africa and Asia face similar constraints and stand to gain by pooling resources and aligning research priorities rather than laboring alone, often to ineffectual ends. "We should be more intentional in seeing our strengths and finding ways to work together," he said, urging scientists to reimagine collaboration beyond the traditional North-South model.

One particular indicator of this is India's record of publications in the agricultural sciences. One recent analysis by Central University of Tamil Nadu and Banarasi Hindu University researchers underscored how much international collaboration shapes visibility. In 2014-2023, scientists were found to have coauthored almost 2,600 papers with institutions in the US, eliciting more than 33,000 citations. Ultimately, the analysis showed collaborations with more institutions were also more impactful.

For young researchers in India toering in Bengaluru, the parallels would have been unmistakable. Bureaucratic delays, outdated procurement rules, and chronic underfunding are all hallmarks of doing science in India. However, Dr. Wambua's account also carried a note of optimism and that creativity and solidarity can keep science alive even in the toughest environments. *Rishika Parulkar is a freelance environment reporter.* rishika.p.parulkar@gmail.com

Current Context: The Article's Core Insights

- Bureaucratic Barriers:** Overlapping approval systems, opaque oral directives, and outdated procurement norms delay essential lab work. Example: Researchers wait months for reagents or permits; even conservation fieldwork requires excessive clearances.
- Policy Updates:** The **Union Finance Ministry (2024)** eased some procurement restrictions — increasing **direct purchase limits from ₹1 lakh to ₹2 lakh** and allowing **VCs to approve tenders up to ₹200 crore**.

Daily News Analysis

- **Collaborative Workarounds:**
 - Researchers form “**Frameworks of Collaboration**” — temporary, legal agreements that allow projects to start while waiting for formal MoUs.
 - Partnerships with NGOs and conservation organisations help fund student fellowships and research.
- **Technology Access:**
 - Rapidly evolving equipment (e.g., DNA sequencers) becomes obsolete quickly.
 - Instead of costly purchases, researchers **share facilities or ship samples abroad** through collaborations.
- **South–South Cooperation:** Dr. Wambua urged for stronger **collaboration between African and Asian countries**, promoting shared solutions over dependence on the Global North.
- **Indian Parallel:** Many Indian researchers experience similar issues — **fellowship delays, equipment shortages**, and **bureaucratic bottlenecks** — yet use jugaad and creative collaboration to sustain their work.

Analytical Perspective

(a) Significance

1. **Equitable Science:** Promotes democratization of research beyond Western dominance.
2. **Innovation through Necessity:** Resource constraints push scientists to develop cost-effective, frugal solutions (frugal innovation).
3. **Capacity Building:** Partnerships strengthen research ecosystems, mentoring, and knowledge exchange in the Global South.
4. **Soft Power:** Science diplomacy among developing nations enhances collective bargaining in global forums (e.g., COP, WHO).

(b) Challenges

1. **Systemic Bureaucracy:** Multiple clearance layers delay scientific progress.
2. **Underfunding:** R&D spending remains below global standards.
3. **Procurement Rigidities:** Obsolete procurement norms don't match modern research needs.
4. **Brain Drain:** Many young researchers migrate abroad due to lack of opportunities.
5. **Inequitable Global Collaboration:** North–South projects often place Global South researchers in subordinate roles.

(c) Suggested Reforms

- Simplify approval processes and **digitize clearances**.
- Increase **autonomy and accountability** for universities.
- Promote **South–South research networks** (India–Africa, BRICS, ASEAN).
- Link research funding to **local development goals** (sustainability, biodiversity, public health).
- Encourage **open-access publishing** and shared databases.

Prelims Pointers

Topic	Key Point
Global South	Developing nations in Asia, Africa, Latin America
India's R&D expenditure	~0.7% of GDP (UNESCO data)

Daily News Analysis

Topic	Key Point
Ministry reform (2024)	Direct purchase limit ₹2 lakh; VC tender power ₹200 crore
South-South Cooperation	Collaboration among developing nations for mutual growth
Frugal Innovation (Jugaad)	Low-cost, efficient solutions to systemic inefficiencies

Conclusion

Dr. Sammy Wambua's reflections highlight that while bureaucratic inertia and funding shortfalls plague scientific progress in the Global South, **creativity, collaboration, and solidarity** remain powerful antidotes. For India, fostering **South-South partnerships, reforming administrative bottlenecks**, and empowering universities can unlock vast scientific potential. True scientific equity lies not in dependence on the Global North, but in **self-driven cooperation, trust, and shared innovation** among the nations of the South.

UPSC Prelims Practice Question

Ques: Which of the following statements is correct in the context of scientific research in India?

1. India spends about 0.7% of its GDP on Research and Development (R&D).
2. Most public universities in India have to follow the "Lowest Bidder" policy for purchasing research materials.
3. The Finance Ministry in 2024 increased the direct purchase limit to ₹5 lakh.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 only
- (c) 1, 2 and 3
- (d) 2 only

Ans: (a)

UPSC Mains Practice Question

Ques: The biggest obstacle to scientific research in India is not scientific but administrative. Examine this statement and explain how policy reforms and international collaboration can strengthen the research ecosystem in the country. **(150 Words)**

The **2025 Nobel Prize in Physiology or Medicine** recognises breakthroughs in understanding **immune regulation and self-tolerance**, primarily through the discovery of **regulatory T-cells (Tregs)** and the transcription factor **FOXP3**. This work, by **Shimon Sakaguchi, Mary Brunkow, and Fred Ramsdell**, has redefined the immune system from a simple on/off mechanism to a **dynamic balance of activation and restraint**, with implications for **autoimmunity, transplantation, and cancer therapy**.

Static Context

(a) Immune System Basics

- **T-cells:** Key mediators of adaptive immunity.
 - **CD4⁺ helper T-cells** coordinate immune responses.
 - **CD8⁺ cytotoxic T-cells** destroy infected or abnormal cells.
- **Self-tolerance:** Mechanism preventing the immune system from attacking the body's own tissues.
- Previously, **central tolerance** (deletion of self-reactive T-cells in the thymus) was known, but it could not fully explain **peripheral autoreactive T-cell persistence**.

(b) Regulatory T-Cells (Tregs)

- Specialized CD4⁺ T-cells that **suppress autoimmunity**.
- **FOXP3:** Transcription factor critical for **Treg differentiation and maintenance**.
- Mutations in FOXP3 cause severe multi-organ autoimmunity (e.g., scurfy mice, IPEX syndrome in humans).

Current Context: Laureates' Contributions

1. **Shimon Sakaguchi (1995):**
 - Identified **peripheral CD4⁺Tregs** in mice.
 - Removing Tregs → multiple autoimmune diseases; restoring them → disease prevention.
2. **Mary Brunkow & Fred Ramsdell:**
 - Discovered **FOXP3 gene** on the X chromosome in scurfy mice.
 - FOXP3 mutation → immune collapse; similar findings in human lethal autoimmune disorders.
3. **Therapeutic Implications Today:**
 - **Autoimmune diseases:** Expand/stabilize Tregs to reduce harmful immune activation.
 - **Transplantation:** Engineered Tregs improve graft acceptance.
 - **Cancer:** Depletion/reprogramming of tumor-associated Tregs enhances anti-tumor immunity.
 - **Private Sector Contribution:** Brunkow and Ramsdell's work in industry shows innovation is not confined to academia.

Kept in check

The Nobel laureates' work has redefined the immune system itself

The 2025 Nobel Prize in Physiology or Medicine has recognised discoveries that transformed the scientific understanding of autoimmune regulation. Today, researchers are exploring these conditions' genetic, molecular, and environmental determinants, paving the way for early diagnoses and targeted interventions. An important chunk of this advance is owed to the work of Mary Brunkow, Fred Ramsdell, and Shimon Sakaguchi, who established the role of regulatory T-cells (Tregs) and the transcription factor FOXP3. In the 1990s, immunologists had already defined the deletion of self-reactive T-cells during maturation, yet this process could not account for the persistence of autoreactive T-cells in healthy individuals. Sakaguchi figured that an additional mechanism must operate in the periphery. In 1995, his team identified a subset of CD4⁺ T-cells that, when they were removed from mice, led to multiple autoimmune disorders, while restoring the cells prevented disease. Next, Brunkow and Ramsdell, then at Celltech Chiroscience, found that male scurfy mice developed severe multi-organ autoimmunity and died within weeks of birth. They were able to narrow the mutation to the X chromosome, identifying an insertion in the DNA that truncated a previously unknown gene. They named it FOXP3, and found that losing it led to immune collapse. Soon, clinical collaborations reported mutations in FOXP3 in boys with a lethal autoimmune disorder. These findings together established that self-tolerance rested on a molecular switch governing the differentiation and maintenance of Tregs.

Today, in autoimmune diseases, experimental treatments aim to expand or stabilise Tregs. Early clinical trials have shown that reinforcing this cell population can mitigate harmful immune activation without broad immunosuppression. In transplantation, engineered Tregs are being infused to improve graft acceptance. In cancer, researchers are exploring selective depletion or reprogramming of tumour-associated Tregs to enhance immunity without triggering autoimmunity. Beyond therapy, the conceptual shift brought on by the laureates' work has redefined the immune system: from an on/off apparatus to a dynamic ecosystem of activation and restraint. That Brunkow and Ramsdell conducted their work within industry also underscores how private sector research can yield significant discoveries. But even now, some immunologists caution against underestimating the field's incremental nature. In a testament to the broader landscape including overlapping layers of control rather than a single molecular pathway, researchers face several obstacles to translating what they know to safe, scalable therapies. Cell-based therapies' high cost has also accentuated inequities in access, creating ethical and policy challenges.

Analytical Perspective (For UPSC Mains)

Daily News Analysis

(a) Significance

1. **Scientific Breakthrough:** Tregs as central regulators of self-tolerance redefine immunology.
2. **Clinical Impact:** Enables **precision therapies** rather than broad immunosuppression.
3. **Ethical and Policy Implications:**
 - High cost of cell-based therapies → inequities in healthcare access.
 - Safety, scalability, and regulation of Treg therapies remain challenges.

(b) Challenges

- Translating discoveries into **safe, affordable, and widely available therapies**.
- Complexity of immune regulation: multiple overlapping mechanisms beyond FOXP3.
- Need for **interdisciplinary collaboration** between academia, industry, and regulatory bodies.

Prelims Pointers

Topic	Key Points
Tregs	Regulatory CD4 ⁺ T-cells that maintain immune tolerance
FOXP3	Transcription factor essential for Treg development
Autoimmunity	Diseases where immune system attacks self
IPEX syndrome	Human disease caused by FOXP3 mutation
Clinical Applications	Autoimmunity, transplantation, cancer immunotherapy

Conclusion

The 2025 Nobel Prize highlights a **paradigm shift in immunology**: the immune system is a **dynamic ecosystem of activation and restraint**, controlled by regulatory T-cells and FOXP3. Beyond academic insight, these discoveries are **transforming therapies**, showing how fundamental research can translate into **clinical interventions**, while raising **ethical, economic, and policy challenges** in equitable healthcare delivery.

Daily News Analysis

UPSC Prelims Practice Question

Ques: For which is the FOXP3 gene important?

- a) B-cell development
- b) Regulatory T-cell (Treg) differentiation
- c) NK-cell activation
- d) Cytokine production

Ans: b)

UPSC Mains Practice Question

Ques: In light of the work of the 2025 Nobel Prize laureates, explain the significance of Regulatory T-cells (Tregs) and FOXP3 in the immune system. What are the clinical and policy implications of this discovery? **(150 Words)**



The recent passage of the **Terminally Ill Adults (End of Life) Bill** in the **U.K. House of Commons** has reignited global debates on euthanasia. While the U.K. is moving toward **legalising physician-assisted dying**, India continues to allow only **passive euthanasia**, as recognised by the **Supreme Court in 2011 (ArunaShanbaug case)** and later clarified in **2018 (Common Cause vs Union of India)**. Justice K. Kannan argues that though India may not be ready for **active euthanasia**, it must **reform and simplify** its **passive euthanasia framework** to make it humane, practical, and accessible.

Reforming passive euthanasia in India

In June, the U.K.'s House of Commons passed the Terminally Ill Adults (End of Life) Bill, reigniting a global conversation about euthanasia. The proposed law permits physician-assisted dying for mentally competent adults expected to live fewer than six months, subject to medical certification and oversight by a national panel. While it is awaiting approval from the House of Lords, the Bill marks a bold legal and moral step that many western countries have embraced.

While India has recognised passive euthanasia through a series of Supreme Court judgments, it has consciously drawn a line against active euthanasia. Cultural values, institutional capacity, and socio-economic conditions make it unlikely that India will mirror the U.K.'s path. But that does not mean it should remain static.

Practical inaccessibility
Passive euthanasia permits the withdrawal of life-sustaining treatment when it merely prolongs suffering. It is not an act of killing but an allowance for death to take its natural course. Yet, despite legal recognition, procedural requirements, such as advance directives, dual medical board clearance, and occasional judicial oversight, make implementation painfully slow.

For patients in terminal stages or their families, these delays amount to cruelty. The law, though sound in principle, is often hollow in practice. Reports from tertiary hospitals suggest that in most cases, families are forced to make decisions informally and outside the legal framework, thus placing doctors in a difficult legal position. The absence of an efficient implementation system erodes the very dignity the law was intended to preserve.

The U.K. model, while progressive, rests on strong institutional supports such as the National Health Service, universal access to general practitioners,



K. Kannan
former judge, Punjab and Haryana High Court, and author, Medicine and Law (2023)

and a reliable regulatory framework. India's healthcare system is fragmented, uneven, and under-resourced. Moreover, its societal context – marked by deep family involvement, religious sensitivities, and varying literacy levels – makes end-of-life choices more complex. Introducing active euthanasia, even with safeguards, may inadvertently pressurise the elderly, disabled, or financially dependent to opt for death. As medical care is expensive and palliative care underdeveloped, this could produce ethical dilemmas of coercion.

There are also jurisprudential concerns. While Article 21 of the Constitution guarantees the right to life and has been interpreted to include the right to die with dignity, this cannot be stretched to mean a right to be killed. The Supreme Court has been cautious in maintaining the distinction between omission and commission, between allowing death and causing death. The Indian approach reflects a careful ethical conservatism suited to the realities of the country.

Charting its own course
Rather than expanding into active euthanasia, India should focus on refining its passive euthanasia protocol. A humane, efficient system can be built by leveraging digital tools and streamlining procedures. There is already growing consensus among medical professionals and legal scholars that the present system is too cumbersome.

Advance directives should be registered on a national digital portal, linked with Aadhaar for biometric verification. This system should allow patients to create, update, or revoke their directives easily. A treating physician should validate the patient's mental capacity and intent online.

Hospital ethics committees, consisting of senior doctors, a palliative care specialist, and a neutral third party, should be empowered to authorise withdrawal of life support within 48 hours. Exceptional cases can be flagged for further scrutiny.

Although a State-level ombudsman was initially proposed for oversight, India's experience with ombudsman schemes in banking and insurance has been mixed. Delays, limited enforcement powers, and public unfamiliarity have marred their effectiveness. Instead, a more transparent, decentralised review mechanism – perhaps built into hospital networks and monitored through digital dashboards – may be more suitable. Independent medical auditors or health commissioners with statutory backing could be alternatives worth exploring.

Mandatory safeguards, such as a seven-day cooling-off period, psychological counselling, and palliative care review, should remain part of the process to prevent misuse and ensure decisions are fully informed. These align with international best practices and help address fears of abuse, especially among vulnerable populations.

The way forward
India's constitutional promise of dignity in life must extend to dignity in dying. Reforming passive euthanasia does not require India to imitate the U.K.'s active euthanasia model, but it does compel it to make the current framework workable. Digitally driven procedures, local hospital-based ethics review, and effective (but not burdensome) oversight can make end-of-life decisions more accessible and humane. This path is consistent with Indian values, safeguards against abuse, and empowers patients without risking exploitation. In addition, medical education must integrate training on end-of-life care, including ethical and legal components. Public awareness campaigns are essential to normalise discussions on advance care planning. Without public trust and awareness, even the best laws will fail to serve their purpose.

India's constitutional promise of dignity in life must extend to dignity in dying

Static Context

(a) Types of Euthanasia

Type	Description
Active Euthanasia	Directly causing a patient's death through medical intervention (e.g., lethal injection).
Passive Euthanasia	Withdrawing or withholding life-sustaining treatment, allowing natural death.

(b) Legal Status in India

- ArunaShanbaug Case (2011):** SC permitted passive euthanasia under judicial supervision.

Daily News Analysis

- **Common Cause Case (2018):** Recognised “**Right to die with dignity**” under **Article 21** and allowed **advance medical directives (living wills)**.
- **Active euthanasia** remains illegal under **Section 302/304 IPC** (culpable homicide).

(c) Article 21 – Right to Life and Dignity

The right to life includes the right to live with dignity — extended by the SC to cover a **dignified death** in terminal illness cases.

Current Context

- The **U.K.’s Bill (2025)** allows terminally ill adults (<6 months life expectancy) to opt for **physician-assisted dying**, with strict medical certification and oversight.
- India’s **passive euthanasia law**, though progressive on paper, faces **practical inaccessibility** due to:
 - Complex procedures (dual medical boards, advance directives, judicial nod).
 - Lack of awareness and digitised systems.
 - Bureaucratic delays that prolong patient suffering.
- Most families resort to **informal, unrecorded decisions**, putting doctors at **legal risk**.

Analytical Perspective (For Mains)

(a) The Case Against Active Euthanasia in India

- **Cultural and social context:** Deep family involvement, religious sensitivities, and literacy variations.
- **Institutional weakness:** Fragmented healthcare and poor access to palliative care.
- **Ethical risk:** Possibility of coercion against vulnerable populations (elderly, disabled, financially dependent).
- **Jurisprudential stance:** SC distinguishes between “allowing death” (omission) and “causing death” (commission).

(b) Reforming Passive Euthanasia – The Way Forward

1. **Digitisation of Advance Directives**
 - Create a **national digital registry**, linked with **Aadhaar**, to register, update, or revoke directives.
 - Verified by the treating physician for intent and capacity.
2. **Hospital-Based Ethics Committees**
 - Panels of senior doctors, palliative care specialists, and neutral members.
 - Empowered to decide within **48 hours** to avoid delays.
3. **Simplified Oversight Mechanisms**
 - Replace state ombudsmen with **digital dashboards** for transparent monitoring.
 - Introduce **independent medical auditors** with statutory authority.
4. **Safeguards and Support**
 - **7-day cooling-off period**, mandatory **psychological counselling**, and **palliative care review**.
 - Ensure informed consent and guard against misuse.
5. **Capacity Building and Awareness**
 - Integrate **end-of-life care ethics** into medical education.
 - Launch **public awareness campaigns** to normalise advance care planning.

Prelims Pointers

Daily News Analysis

Concept	Key Fact
ArunaShanbaug Case (2011)	Recognised passive euthanasia for the first time in India
Common Cause Case (2018)	Legalised living wills; affirmed right to die with dignity
Active vs Passive Euthanasia	Active = act of killing; Passive = allowing natural death
Article 21	Guarantees right to life with dignity
Section 309 IPC	Attempt to suicide (decriminalised under Mental Healthcare Act, 2017)

Conclusion

India's constitutional ethos demands **dignity in death as much as in life**. Rather than imitating Western active euthanasia models, India should **strengthen and simplify its passive euthanasia framework** through **digital tools, decentralised ethics review**, and **humane procedures**. This balanced path respects Indian values, protects against exploitation, and fulfils the **spirit of Article 21** by allowing terminally ill patients to die peacefully, without bureaucratic suffering.

UPSC Prelims Practice Question

Ques :Consider the following statements regarding Euthanasia:

1. Active euthanasia has been declared legal by the Supreme Court of India.
2. In the Common Cause vs Union of India (2018) case, the "Right to Die with Dignity" was recognised as part of Article 21.
3. In the ArunaShanbaug case (2011), passive euthanasia was permitted under judicial supervision.

Select the correct option:

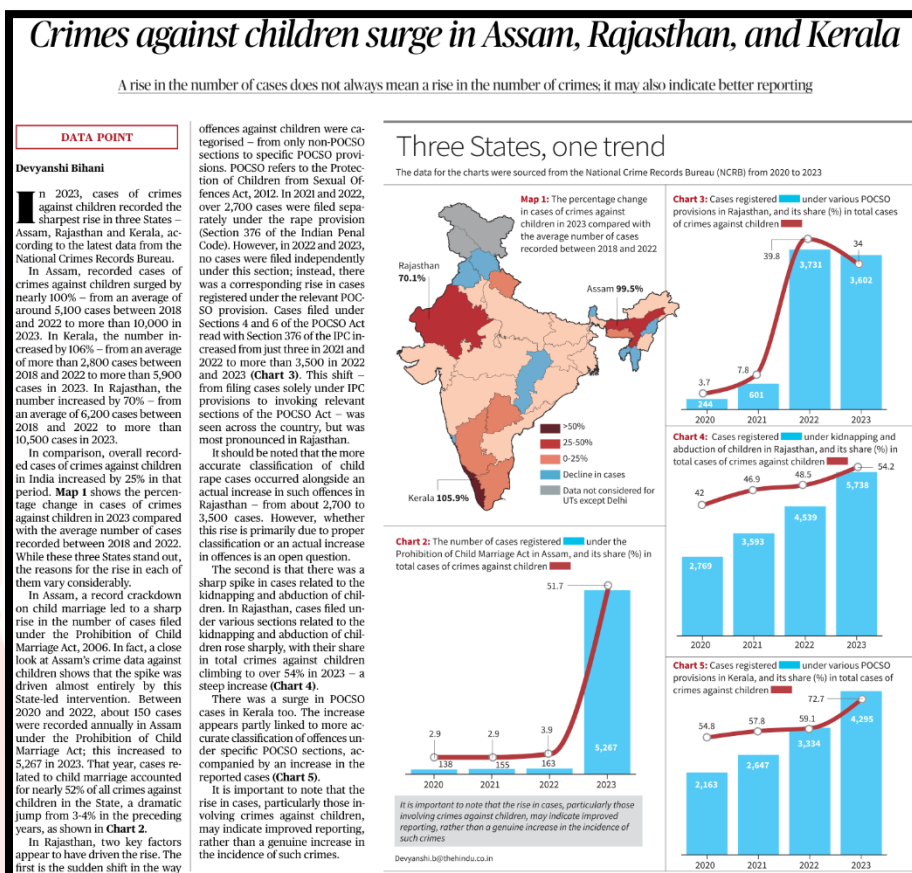
- (A) 1 and 2 only
- (B) 2 and 3 only
- (C) 3 only
- (D) 1, 2 and 3

Ans: B)

UPSC Mains Practice Question

Ques:Present the arguments for and against legalising active euthanasia in India. **(150 Words)**

According to the **National Crime Records Bureau (NCRB) 2023 data**, crimes against children saw a significant surge in **Assam, Rajasthan, and Kerala**, outpacing the national average increase of 25%. While rising figures may reflect a genuine increase in offences, they may also indicate **better reporting, stricter enforcement, or more accurate classification**.



Static Context

• Legal Framework for Child Protection in India:

- **POCSO Act, 2012:** Protection of Children from Sexual Offences; provides special provisions for child sexual abuse, including mandatory reporting and child-friendly procedures.
- **Prohibition of Child Marriage Act, 2006:** Criminalises child marriage and empowers authorities to prevent and punish violations.
- **IPC Sections 363–373:** Deal with kidnapping, abduction, and related offences against children.
- **NCRB:** Primary agency maintaining statistical records of crimes, including crimes against children.
- **Child-related crime indicators in India:**
 - Crimes can be **underreported** due to social stigma, fear, or lack of awareness.
 - Accurate classification under POCSO is essential for policy and enforcement.

Daily News Analysis

Current Context (State-wise Trends)

State	Key Drivers of Increase	Observations
Assam	Crackdown on child marriage	Cases under Prohibition of Child Marriage Act rose from ~150/year (2020–22) to 5,267 in 2023 (~52% of child crimes). Indicates enforcement, not necessarily more offences .
Rajasthan	1. Reclassification of offences under POCSO Act ; 2. Surge in kidnapping/abduction	POCSO cases rose from 2,700 to 3,500; child abduction accounted for 54% of cases. Suggests both better classification and actual rise in offences .
Kerala	POCSO case surge	Rise partly due to accurate classification and better reporting .

Key Insight: A rise in recorded cases does not always equate to a rise in crime incidence; it often reflects **improved reporting, stricter enforcement, or policy changes**.

Analytical Perspective (For Mains)

(a) Significance

- Policy and Enforcement:** Reflects active enforcement of child protection laws, particularly in Assam and Rajasthan.
- Data Accuracy:** Correct classification (e.g., under POCSO) improves **crime statistics reliability**, aiding policymaking.
- Awareness and Reporting:** Increased cases may indicate growing **public awareness** and **trust in law enforcement**.

(b) Challenges

- Genuine increase in offences:** Kidnapping and child sexual abuse remain critical concerns.
- Systemic hurdles:** Inadequate child protection infrastructure, delayed legal proceedings, and lack of child-friendly mechanisms.
- Socio-cultural factors:** Stigma may still suppress reporting in many regions.

(c) Policy Recommendations

- Strengthen **child protection committees at district and state levels**.
- Expand **child-friendly judicial processes** and fast-track courts.
- Promote **community awareness programs** on child rights and reporting mechanisms.
- Enhance **data collection and research** for evidence-based policymaking.

Prelims Pointers

Topic	Key Fact
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Daily News Analysis

Topic	Key Fact
POCSO Act, 2012	Protects children from sexual offences; mandatory reporting; child-friendly courts
Prohibition of Child Marriage Act, 2006	Criminalises child marriage; enforcement led to surge in Assam
NCRB	Maintains annual crime statistics including child-related crimes
Trend Observation	Rise in cases may indicate better reporting , not necessarily higher crime incidence

Conclusion

The surge in recorded child crimes in Assam, Rajasthan, and Kerala illustrates **the dual nature of crime statistics** — improved enforcement and reporting alongside potential real increases in offences. Strengthening **legal frameworks, awareness, and child protection mechanisms** is essential to safeguard children effectively. Accurate data collection, timely intervention, and community engagement remain **key to translating statistics into actionable policy**.

UPSC Prelims Practice Question

Ques:What is the objective of the Prohibition of Child Marriage Act, 2006?

- a) To prohibit marriage below the age of 18 years
- b) To declare only girls' marriages as an offence
- c) To prohibit marriage of both boys and girls
- d) No age limit for marriage

Ans :c)

UPSC Mains Practice Question

Ques:Evaluate the child protection laws in India and the impact of the POCSO Act. What suggestions can be made for their improvement?(150 Words)

Calling out the criticism of the Indian judiciary

Societies in search of a quick fix often look for a scapegoat. In today's India, for much of the ruling class, it is the courts which don the role. Public policy advisers are quick to paint the judiciary as obstructionist and somehow responsible for stalling India's otherwise grandiose plans for economic prosperity.

Not for the first time, Sanjeev Sanyal, a member of the Prime Minister's Economic Advisory Council, pointed to the courts as the chief roadblock to the country's development. "We effectively have somewhere between 20-25 years to become Viksit Bharat," he said. "The judicial system and the legal ecosystem, but the judicial system in particular, is now, in my view, the single biggest hurdle to [India] becoming Viksit Bharat and growing rapidly."

Misinformed, vague censure is no solution

Leaving aside what Viksit Bharat might, in fact, mean, these comments once again reduce the judiciary to a caricature. Mr. Sanyal's speech, delivered at the Nyaya Nirman conference last month, recycles familiar tropes about judges working short hours and going on vacations. Mr. Sanyal, perhaps justifiably, claims that we must stop being self-congratulatory when it comes to analysing the workings of our legal processes. But the solution is not misinformed or vague and hazy censure.

India's judicial system is far from perfect. But to brand its imperfections as the "single biggest hurdle" to growth distorts its place in India's democracy. What is true is that our courts are overstretched and under-resourced, but other wings of government scarcely consider these to be issues of priority. In reality, the courts only mirror the failures that mire the rest of India's governance.

Mr. Sanyal's own example undercuts his case. He cites the enforcement of Section 12A of the Commercial Courts Act, 2015, which makes pre-suit mediation mandatory. He says that in Mumbai, most of such mediations fail, demonstrating that the courts are imposing an ineffective procedure. But what this ignores is that it is not our courts that dreamt up Section 12A. Parliament wrote it into law. Judges are bound to enforce what legislators enact. If a provision is poorly designed, the failure lies with the drafters, not with those applying it.

Mr. Sanyal also invokes what he calls the "99-to-1 problem". In his telling, most of India's rules and regulations are drafted to guard against the abuse of laws by a small fraction of people – exceptions, which he argues, should be left to the courts to resolve. "Because I do not think it will get sorted out there, the rest of the 99% of laws and rules end up being complicated to address that 1%, feeding back into a spiral," he says. The



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precise meaning of this formulation is difficult to pin down, but what it points to, once again, is less a judicial failing and more a familiar malaise of Indian law-making – that is, imprecision in drafting.

He further suggests that this 99-to-1 problem manifests in the court's inability to enforce contracts efficiently. But this too is a superficial critique which ignores how the country's largest contractors, the Union and State governments, behave. Tender documents are riddled with arbitrary conditions, routine processes are overlooked, and legal rights are treated as discretionary favours. It is easy to speak about judicial delays without emphasising on the role played in it by India's biggest litigant – the government.

Tax authorities file appeals against routine orders as a matter of course, often dragging disputes all the way up to the Supreme Court of India. Ministries fight over simple contractual matters that they ought to honour. Public enterprises sue with little thought, squandering judicial resources. Citizens, pensioners, teachers, public service employees and doctors serving the state are forced to litigate for simple benefits that they are entitled to in the ordinary course. If efficiency is our concern, then we must ask ourselves why successive governments – both at the level of the Union and the States – have been unwilling to discipline their own litigation practices.

The system, the reality

Another easy target is court sittings. The visible part of the job might run only from 10:30 a.m. to 4 p.m. in the case of the Supreme Court and a little longer in the case of the High Courts. But judges may hear anywhere between 50 to 100 cases during this window. It is a difficult job to do well.

Behind those hearings lie hours of preparation: reading briefs, drafting and signing orders, and considering precedents. Much of judicial work requires cerebral thought and happens behind closed doors, in the early hours of the morning or late into night and certainly across weekends.

Vacations too are misunderstood. Their colonial origins make them an easy target. But courts have benches sitting through vacations too, and the holidays that other judges get is meant for a little relaxation but for the most part to complete their reserved judgments. India's judges are already working against improbable odds. They face one of the heaviest caseloads in the world, a fact that is only compounded by continuing vacancies. To deny them structured breaks would only undermine the cause of justice.

What Mr. Sanyal's lament also ignores is that

much of the judiciary's burden comes from laws that are misconceived, vague, and designed for optics rather than clarity. The government's much vaunted criminal law reforms went little further than changing the names of India's age-old criminal legislation. For the most part, they recycle the colonial framework, if merely converting what were codes into sanhitas, leaving judges and lawyers grappling with decades of precedent with newly rebranded sections.

The new Income-Tax Act, which will come into force next year, is another case in point. Its enactment has been touted as an effort at simplification. But a reading of its provisions suggests that it is old wine in a new bottle. Explanations, exceptions and provisos have been removed and inserted as new sections, only likely leading to a new wave of litigation.

The word "notwithstanding" used in many places in the existing income-tax law has been replaced with the word "irrespective". The first word has deep legal roots. There is a mountain of case law on how phrases such as "notwithstanding anything contained in any other statute" should be interpreted. In theory, the word "irrespective" is meant to serve as a simpler substitute. But how exactly does this change make the law any clearer for the everyday taxpayer? If anything, it swaps one piece of legal jargon for another. For the ordinary taxpayer, the law is, at best, differently obscure.

None of this is to deny that the judiciary needs reform. Delays are real, infrastructure is outdated, and accountability mechanisms are weak. But lampooning the system as the "biggest hurdle" to our development only clouds the debate.

Most acute in the lower judiciary

It is no doubt politically convenient to cast the judiciary as the culprit. Doing so allows governments to deflect their own failures – both administrative and legislative. But our disputes drag on for the most part, not because judges are out vacationing, but because our laws are poorly framed, governments have an endless appetite for litigation, and dockets remain overloaded even as vacancies persist. These pressures are felt most acutely in the district courts, where most Indians encounter the justice system.

India's constitutional democracy is not designed for speed alone. Courts were never meant to be rubber stamps for governance but independent checks on executive power. To weaken them is to chip away at the very foundation of what development in its truest sense ought to mean. The judiciary is not flawless. But if we are serious about reform, we must look beyond distortions on vacations and delays and confront the structural failings that lie elsewhere.

India's judicial system only mirrors the failures that mire the rest of its governance

GS. Paper 2 – Indian Polity

UPSC Mains Practice Question: In India, the judiciary is often criticised for delays and being an 'obstacle to development.' Analyse these criticisms and suggest measures for reform. (150 Words)

Context :

The judiciary in India, a key pillar of democracy, often faces criticism for delays, inefficiency, and being “obstructionist” to development. Recently, Sanjeev Sanyal, member of the Prime Minister’s Economic Advisory Council, termed India’s judicial system as the “single biggest hurdle” to becoming a developed nation. Legal experts, however, argue that such criticisms are **misinformed and superficial**, ignoring systemic issues in legislation and governance.

Static Context

(a) Judicial System in India

- **Structure:** Supreme Court → High Courts → District & Subordinate Courts.
- **Mandate:** Uphold the Constitution, ensure rule of law, protect fundamental rights, act as a check on executive and legislature.
- **Current Challenges:** Heavy caseloads, understaffing, outdated infrastructure, delays in adjudication.

(b) Causes of Judicial Delays

1. **Legislative Ambiguity:** Poorly drafted laws, e.g., Section 12A of the Commercial Courts Act, 2015, and tax laws.
2. **Government Litigation:** Union and State governments are India’s largest litigants; frequent appeals clog courts.
3. **High Caseload:** India has one of the world’s heaviest caseloads, exacerbated by vacancies and inadequate infrastructure.

Current Context

- Public discourse often blames the judiciary for **developmental delays**, portraying it as slow or inactive.
- The article emphasizes that judges work **long hours, including preparation and drafting orders**, beyond visible court timings.
- Vacations and breaks are structured for judgment completion, not mere leisure.
- Misguided legislative reforms, vague laws, and government litigations contribute significantly to judicial bottlenecks.

Analytical Perspective (For Mains)

(a) Misplaced Criticism

1. Judicial delays are **symptomatic of legislative and administrative inefficiencies**, not intrinsic judicial failure.
2. Examples like **pre-suit mediation failures** show **law design flaws**, not judge incompetence.

(b) Systemic Factors

1. **Government Litigation:** Ministries, public enterprises, and tax authorities often litigate unnecessarily.
2. **Legislative Ambiguity:** Laws are frequently **rebranded rather than simplified**, leading to new rounds of litigation.
3. **Resource Constraints:** Courts are **understaffed and under-resourced**, with judges managing massive caseloads.

Daily News Analysis

(c) Importance of Judicial Independence

- Courts act as a **check on executive overreach**. Development should not mean bypassing judicial scrutiny.
- Weakening judicial independence for efficiency may **compromise democratic governance**.

Prelims Pointers

Topic	Key Points
Judicial Structure	Supreme Court → High Courts → Subordinate Courts
Section 12A, Commercial Courts Act	Pre-suit mediation mandatory
Major Causes of Delays	Poor law drafting, government litigation, understaffing, infrastructure deficits
Judicial Independence	Courts act as checks on executive; not meant for speed alone

Conclusion

While judicial reform is necessary to address delays, infrastructure gaps, and vacancies, **casting the judiciary as the “single biggest hurdle” to development is misleading**. Real solutions lie in **legislative clarity, government accountability, and better resource allocation**, rather than superficial criticisms. A robust and independent judiciary remains central to India’s democratic governance and long-term development.