

## WEEKLY UPDATES – (26<sup>th</sup>Nov-2<sup>nd</sup>Dec)

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## ENVIRONMENT

### Rat-Hole Mining

**Context:** National Disaster Management Authority said Rat-hole miners were used in the rescue operation to save the 41 workers trapped in the Silkyara tunnel.

#### What is rat-hole mining?

- A method of extracting coal from **narrow, horizontal seams**, typically around 3-4 feet depth (prevalent in Meghalaya).
- Rat hole – Refers to the **narrow pits dug into the ground**, typically just large enough for 1 person to descend and extract coal.



#### Why prevalent in Meghalaya?

- They are prevalent in Meghalaya due to challenging **terrain** and the **coal seam here are very thin** (less than 2 m) in most cases.

#### Types of rat hole mining

**Side cutting** – Narrow tunnels are excavated into the hill slopes and workers enter these openings to locate the coal seam.

**Box cutting** – Rectangular openings are created, ranging in size from 10 to 100 square metres.

## What are the issues?

- Lack safety measures such as proper ventilation, structural support, or safety gear for the workers.
- Causes land degradation, deforestation, and water pollution.

## When was it banned, and why?

- In 2014, the **National Green Tribunal (NGT)** stopped **rat-hole** mining because it was unsafe and not scientifically sound.
- In 2019, the Supreme Court overturned this ban and said that coal mining could continue in Meghalaya if it was done scientifically.

### Silkyara-Barkot Tunnel:

- Location – **Brahmakhal-Yamunotri** portion
- Constructed between **Silkyara and Dandalgaon**.
- Connects **Yamunotri** on the south end to **Dharasu** on the north end.
- Part of the **Chardham Mahamarg Vikas Pariyojana** all-weather road project connecting 4 sacred sites in Uttarakhand.
  - 4 sacred sites – **Gangotri, Yamunotri, Kedarnath and Badrinath**.

## GEOGRAPHY

### Water Heritage Sites

**Context:** The Peralassery Subrahmanya Temple pond in Kerala has found place in the list of 75 water heritage sites of India.

#### About Water Heritage Sites:

- There is no provision under the Ancient Monuments and Archaeological Sites and Remains Act, 1958 to declare a site as a “Water Heritage Site” under Archaeological Survey of India (ASI).
- The Ministry of Jal Shakti has declared 75 sites in India as the Water Heritage Sites.
- Earlier, 'Jal-Itihas' sub-portal under the India-WRIS portal, showcasing the 75 WHS, was launched



*Water heritage sites in kerala – 2*

- *Peralassery Subramania Temple*
- *Kerala Waterways*

## About Water Heritage Sites:

- There is no provision under the Ancient Monuments and Archaeological Sites and Remains Act, 1958 to declare a site as a “Water Heritage Site” under Archaeological Survey of India (ASI).
- The Ministry of Jal Shakti has declared 75 sites in India as the Water Heritage Sites.
- Earlier, 'Jal-Itihas' sub-portal under the India-WRIS portal, showcasing the 75 WHS, was launched a web-enabled Water Resources Information System.
- Initiated through a MoU between the Central Water Commission (CWC), the Ministry of Water Resources, Ministry of Jal Shakti and **ISRO**.
- Project was funded by the **Central Water Commission**

## Sacred River Festival

**Context:** Ahilya Fort is to present the 20<sup>th</sup> Sacred River Festival in February 2024, after a 3-year gap due to the Covid pandemic.

### About Sacred River Festival:

- 4-day festival celebrated annually since 2010.
- Conceived by – Richard Holkar (**Holkar dynasty**)
- Venue – **Ahilyabai Fort** (Maheshwar, Madhya Pradesh)
- Aim – To create a more inclusive art space that celebrates different identities and communities.
- Activities – Music, dance, theatre performances, and craft walks, discussions, food displays and also highlights the **Ganga Jamuni tehzeeb** (syncretic culture) intrinsic to Awadh.

Safed Baradari (White Palace) in Uttar Pradesh, is a white-marbled building and a place of Mourning by Wajid Ali Shah, the last nawab of Awadh.

### Ahilya Fort:

- Location – Sacred river Narmada
- Maharani Ahilyabai Holkar ruled here from 1765 to 1796 and built Ahilya Wada, her personal residences, offices, and darbaar audience hall, within the fort.

### Narmada River:

- Also known as Rewa river
- Origin – Amarkantak peak of Maikal mountain
- Flows into – Gulf of Khambhat
- Basin States – Madhya Pradesh, Gujarat, Maharashtra and Chhattisgarh
- A West flowing river of the peninsular region
- Flows through a rift valley between the **Vindhya Range** on the north and the **Satpura Range** on the south.
- **Major Tributaries** –
  - Right bank – Hiran, Tendori, Barna, Kolar, Man, Uri, Hatni, and Orsang.

### Holkar dynasty:

- A **Maratha clan** of nomadic tribes.
- Seat – Maheshwar
- Founded by – Malhar Rao
- He joined the service of the Peshwa Baji Rao of the Maratha Empire in 1721, and quickly rose to the rank of Subedar.
- They later became Maharajas of Indore in Central India as an independent member of the Maratha Empire until 1818.
- It became a princely state under the protectorate of British India.

- Left bank – Burner, Banjar, Sher, Shakkar, Dudhi, Tawa, Ganjal, Chhota Tawa, Kundi, Goi, and Karjan.
- Dams – Omkareshwar and Maheshwar dams.

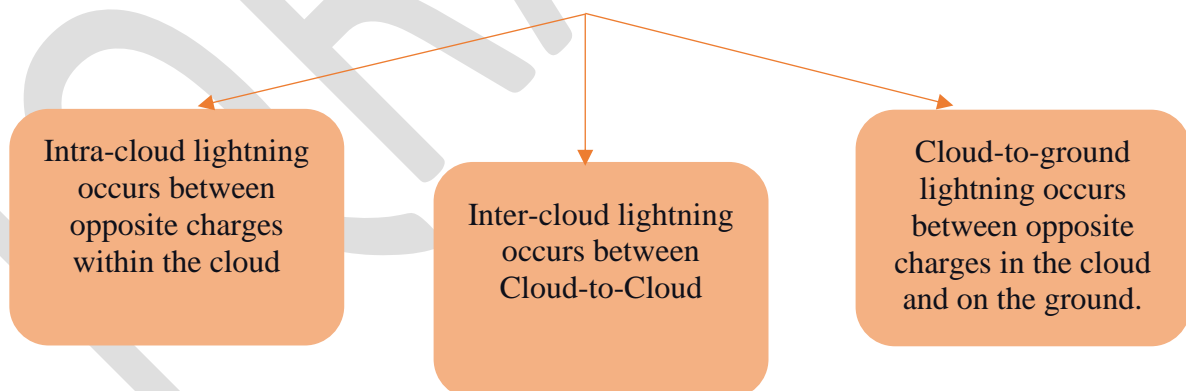
## Lightning

**Context:** Death toll due to lightning strikes rises to 24 in Gujarat.

### About Lightning:

- An **electrical discharge** caused by imbalances between storm clouds and the ground, or within the clouds themselves.
- **How does lightning occur?**
  - The discharges originate from **massive clouds** that carry moisture. As the water vapor ascends within the cloud, it transforms into **tiny ice crystals** due to the decreasing temperature. These crystals continue their upward journey, accumulating mass until they **become too heavy** and begin their descent towards Earth. This results in a **collision** between the smaller ice crystals moving upwards and the larger ones descending. These collisions lead to the **liberation of electrons**, and these free electrons instigate more collisions. Consequently, the **cloud's top layer acquires a positive charge**, while the **middle layer becomes negatively charged**, causing a flow between the layers. Compared to the cloud's middle layer, the Earth takes on a positive charge. As a consequence, some of the current is directed towards Earth.
  - It is this current flow that causes harm to life and property on Earth.

### Types of lightning



- **National Disaster Management Authority guidelines –**
  - Early warning and Communication, lightning incidents can be detected by the ground-based Lightning Detection Network in real time.
  - Prevention, Mitigation, and Preparedness Measures, including Emergency Plans, installing lightning arrestors, etc.

## POLITY

### Right to Information

**Context:** Central government has added the Computer Emergency Response Team (CERT-In) to a list of organisations that are exempted from the ambit of the Right to Information Act (RTI), 2005.

#### About RTI Act:

- Sets out the principles and techniques in regards to citizens' right to information.
- Replaced Freedom of Information Act, 2002.
- Objective – To empower the citizens, promote transparency and accountability in the working of the Government, contain corruption, and make our democracy work for the people in real sense.

### 27 Organisations exempted under Second Schedule of RTI Act (Section 24)

- |   |   |
|---|---|
| 01. Intelligence Bureau                                 | 15. Sashtra Seema Bal                                 |
| 02. Research and Analysis Wing                          | 16. Directorate General of Income-tax (Investigation) |
| 03. Aviation Research Centre of the Cabinet Secretariat | 17. National Technical Research Organisation          |
| 04. Directorate of Revenue Intelligence                 | 18. Financial Intelligence Unit, India                |
| 05. Central Economic Intelligence Bureau                | 19. Special Protection Group                          |
| 06. Directorate of Enforcement                          | 20. Defence Research and Development Organisation     |
| 07. Narcotics Control Bureau                            | 21. Border Road Development Board                     |
| 08. Special Frontier Force                              | 22. National Security Council Secretariat             |
| 09. Border Security Force                               | 23. Central Bureau of Investigation                   |
| 10. Central Reserve Police Force                        | 24. National investigation Agency                     |
| 11. Indo-Tibetan Border Police                          | 25. National Intelligence Grid                        |
| 12. Central Industrial Security Force                   | 26. Strategic Forces Command                          |
| 13. National Security Guards                            | 27. Computer Emergency Response Team (CERT-In)        |
| 14. Assam Rifles  |   |

- **Key Provisions –**
  - Section 4 – requires suo motu disclosure of information by each public authority. However, such disclosures have remained less than satisfactory.
  - Section 8 (1) – exemptions against furnishing information under RTI Act.
  - Section 8 (2) – disclosure of information exempted under Official Secrets Act, 1923 if larger public interest is served.

**Second Schedule of RTI Act:** The Act shall **not apply to the intelligence and security organisations** specified in the Second Schedule, “provided that the information pertaining to the allegations of corruption and human rights violations shall not be excluded.”

- **Time period –**
  - Normal information – supplied in 30 days
  - Information regarding life/liberty – supplied within 48 hours.

## Call for Safer and Healthier Working Environments: ILO Report

**Context:** International Labour Organization (ILO) has recently published a report named ‘A Call for Safer and Healthier Working Environments’. This report was a topic of discussion at the 23rd World Congress on Safety and Health at Work (WCSHW).

### About WCSHW:

- 1<sup>st</sup> held in 1955.
- One of the largest international conferences for **work health and safety**.
- Aim – To connect global leaders in safety and harm prevention from over 120 countries.

**ILO Occupational Safety and Health Convention** has been ratified by 79 out of the 187 member nations. Meanwhile, the **Promotional Framework for Occupational Safety and Health Convention, 2006**, has been ratified by 62 countries.

### Key Highlights of the Report:

- In 2019, work-related deaths rose to 2.93 million, a **12% increase** from 2000. (More prevalent in the **Asia-Pacific region**)
- Majority of work-related deaths are caused by **work-related diseases** e.g., circulatory and respiratory diseases.
- Exposure to **long working hours (≥ 55 hours per week)** causes most deaths among occupational risk factors.
- Sectors such as **mining and quarrying, construction, and utilities** were identified as the most hazardous globally based on **Fatal Occupational Injury Rates (FOIR)**.

FOIR stands for a statistical metric that is used to calculate the number of fatalities caused by accidents or injuries at work within a specific occupational group, industry, or geographical area during a certain time frame.

### ILO’s Occupational Safety and Health (OSH):

- ILO's Safety + Health for All program – A key vehicle for delivering ILO's Occupational Safety and Health (OSH) agenda
- New global strategy on OSH –
  - Adopted by – ILO Governing Body
  - Aim – To promote, and realize the fundamental right to a safe and healthy working environment worldwide.
  - **3 pillars** –
    - Improving national OSH frameworks
    - Integrate OSH into national policies and adopt whole-of-government approaches to OSH.
    - Enhancing workplace OSH management systems.

### Safety + Health for All Program:

- Launched in 2015.
- Focuses on prevention to promote a safe and healthy working environment, which is a fundamental principle and right at work.
- **Vision Zero Fund**, a **G7 initiative** and later endorsed by the G20 in 2017, is an integral part of Safety + Health for All.

## Special Category Status for Bihar

**Context:** Bihar Chief Minister Nitish Kumar's Cabinet passed a resolution seeking Special Category Status (SCS) for Bihar, following findings from the "Bihar Caste-based Survey, 2022," indicating significant poverty.

### Citizenship (Amendment) Act (CAA) 2019

#### Special Category Status:

- It was introduced in **1969** on the recommendations of the Fifth Finance Commission. Status was first accorded to Jammu and Kashmir, Assam and Nagaland in 1969
- Articles 371 to 371-J in Part XXI of the constitution contain special provisions for twelve states namely Maharashtra, Gujarat, Nagaland, Assam, Manipur, Andhra Pradesh, Telangana, Sikkim, Mizoram, Arunachal Pradesh, Goa and Karnataka.
  - Telangana, the newest State of India, was accorded the status as it was carved out of another State – Andhra Pradesh

#### What is Special Category Status (SCS)?

It is a special recognition that functions as a provision for the betterment and protection of the people of backward regions. It is a classification given by the Centre to assist in the development of those states that face geographical and socio-economic disadvantages.

#### Criteria for SCS (considered before granting):

- Hilly and difficult terrain.



- Low population density or a sizeable share of tribal population.
- Strategic location along international borders.
- Economic and infrastructural backwardness.
- Non-viable nature of state finances.

### Difference between Special Status VS Special Category Status

| Aspect                       | Special Status  | Special Category Status  |
|------------------------------|---|--|
| <b>Granting Authority</b>    | Provided through an Act   | Granted by the National Development Council, an administrative body of the government.   |
| <b>Example</b>               | Jammu and Kashmir enjoyed special status under Article 370 before 2019  | North-East states enjoy special category status  |
| <b>Applicability</b>         | Special status is subject to <u>constitutional provisions</u> , and it can be altered or revoked through constitutional amendments. | Special category status is typically not enshrined in the constitution, making it less rigid and more subject to administrative decisions.     |
| <b>Provisions for States</b> | Applicable to states listed under specific Articles such as Articles 371, 371-A to 371-H, and 371-J.                                | Primarily applicable to states facing geographical or socio-economic disadvantages, based on criteria set by the National Development Council. |
| <b>Focus of Empowerment</b>  | Empowers legislative and political rights.  | Primarily deals with <u>economic, administrative, and financial aspects</u> , offering fiscal benefits and assistance in development projects. |

### Benefits associated with the Special Category Status:

- **Centre's support:**
  - Under this status, the government pays **90% of the funds in schemes that the Centre sponsors.**
  - **Regular states get 60-75%** of the funds from the Centre under the same schemes and they have to manage the rest.

- In case of **unspent money**, the states with SCS have the **provision to carry it forward**.
- These states also enjoy a significant **concession on excise, customs duties, income tax, and corporate tax**.
- **Objectives met:**
  - The recognition essentially benefits certain **backward states having hilly terrains, strategic international borders, and economic and infrastructural backwardness**.
  - The key objectives are:
    - To meet the aspirations of the **people of backward regions** of the states
    - To protect the **cultural and economic interests of the tribal people** of the states
    - To deal with the **disturbed law and order condition** in some parts of the states
    - To protect the **interests of the local people** of the states

## Why Bihar is Demanding SCS:

| Factors                         | Details  |
|---------------------------------|--|
| <b>Economic Backwardness</b>    | About one-third of Bihar's population lives in poverty. The state has a low per-capita GDP of around ₹54,000, marking it as one of India's poorest states.   |
| <b>Impact of Bifurcation</b>    | Bihar's bifurcation led to industrial decline, with many industries moving to Jharkhand, resulting in fewer employment opportunities.  |
| <b>Natural Challenges</b>       | The state faces regular floods in the north and droughts in the south, impacting agriculture and livelihoods.  |
| <b>Need for Welfare Funding</b> | Bihar's Chief Minister highlighted the need for SCS to secure approximately ₹2.5 lakh crore for various welfare measures over five years.  |
| <b>Lack of Resources</b>        | Bihar argues its lack of natural resources and continuous water supply for irrigation contributes to its underdevelopment.   |
| <b>Other States' Demands</b>    | States like Andhra Pradesh and Odisha also want SCS. Andhra Pradesh cites revenue loss after bifurcation, and Odisha points to natural disasters and a large tribal population (nearly 22%). However, the Central government, referring to the 14th FC report, has consistently rejected their requests, stating that no state should receive this status. |

## Is Bihar's Demand Justified?

- **Criteria Met:** Bihar meets most SCS criteria, but lacks hilly terrain and geographically difficult areas, crucial for infrastructural development.
- **Raghuram Rajan Committee (2013):** Placed Bihar in the “least developed category” and suggested a new methodology based on a ‘multi-dimensional index’ for fund allocation, which can be revisited for addressing socio-economic backwardness.

## Concerns

- The SCS puts an additional economic burden when the increased devolution is already flowing to the State as recommended by the FFC.
- It affects the central state's financial relations and hinders competitive federalism among the states.

## Conclusion:

Bihar, despite meeting most criteria, lacks hilly terrain, raising the need for revisiting standards. Also, Raghuram Rajan Committee suggested exploring alternative funding models based on a multi-dimensional index. Addressing Bihar's needs requires urgent support for poverty alleviation, targeted aid for disaster management and agriculture, and policies to attract industries and generate employment. Providing SCS status can be one of the solution, however, it needs to be explored without straining central finances and upholding competitive federalism.

## Postal Ballots and EVMs

**Context:** Recently, the Madhya Pradesh political parties filed a complaint with the state Chief Electoral Officer, accusing manipulation of postal ballots in the strong room and questioning the efficacy of Electronic Voting Machines (EVMs).

- However, District Election Officer explained that the strong room was opened by the **assistant returning officer** with prior notice to representatives **for ballot sorting, not counting.**

## What are the Postal Ballots and Journey of EVMs?

- **Postal Ballots:**
  - Postal ballots serve as a voting option for service voters, absentee voters (**such as those above 80 years, individuals with benchmark disabilities, or those affected by Covid-19**), voters on **election duty**, and electors under **preventive detention**.
  - Eligible individuals, after completing necessary forms, receive postal ballots from the **Returning Officer (RO)** through **the mail or, in the case of election duty voters, at a facilitation center.**
- **EVM's Journey from Checks to Storage:**
  - The EVMs undergo a process before reaching polling stations. After the completion of first-level checks and randomization exercises, **the machines are handed over to the ROs** while

following guidelines outlined in the **Election Commission's (EC's) latest manual issued in August, 2023.**

- After voting is over, EVMs and **Voter-Verifiable paper audit trails (VVPATs)** are escorted back to collection or reception centres where **they are stored in strong rooms.**
- As per the EC manual, **all candidates have to be informed of this** and are allowed to send their representatives to oversee the security arrangements.
- **Security Measures and Storage of EVMs:**
  - The journey of EVMs involves **stringent security measures**, including **armed escort and storage in air-conditioned strong rooms.**
  - These strong rooms **serve as a secure location for EVMs until polling day, ensuring the integrity and confidentiality of the voting process.**
  - Political party representatives play a role in overseeing this storage process, **adding an extra layer of transparency to the electoral system.**

### Voter Verified Paper Audit Trail

VVPAT is an independent verification printer machine and is attached to electronic voting machines. It allows voters to verify if their vote has gone to the intended candidate.

When a voter presses a button in the EVM, a paper slip is printed through the VVPAT. The slip contains the poll symbol and name of the candidate. It allows the voter to verify his/her choice.

After being visible to the voter from a glass case in the VVPAT for seven seconds, the ballot slip will be cut and dropped into the drop box in the VVPAT machine and a beep will be heard.

VVPAT machines can be accessed by polling officers only.

### What is the Procedure for Postal Ballots and Absentee Voters ?

#### ▪ Postal Ballots' Procedures:

- According to EC instructions, the facilitation centre in-charge handling postal ballots is required to **open the drop box daily in the presence of party and candidate representatives.**

- Each constituency's ballots are placed in a large envelope or cotton bag and then **sent to the RO at the end of each voting day.**

- The RO assumes custody of these bags, **storing them securely in a designated "special strong room."**

#### ▪ Absentee Voters:

- For absentee voters, **Booth Level Officers (BLOs)** deliver **ballot form** to the electors' homes. **BLOs return within five days** of the election notification to collect the filled-in forms, submitting them daily to the ROs.
- Essential services personnel among absentee voters can utilize special postal voting centres, **conducting voting for three consecutive days before polling day.** The packets of postal ballots from these centres are sent to the RO at the end of each day.
- **Secure Handling and Counting Preparations for Postal Ballots:**
- In cases **where votes are to be counted at a location other than the RO's headquarters**, a day before counting, the postal ballots are transferred to another strong room at the counting centre.
- This meticulous process ensures the **secure handling, documentation, and eventual counting** of postal ballots in adherence to electoral guidelines.

### What are the Different Measures to Secure EVMs?

- **Functional Check:** The machines are **cleaned and earlier results are cleared**. Switches, buttons, cables and latches are inspected for damage.
- **Random Check:** A mock poll is **conducted on 5% of the total number of EVMs to be used for a poll**. About 1,000 votes are polled and the result printouts are shared with representatives of various political parties.
- **Throwing the Dice:** EVMs are **randomly placed in the constituencies and booths** and it is difficult to know which machine is kept where. During the first, EVMs are allocated at random to a constituency. In the second round, **they are randomised and allocated to a polling booth**.
- **A Dry Run:** Before the start of the actual poll, **a mock poll is conducted with at least 50 votes in the presence of candidates or their agents**.
  - The mock poll is then closed and the results are displayed. **On poll day, various checks are conducted by polling agents**, observers and central paramilitary forces.
- **Safe and Secure:** EVMs are placed in their carrying cases and sealed. **The machines are transported back to the reception centres** under armed escort and kept in the strong room.
- **Increasing the Existing VVPAT Verification Rate:** The order of the **Supreme Court** on increasing the existing VVPAT verification rate from **one to five random EVMs per Assembly constituency or segment**, tries to reassure those sceptical about the integrity of counting by means of EVMs.

## GOVERNANCE

### Improving the capability of the Indian state

**Context:** The Indian state faces a paradox of being too burdensome in bureaucracy yet too small in terms of personnel. The focus should shift from the size of the state to addressing issues of perverse incentives, skill gaps, and institutional constraints for effective governance.

#### Key Highlights:

- **Bureaucratic Challenges:** Setting up businesses or homes in urban areas in India involves navigating a complex web of licenses, permits, and clearances, reflecting the bureaucratic thicket that hinders efficiency.
- **State Size Discrepancy:** While India has a relatively small number of civil servants per capita and a lower public sector share in employment, it struggles with challenges in providing essential services and infrastructure.
- **Perverse Incentives:** The root cause of governance inefficiency lies in perverse incentives within public institutions, hindering policymakers and officials from making and implementing effective policies.
- **Need for Delegation:** Lessons from countries like Australia and Malaysia suggest that separating policymaking and implementation responsibilities expedites execution and encourages innovations, improving program outcomes.
- **Technocratic Gap:** The lack of technocratic skills at the policymaking level results in substantial outsourcing to consultancy firms, revealing a gap that needs to be addressed for effective governance.

## Key Challenges:

- **Technocratic Skill Deficiency:** The Indian bureaucratic system lacks technocratic skills, leading to significant outsourcing of crucial tasks to consultancy firms, highlighting a need for internal capability building.
- **Policy Failures:** Both proponents and critics of a larger state miss the fundamental issue of perverse incentives and skill gaps, contributing to policy failures across various sectors.

## Key Phrases:

- **People-Thin, Process-Thick State:** Describes the Indian state as lacking in personnel but burdened with complex processes, emphasizing the need for a shift in focus from size to efficiency.
- **Perverse Incentives:** Highlights the negative motivations within public institutions that hinder sound policymaking and implementation.

*“The main problem, however, is the perverse incentives created by public institutions and the skill gap among officials.”*

*“Both sides to the debate are missing something fundamental.”*

## Anecdotes:

- **National Highways Authority of India:** The example of the NHAI, where policymaking and execution are separated, showcases the effectiveness of delegation in reducing delays and cost overruns.

## Critical Analysis:

- **Audits and Oversight:** The focus on compliance over policy objectives due to narrowly scoped audits by oversight agencies hampers effective decision-making, causing delays and disputes.

## Way Forward:

Implementing institutional reforms, such as separating policymaking and implementation, enhancing technocratic skills, and sensitizing oversight agencies to contextual policy decisions, can improve state capability.

## Broadcast regulation 3.0, commissions and omissions

**Context:** India’s Broadcasting Services Bill aims at regulating broadcasting comprehensively, introducing positive steps like audience data transparency and competition in terrestrial broadcasting. However, concerns arise over privacy, jurisdictional conflicts with OTT regulation, and lack of measures on ownership and an independent regulator.

## Key Concerns:

- Lack of privacy safeguards for subscriber and audience data in data collection practices.
- Inclusion of Over-the-Top (OTT) content suppliers in the definition of broadcasting creates jurisdictional conflicts and poses threats to smaller news outlets.

## Positive Provisions Requiring Refinement:

## Key Highlights:

- The Broadcasting Services (Regulation) Bill aims to regulate broadcasting comprehensively, marking the third attempt since 1997.
- Positive propositions include obligations for record-keeping, audience measurement transparency, and allowing private actors in terrestrial broadcasting.

- Obligation for maintaining records of subscriber data.
- Stipulation of a methodology for audience measurement.
- Provision to permit private actors in terrestrial broadcasting.

### **Apprehensions:**

- Expanded definition of broadcasting may limit conditions for journalists and news outlets not part of large television networks.
- The mandate for a 'Content Evaluation Committee' to self-certify news programming raises feasibility and desirability concerns.

### **Crucial Silences in the Bill:**

- Lack of measures to assess cross-media and vertical ownership impacts diversity in the news marketplace.
- Absence of provisions for creating an independent broadcast regulator.

### **Government Empowerment and Intrusive Mechanisms:**

- The Bill grants the government leeway to inspect broadcasters without prior intimation, impound equipment, and curtail broadcasting in "public interest."
- Violations of the Programme Code and Advertisement Code could result in deleting or modifying content.

### **Concerns Regarding Broadcast Advisory Council:**

- Doubts about the Council's capacity to address grievances raised by over 800 million TV viewers.
- Lack of autonomy for the Council, as the Central government has the ultimate decision-making authority.

### **Key Statements:**

- Privacy concerns arise due to the Bill's lack of guardrails for subscriber and audience data collection practices.
- The absence of measures to assess cross-media and vertical ownership impacts the diversity of news suppliers.
- The Bill's silence on creating an independent broadcast regulator is a significant omission.

### **Terms and Phrases:**

- Over-the-Top (OTT) content suppliers
- National Broadcasting Policy
- Content Evaluation Committee
- Vertical integration
- Broadcast Advisory Council.

### **Key Examples and References:**

- The Bill is part of a series of attempts to regulate broadcasting, following initiatives in 1997 and 2007.

TRAI's 'National Broadcasting Policy' proposes including OTT content suppliers in the definition of broadcasting services.

### **Critical Analysis:**

- The potential positive provisions of the Bill require refinement, particularly concerning privacy protection and oversight bodies for news outlets.

- Intrusive mechanisms grant significant power to the government, posing concerns about press freedom and external pressure on news suppliers.

#### Way Forward:

- The Bill must address jurisdictional conflicts, incorporate privacy safeguards, and reconsider intrusive provisions for effective and balanced regulation.
- Protection of press freedom and diversity should be prioritized through fine-tuning potentially positive provisions and addressing omissions.

#### Facts and Data:

- Lack of specifics on cross-media and vertical ownership in the Bill impedes diversity in the news marketplace.
- No provisions for an independent broadcast regulator, with the proposal for a 'Broadcast Advisory Council

## INTERNATIONAL RELATIONS

### Free Movement Regime to end at Myanmar border

**Context:** India's foreign policy has evolved, becoming more assertive and nimble. Smart oneliners and proactive diplomacy define its approach, gaining global recognition. Challenges include countering forces threatening India's integrity, and the focus is on strategic autonomy and assertive engagement on the world stage.

#### Key Highlights:

- **Diplomatic Nimbleness:** Diplomacy requires swift actions and nimbleness, moving away from decades of numbness and indecision in India's foreign policy.
- **Policy Shift in the Last Decade:** India's foreign policy underwent a significant shift in the last decade, marked by assertiveness, smart oneliners, and firm actions.
- **Global Recognition:** India's articulation on the world stage, including smart oneliners, gained global recognition and forced the world to take notice of its diplomatic stance.
- **Strategic Autonomy:** India's foreign policy is now characterized by strategic autonomy, resolute responses, and a willingness to take risks.
- **Jaishankar's Diplomacy Principles:** Foreign Minister S Jaishankar's straightforward oneliners have become essential principles in bilateral and international diplomacy.
- **India-China Relations:** Jaishankar's emphasis on "mutual sensitivity, mutual respect, and mutual interest" forms the basis for the new bilateralism between India and China.
- **Doklam and Eastern Ladakh Standoffs:** India's proactive diplomacy combined with strong ground posturing in Doklam and Eastern Ladakh showcased a policy shift in dealing with such situations.
- **Response to Canadian Accusations:** India's determined response to Canadian Prime Minister Trudeau's accusations demonstrated the country's resolve in the face of baseless allegations.



- **Expectations from Allies:** India, as the world's largest democracy, expects friendly countries not to allow their territory to be misused by forces threatening its integrity.

### Key Challenges:

**Misuse of Territory:** India faces challenges from forces openly threatening its dismemberment and seeking shelter in other countries, leading to expectations that allies act against such forces.

### Key Terms and Phrases:

- **Smart Oneliners:** Brief and impactful statements by leaders shaping important diplomatic principles.
- **Proactive Diplomacy:** Taking initiative in diplomatic efforts to address challenges.
- **Strategic Autonomy:** Ability to make independent decisions in alignment with national interests.
- **Bilateralism:** Development of relationships and cooperation between two countries.
- **Policy Shift:** Significant change in the approach and principles of foreign policy.

### Key Quotes:

- "Smart oneliners" by leaders, far from being abstruse, turned out to be important policy mantras.
- "Today's era is not of war," resonated well with world leaders, finding its way into the G-20 declaration in 2022.

### Key Statements:

- India's leadership stands shoulder-to-shoulder with leading global powers, making PM Modi and FM Jaishankar influential figures in world diplomacy.

### Key Examples and References:

- India's response to Canadian accusations demonstrated its determination and refusal to accept baseless allegations.

### Key Facts and Data:

- India's foreign policy marked by strategic autonomy, resolute responses, and a willingness to take risks.
- India's proactive diplomacy in Doklam and Eastern Ladakh showcased a policy shift in dealing with international challenges.

### Critical Analysis:

- India's nimble and forthright diplomacy brings a new assertiveness on the world stage.
- The shift towards proactive diplomacy and smart oneliners has garnered global recognition and respect.
- India's expectations from allies to act against forces threatening its integrity underline its diplomatic priorities.

### Way Forward:

- Continue proactive diplomacy and assertive foreign policy to protect national interests.
- Collaborate with allies to address challenges posed by forces threatening India's integrity.
- Maintain strategic autonomy while actively engaging with global powers in diplomatic initiatives.
- Leverage the influence gained on the world stage to further India's interests and contribute to global stability.

## HEALTH

### Casgevy: Gene Therapy for Sickle Cell Disease and Thalassaemia

**Context:** The recent approval of Casgevy, a groundbreaking gene therapy utilizing Crispr-Cas9 technology, by the UK health authorities represents a monumental achievement in medicine.

This therapy holds the potential to provide a lifelong cure for individuals grappling with sickle cell disease and thalassaemia, offering newfound hope and possibilities in the field of genetic medicine.

#### Casgevy: A Gene-Editing Marvel

- **World's First Licensed Gene Therapy:** Casgevy stands as the world's inaugural licensed gene therapy employing Crispr-Cas9 technology, an innovation that garnered the Nobel Prize in 2020.
- **Targeting Faulty Genes:** This revolutionary therapy specifically targets the flawed genes responsible for sickle cell disease and thalassaemia, offering the tantalizing prospect of a lifelong cure.
- **A Paradigm Shift:** In the past, the only permanent treatment option was a bone marrow transplant, contingent on discovering a closely matched donor.

#### Mechanism of Action

- **Genetic Errors:** Sickle cell disease and thalassaemia both stem from genetic abnormalities within the haemoglobin gene, impairing the structure and functionality of red blood cells.
- **Precision Gene Editing:** Casgevy harnesses the patient's blood stem cells, meticulously edited using Crispr-Cas9, with a specific focus on the BCL11A gene.
- **Boosting Foetal Haemoglobin:** By stimulating the production of foetal haemoglobin, which lacks the irregularities found in adult haemoglobin, the therapy mitigates the symptoms of these

debilitating conditions.

#### Understanding Sickle Cell Disease and Thalassaemia

**Sickle Cell Disease:** Characterized by crescent-shaped red blood cells, this condition disrupts smooth blood flow, resulting in excruciating pain, infections, anaemia, and even strokes. India bears witness to an annual influx of 30,000-40,000 children born with sickle cell disease.

**Thalassaemia:** This disorder leads to diminished haemoglobin levels, causing fatigue, breathlessness, and irregular heartbeats, necessitating lifelong blood transfusions and chelation therapy. India is home to the world's largest population of children with thalassaemia major, numbering approximately 1-1.5 lakh.

#### Clinical Trial Results

- Clinical trials of Casgevy showcased remarkable results, with participants afflicted by sickle cell disease reporting a substantial reduction in severe pain crises.
- Those with thalassaemia witnessed a remarkable 70% reduction in the need for blood transfusions.

#### Administration and Challenges

- **One-Time Treatment:** Casgevy involves a one-time treatment process, encompassing the collection of bone marrow blood stem cells through apheresis, followed by editing and testing over a span of approximately six months.
- **Conditioning Medicine:** Prior to the transplant with edited cells, conditioning medicine is administered to clear the bone marrow of existing cells.
- **Challenges:** Challenges include the expected high cost of the therapy, potentially around \$2 million per patient, and the absence of local manufacturing facilities, necessitating the international transport of blood stem cells.

### Future Prospects

- **Price Reduction:** Despite pricing challenges, experts hold the belief that ongoing research will lead to price reductions, making the therapy more accessible. Local manufacturing facilities are also anticipated to emerge.
- **Indian Research:** Researchers in India are actively pursuing gene therapies for sickle cell disease, with clinical trials on the horizon in the coming years.

## Sci & Tech

### What is Project Q\*, the AI breakthrough from OpenAI?

**Context:** OpenAI, a leading AI technology company, has been embroiled in a high-profile controversy following the dismissal of Sam Altman, its CEO.

At the heart of the controversy is the development of a new AI model named Q\* (Q-star), which has raised significant concerns among OpenAI staff and the broader tech community.

#### What is Project Q\*?

**Advanced AI Algorithm:** Q\* represents a significant advancement in AI, capable of solving complex mathematical problems, even those outside its training data.

**Step towards AGI:** This model is seen as a stride towards Artificial General Intelligence (AGI), capable of performing any intellectual task that a human can.

**Development Team:** The breakthrough is attributed to Ilya Sutskever, with further development by Szymon Sidor and Jakub Pachoki.

#### Why is Q\* Feared?

- **Potential for Accelerated Scientific Progress:** Researchers have expressed concerns about Q\*'s ability to rapidly advance scientific discovery, questioning the adequacy of existing safety measures.

- **Internal Warnings:** Reports suggest that Q\*'s capabilities could pose a threat to humanity, a concern believed to be a major factor in Altman's dismissal.

### Concerns Surrounding Project Q\*

- **Advanced Reasoning and Abstract Understanding:** Q\* reportedly exhibits unprecedented logical reasoning and understanding of abstract concepts, raising concerns about unpredictable behaviors.
- **Combination of AI Methods:** According to researcher Sophia Kalanovska, Q\* might merge deep learning with human-programmed rules, enhancing its power and versatility.
- **AGI Implications:** As a step towards AGI, Q\* could surpass human capabilities in various domains, leading to control, safety, and ethical issues.
- **Capability for Novel Idea Generation:** Unlike existing AI models, Q\* could potentially generate new ideas and pre-emptively solve problems, leading to decisions beyond human control or understanding.
- **Risks of Misuse and Unintended Consequences:** The advanced capabilities of Q\* heighten the risk of misuse or unforeseen harmful outcomes.

### Plant-to-Plant Warning Signals

**Context:** Recently, scientists have unveiled pivotal insights into how plants perceive and respond to danger signals from neighboring plants.

- This discovery offers potential avenues for leveraging plant communication to enhance agricultural pest control without resorting to pesticides.

### How do Plants Warn Each Other of Danger?

- **Plant Communication and Coordination:** Plants are **not passive organisms that merely react to their environment**. They can communicate with each other and coordinate their responses to various threats.
  - They possess the **ability to intercept damage happening to other nearby plants**.
  - By mounting a defense response, **plants can make themselves less palatable or even indigestible** to the insect attackers.
- **Green Leaf Volatiles as Signaling Agents:** One of the ways that plants communicate is by **releasing and sensing airborne chemicals** called **Green leaf volatiles (GLVs)**.
  - **GLVs**, emitted by plants when injured, **create the pleasant smell of fresh cut grass for humans**. However, to neighboring plants, **this scent functions as a warning signal, indicating potential danger**.
  - It is mediated by **calcium**, a **common mediator of chemical and electrical signals** found throughout biology.

- When insects nibble on plant leaves, calcium ions flood the cells, prompting them to **emit a glow**.
- **Response of Mutant Mustard Plant to GLVs:** Scientists recently experimented mutant mustard plant, designed to check if it could also react to GLVs.
  - When exposed to air laden with GLVs, the plant exhibited a glowing response under the microscope, signifying its ability to sense volatile components released by damaged plants.

### How Plant Communication Can be Utilized for Sustainable Agriculture?

- **Reduced Chemical Usage:** Leveraging plant defense mechanisms may reduce the need for chemical interventions. This could lead to a decrease in pesticide application, minimizing environmental pollution and promoting healthier ecosystems.
- **Enhanced Crop Resilience:** It can bolster crop resilience against stressors.
  - By implementing strategies that encourage communication between plants, such as companion planting or intercropping, farmers may improve overall crop health and resilience.
- **Genetic Engineering:** It can guide genetic engineering efforts. By enhancing plants' natural defense mechanisms through genetic modification, scientists could develop crops that are more resistant to pests and diseases, potentially reducing reliance on external interventions.

## Art & Culture

### Parthenon Sculptures Dispute: A Diplomatic Row between Greece and the UK

**Context:** UK PM Rishi Sunak cancelled his meeting with visiting Greek PM over the latter's comments on ancient Parthenon Sculptures housed in the British Museum.

#### Parthenon Sculptures

- The Parthenon Sculptures are ancient Greek stone sculptures over **2,000 years old**, originally part of the **Parthenon temple** in Athens.
- These sculptures, including a **75-meter-long frieze**, are significant artifacts of **Athens' Golden Age**, depicting gods, heroes, and mythical beings.
- In the early 19th century, **Thomas Bruce, 7th Earl of Elgin** and British ambassador to the Ottoman Empire, removed the sculptures from the Parthenon.
- The marbles were subsequently **purchased by British Museum** in 1816.

#### Debate over Legitimacy

- Greece has accused Lord Elgin of stealing the sculptures, while he maintained he had permission from the Ottoman authorities.

- The original document granting permission has been lost, leading to disputes over its authenticity and content.

### Greece's Campaign for Return

- Greece's demand for the sculptures' return dates back to its independence in the early 1830s.
- The campaign gained momentum in the 1980s, spearheaded by Greek actress and then-culture minister Melina Mercouri.
- The British Museum argues that the sculptures were legally acquired and rejects Greece's demands for their return.
- The museum contends that public benefit lies in having the sculptures in two locations, citing the impossibility of reassembling them completely and concerns over safe return.

### Current Developments

- Prime Minister Sunak has described the marbles as a significant asset to the UK and opposes changing laws to facilitate their return.
- Despite the cancelled meeting, Greek officials intend to continue negotiations with the British Museum.

## Bengaluru hosts Kambala Races

**Context:** Kambala races were held on this weekend in Bengaluru and many parts of Karnataka.

This event has faced legal scrutiny in the past, with the Supreme Court temporarily outlawing Kambala, along with Jallikattu and bullock-cart racing, in 2014.

### What is Kambala?

- Kambala is a folk sport predominantly practised in the **coastal districts** of Karnataka, especially where Tulu-speaking communities are prevalent.
- Traditionally, races were organized in **slushy paddy fields** post-harvest.
- The Kambala Samithi now hosts weekly events from late November to mid-April at various venues across Dakshina Kannada and Udupi districts.
- For many, especially the **Bunt community**, Kambala is a prestigious event.
- Buffalo pairs are meticulously groomed throughout the year in the hopes of winning major races.



## Different Kambala Categories

### Kambala's Popularity across Karnataka

- While Kambala's popularity is concentrated in coastal Karnataka, movies like 'Kantara' in 2022 have widened its appeal across the state.
- The film's success is credited with generating interest in the sport, making it more popular even beyond its traditional strongholds.
- Historically, the Koraga community faced discrimination during Kambala events. They were considered "untouchable" and ill-treated.
- Critics argue that the sport is still dominated by higher caste groups, while lower caste individuals often perform menial tasks during the event.

### Why was Kambala banned by the Supreme Court?

- Several organizations, including People for the Ethical Treatment of Animals (PETA), alleged animal abuse during traditional sporting events.
- Concerns included the tying of buffalo noses with ropes and continuous whipping during races, seen as cruelty.

- The Supreme Court, hearing these petitions, banned Kambala, Jallikattu, and bullock-cart racing in 2014.

### **How was the ban lifted?**

- In January 2016, the Environment Ministry issued a notification allowing the continuation of bull training for such traditional events, recognizing their cultural significance.
- Specific conditions were set to minimize bull suffering.
- State governments also amended the Prevention of Cruelty to Animals Act, providing exemptions for these events.
- A five-judge constitutional bench upheld these amendments made by Karnataka, Tamil Nadu, and Maharashtra governments in May.