

# CURRENT AFFAIRS

WEEKLY

WEEK: 2  
NOVEMBER  
2023

## MAINS

- GS- I**
  - INDIA HAS FIVE TIMES THE NUMBER OF SCHOOLS THAN CHINA: NITI AAYOG REPORT
- GS- II**
  - INDO-PACIFIC REGIONAL DIALOGUE (IPRD)
  - REGULATING POLITICAL FUNDING
  - PROPOSED CRIMINAL CODE GIVES MORE IMMUNITY TO DEFENCE PERSONNEL
  - NEED FOR QUICK TRIAL AGAINST MPS AND MLAS
  - COMMUNITY RIGHTS AND FOREST CONSERVATION
- GS- III**
  - STATE OF STATE FINANCES REPORT 2023-24
  - THE ECONOMY OF A WORLD WITHOUT WORK
  - GREENHOUSE GAS LEVELS HIT RECORD HIGH IN 2022: WMO
  - NEED TO CHECK PLASTIC POLLUTION
  - GWP100 OR GWP\*: MEAT, DAIRY LOBBY PUSHING FOR NEW METHANE METRIC AND ENABLING GREENWASHING

## PRELIMS

### ART & CULTURE

- Products from Uttarakhand bag GI tags

### GEOGRAPHY

- Earthquake Emergency alerts largely remain untriggered in New Delhi
- Season of Cyclones

### POLITY & GOVERNANCE

- PM PVTG Development Mission
- Smart Cities Ranking: Surat tops while UTs and N-E cities in bottom 10
- Nagaland Legislative Assembly passes reservation for Women

### ENVIRONMENT

- Delhi govt plans 'cloud seeding' to induce rains amid pollution

## NEWS IN SHORT

- UNESCO declares Gwalior as city of music
- Mars Solar Conjunction
- PM Kisan Bhai Scheme
- India-US Commercial Dialogue

### LOCATION IN NEWS

- Bhagwan Birsa Munda Sanctuary

### SPECIES IN NEWS

- Vairengte bent-toed gecko

## SPECIALS

- GPS Ankle Monitors: Ethics of Technology and Law

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## — Disclaimer —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

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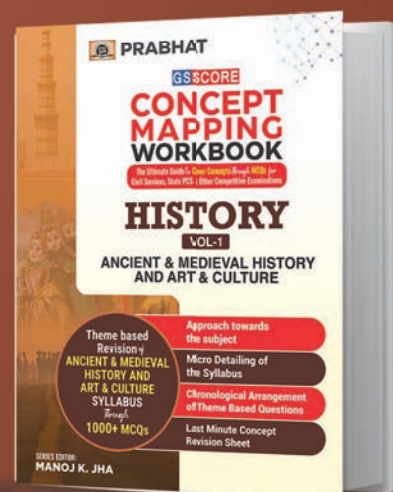
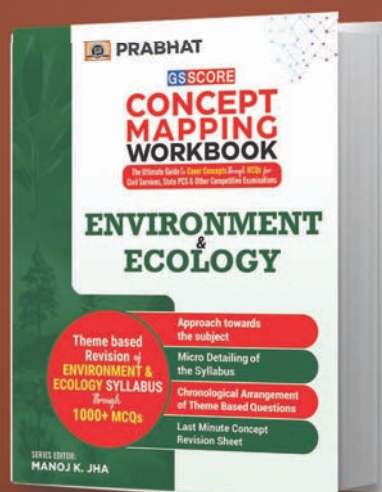
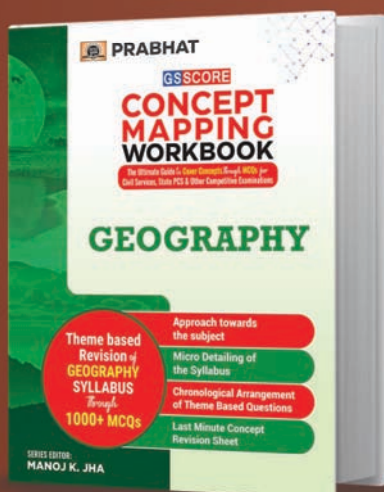
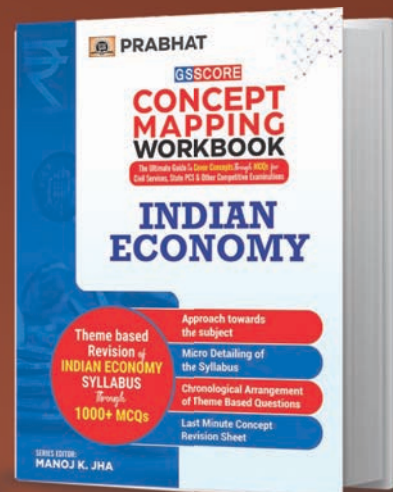
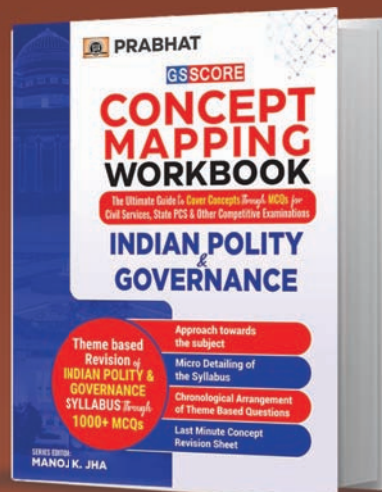
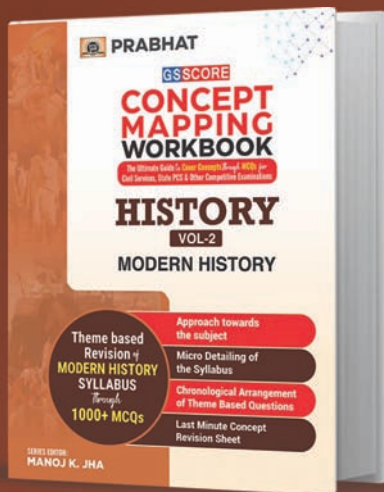
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# SECTION A [MAINS]

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- ☞ Indo-Pacific Regional Dialogue (IPRD)
- ☞ Regulating political funding
- ☞ Proposed criminal code gives more immunity to defence personnel
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## INDIA HAS FIVE TIMES THE NUMBER OF SCHOOLS THAN CHINA: NITI AAYOG REPORT

**Context:** Recently released NITI Aayog report titled 'Learnings from Large-scale Transformation in School Education' has highlighted that India continues to have five times the number of schools than China for the same enrolment of students.

### Observations in the report:

- Over **50 per cent** of primary schools across many states in India have an enrolment of **less than 60**.
- **Problems identified:**
  - ▶ The cost of such sub-scale schools in the form of extensive multi-grade teaching,
  - ▶ lack of a student and parent community that can demand account ability,
  - ▶ Poor infrastructure and
  - ▶ Less Teacher-student ratio.
- When compared with China, in China are closing or merging because of tighter regulation, a slowing economy and dwindling foreign student numbers.
- The report also has information about the efforts to develop leader schools.

### Recommendations of the report:

- The report suggested school mergers as a solution to addressing the lack of enrolments in schools.
  - ▶ As per the report, such solution has been executed across SATH-E states and has given favourable results in filling up the enrolments in schools.
- Apart from mergers, the states can also develop a set of large schools with at least 10-20 per cent spread across the state. These schools can be integrated K-12 schools and should provide transport so that all students can equitably access them.
- This has been recommended in the NEP too with the call to setup large school complexes. The report documents details for how school consolidation efforts were undertaken in all three **Project SATH-E** states and their learnings.

### What are the Major Issues Related to the Education Sector in India?

- **Inadequate Infrastructure in Schools:** According to the Unified District Information System for Education (UDISE) for 2019-20, only

12% of schools have internet facilities and 30% have computers.

- ▶ About 42% of these schools lacked furniture, 23% lacked electricity, 22% lacked ramps for the physically disabled, and 15% lacked WASH facilities (which include drinking water, toilets, and hand wash basins).
- **High Dropout Rate:** The dropout rate is very high in primary and secondary levels. Most of the students in 6-14 age groups leave the school before completing their education. It leads to wastage of financial and human resources.
  - ▶ According to the **National Family Health Survey-5**, not being interested in studies was the reason given by 21.4% of girls and 35.7% of boys aged between 6 to 17 years for dropping out of school before the 2019-20 school year.
- **Problem of Brain Drain:** Due to cutthroat competition for getting admission in top institutes like IITs and IIMs, a challenging academic environment is created for a large number of students in India, so they prefer going abroad, that makes our country deprived of good talent.
- **Mass illiteracy:** In spite of constitutional directives and efforts aimed at enhancing education, around 25% of Indians still remain illiterate, which also leaves them socially and digitally excluded.

According to the United Nations Children's Fund (UNICEF), poverty and local cultural practices (female infanticide, dowry, and early marriage) play a big role in gender inequality in education throughout India.

- **Lack of Adequate Attention to Indian Languages:** Indian languages are still in an underdeveloped stage, the medium of instruction particularly in science subjects is English, resulting in unequal opportunities for rural students.
  - ▶ Also, standard publications are not available in the Indian language.
- **Lack of Technical and Vocational Education:** Mainly, our educational system is of generalistic nature. Development of technical and vocational education is quite unsatisfactory, due to which the number of educated unemployed persons is increasing day by day.
- **Gender-Inequality:** Despite the government's effort to ensure equality of opportunity for education for both men and women in our society, the literacy rate of women in India, especially in rural areas, still remains very poor.

**Way forward:**



- Implementation of National Education Policy:** The implementation of the NEP can help shake the education system from its slumber.
  - ▶ Moving away from the current 10+2 system to a 5+3+3+4 system will bring the pre-school age group formally into the education set-up.
- Education-Employment Corridor:** India's educational setup needs to be enhanced by integrating vocational learning with mainstream education and providing right mentorship at school (especially in government schools) to ensure that students are guided in the right direction from the start and are aware of career opportunities.
  - ▶ Students in rural regions have great potential and are motivated to study but lack the right mentoring. This is required not just for the children but also for their parents that will in a way also reduce the gender gap in education.
- As per the statement by navy chief, the fragile security situation in the South China Sea, in addition to violations of established **Codes of Conduct or Confidence Building Measures**, poses a clear and present danger to order at the region.
- Navy chief Admiral R Hari Kumar has warned of China's aggressive behavior in the South China Sea and its violation of established codes of conduct, stating that it poses a clear danger to good order and discipline at sea.
- He also highlighted the militarization of the **Indo-Pacific region** and the potential for conflict due to differing interpretations of international laws.
- The statement emphasized the need for cooperative efforts among **like-minded maritime nations** to address these challenges.

### India's concern:

- India-Middle East-Europe Economic corridor (IMEC): India's upcoming project and increasing involvement in IMEC can be hindered due to China's presence in Indian Ocean.

## INDO-PACIFIC REGIONAL DIALOGUE (IPRD)

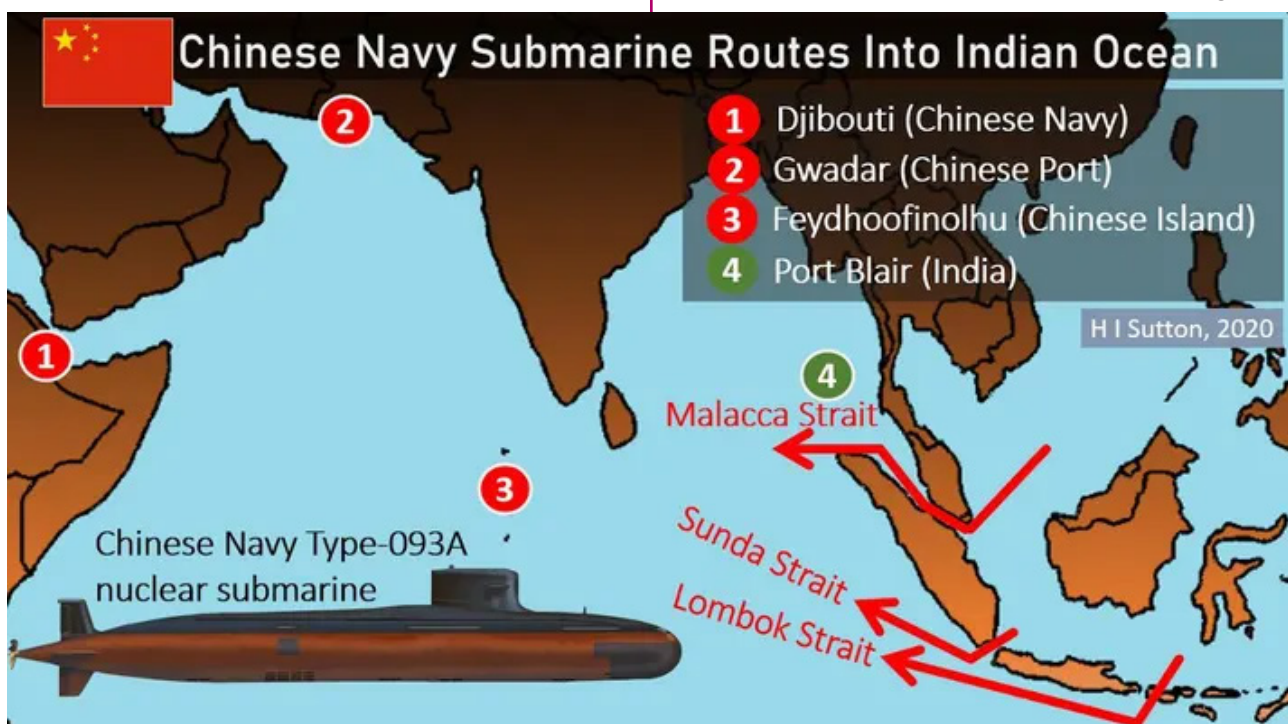
**Context:** Addressing the Indo-Pacific Regional Dialogue (IPRD), the Indian Navy Chief has warned regarding militarization of Indo-pacific and fragile security situation in the South China Sea.

IMEC is a **multimodal economic corridor** that incorporates multiple networks of **Shipping, Railways, and Roadways** and will also include electricity cables, high-speed data cables, and a hydrogen pipeline.

### About the Dialogue:

- The event was hosted jointly by the **Navy and National Maritime Foundation**.

- China's 'grey zone' tactics: The Chinese has been utilizing the operational space between peace and war to coerce neighbors and push its expansionist territorial claims in the Indo-Pacific, stretching from

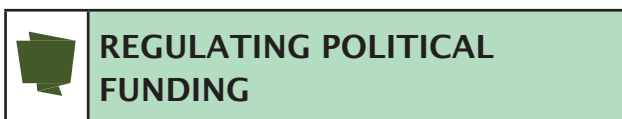


the South China and East China Seas to the land frontier with India.

- Increasing militarization: More than 50 warships of extra-regional forces remain deployed in the IOR for various missions, including for anti-piracy patrol off the Gulf of Aden.

### Way Forward:

- International Partnerships: Strengthen ties with like-minded nations that share similar concerns. Engaging in partnerships and alliances with countries that have mutual interests can enhance security in the region.
- Maritime Security Initiatives: Develop and participate in initiatives aimed at enhancing maritime security. This can involve joint patrols, information sharing, and coordinated efforts to combat piracy and other maritime threats.
- Economic and Infrastructure Development: Invest in economic and infrastructure development in the region. Economic stability can contribute to overall security and reduce tensions between nations.
- Soft Power Diplomacy: Utilize soft power elements, such as cultural exchanges, educational programs, and economic cooperation, to build positive relationships and understanding among nations.



**Context:** The recent Supreme Court hearing on the constitutionality of electoral bonds has focused attention on an issue that goes to the heart of Indian democracy — the funding of political parties.

### Need for Funding of Political parties

- Political funding is of paramount importance for elections in India, as it plays a crucial role in sustaining the democratic process and facilitating the functioning of political parties.
- In India, political parties receive funding through donations, voluntary contributions, Public funding during the time of elections etc. In India the party runs the campaign in elections thus more than individual it is imperative to look into the aspects of its funding.
- Elections campaign incurs expenses for publicity, print and electronic media and most recently the social media. Further individual or organizations contribute to political party as it's through the political party and their candidates that people choose to govern on behalf of them.

### How the donations are made, what issues are involved?

- A fruitful party funding framework requires attention to at least four key aspects — **regulation of donations, expenditure limits, public financing, and disclosure requirements.**
- **Political funding in India** is a major concern under need for electoral reforms in India. The financing of the world's most extensive electoral process remains a perplexing issue, as the involvement of businesses in supporting both disclosed and undisclosed expenditures during elections remains a contested issue.
- **There are known and unknown sources of political funding.** Known Sources constitute- sale of assets, fees, disclosure of any amount above 20000 from single source, publications etc. However a major chunk of contributions comes from unknown sources which consists of Electoral bonds, contributions from meetings, donations of less than ₹20,000 to any political party in a single tranche etc.
- **Contributions or donations solely** in the form of a bank cheque or digital payments to a registered (under Section **29A of the Representation of the People Act, 1951**) political party, including electoral trust, in India are eligible for **deduction in taxable income** under Section 80GGC of the I-T Act, 1969.
- However the **percentage of income from unknown sources** for major national parties is **approx. 95%**. This also co-relates the logic of understanding the role of money in politics and how some decisions can be influenced by way of informal channel of donations. Such scenario would not be fruitful for sustaining the true spirit of democracy.
- The recent case of **donations through electoral bonds is a pressing issue** due to no limit of amount which can be donated if it comes through banking channel; also a non-disclosure clause along with party in power ability to know the donors through its enforcement agencies poses a significant challenge.

### India's challenges

- **Donation Limits:** India lacks legal limits on individual and corporate donations to political parties. The Finance Act of 2017 removed contribution restrictions on companies.
- **Expenditure Limits:** Political parties face no legal expenditure limits for national or state-level campaigns. Spending restrictions apply only to specific candidate elections.
- **Donation Disclosure Requirements:** Donations above Rs 20,000 must be disclosed by political parties, except when made through electoral bonds.

No obligation to disclose details of donations below Rs 20,000. Political parties exploit legal loopholes by breaking large donations into smaller amounts to avoid disclosure.

- **Undermining Electoral Bond Objectives:** The scheme of electoral bonds aimed to prevent victimization of donors. The ability of the ruling party to access information about donors from other parties undermines this objective.
- **Concerns about Public Scrutiny:** Lack of transparency raises concerns about the influence of money in politics. Public scrutiny is essential for ensuring fair and ethical electoral processes. This also advances the reasoning of larger donors getting more benefit from political patronage.
- **Money and Muscle Power:** with unaccounted funding coupled with lack of scrutiny, confers unlimited powers on political parties to influence voter behavior.
  - ▶ Limitless expenses for political parties also undermine the spirit of democratic functioning. **E.g Horse tradings, use of muscle power, bahubali culture etc.**

### Political funding across the world-comparative analysis and what can be learning?

#### Donation Limits and Regulation:

- Donation limits aim to prevent undue influence by a few large donors on a political party.
- In the United States, federal law imposes varying contribution limits based on donor types.
- The UK relies on expenditure limits, restricting a party from spending more than £30,000 per contested seat.
  - ▶ Expansive interpretations of the First Amendment by the US Supreme Court hinder attempts to impose expenditure limits.

#### Public Funding Models:

- Public funding is implemented through predetermined criteria or innovative methods like "democracy vouchers."
- In Germany, parties receive funds based on their political significance, considering past votes, membership fees, and private donations.
- Democracy vouchers in Seattle allow voters to allocate publicly funded vouchers to their chosen candidates before casting votes.

#### Chilean "Reserved Contributions" System:

- Chile employs a system of "reserved contributions" where donors transfer funds to the Electoral Service, maintaining donor anonymity.

- Complete anonymity aims to prevent parties from knowing the specific amounts donated by individual contributors.
- This system aims to curb quid pro quo arrangements by making it challenging for parties to discern donor-specific sums.

#### Way forward

- Indian electioneering is no longer restricted to parties and candidates. Over the last decade, we have seen a staggering rise in the involvement of political consultancies, campaign groups and civil society organisations in online and offline political campaigns.
- The existing system calls for reforms to address loopholes, enhance transparency, and uphold the integrity of the electoral process. Balancing the need for political funding with the necessity of accountability remains a challenge.
- This should make us rethink the assumptions of 20th-century Indian politics, which form the basis of our political funding framework.



### PROPOSED CRIMINAL CODE GIVES MORE IMMUNITY TO DEFENCE PERSONNEL

**Context:** The Standing Committee on Home Affairs which is examining the proposed the three new criminal codes - Bharatiya Nyaya Sanhita (BNS) Bill, 2023, BNSS Bill, 2023 and Bharatiya Sakshya (BS) Bill, 2023 has observed that armed personnel are getting more immunity under the law.

#### Three new Codes for criminal Law and Justice System:

- The three new criminal codes - Bharatiya Nyaya Sanhita (BNS) Bill, 2023, Bharatiya Nagarik Suraksha Sanhita (BNSS Bill), 2023 and Bharatiya Sakshya (BS) Bill, 2023 will replace the Indian Penal Code, 1860, Code of Criminal Procedure, 1898, and the Indian Evidence Act, 1872 respectively.

#### How armed forces are given more immunity?

- Immunity to armed forces personnel as no case can be registered against them for acts performed in the line of duty without the prior sanction of the Central or the State government.
- The CrPC first introduced in 1898 and later amended in 1973 provides protection to members of the armed forces only from arrest and there are no conditions regarding registration of a criminal case.

- The CrPC currently in existence says that “no member of the armed forces of the Union shall be arrested for anything done or purported to be done by him in the discharge of his official duties except after obtaining the consent of the Central Government”.
- Armed forces mean the **Army, Navy and Air Force** of the country.

### Complimentary to Armed Forces Special Powers Act (AFSPA)

- The proposed provision will be in addition to the Armed Forces Special Powers Act (AFSPA) that gives unbridled power to the armed forces deployed in “disturbed areas” to arrest or kill anyone acting in contravention of law, and search any premises without a warrant, and protection from prosecution and legal suits without Central government’s sanction.
- Presently AFSPA is applicable in parts of **Assam, Arunachal Pradesh, Nagaland, Manipur, and whole of Jammu and Kashmir.**

### Superseding powers under Special laws

- This provision under BNSS and AFSPA comes under the special laws and power. Special laws supersede the general criminal procedures.
- Special laws include the anti-terror Unlawful Activities Prevention Act (UAPA) and Maharashtra Control of Organised Crime Act (MCOCA), among others.

### Why this special immunity is being questioned?

- Recent example of Nagaland where the Ministry of Defence denied sanction to prosecute 30 Army personnel including a Major who were accused of killing six coal miners in Nagaland’s Mon district in December 2021 due to “mistaken identity.”
- Nagaland Police had registered a case and filed a charge sheet against the accused but the prosecution sanction was denied.
- Further the sweeping immunity even in regard to registration of cases might violate the basic fundamental rights and equal access to justice.
- There are numerous examples from disturbed areas where innocent people were killed or imprisoned or their rights been violated in the name of security and counter insurgency?
- Thus the deliberation and examining process is apt in its observations and it shall result into balance between special immunity and protection of rights and freedom.



## NEED FOR QUICK TRIAL AGAINST MPS AND MLAS

**Context:** The Supreme Court recently asked High Courts to set up special benches for quick trials against MPs and MLAs.

### More about the news:

- **Pending cases against MPs & MLAs:**
  - ▶ The SC noted that “as many as 5,175 subject cases (were) pending” against MPs and MLAs “as of November 2022”.
- **Supreme Court’s directives for quick trials:**
  - ▶ **Special benches:** The Supreme Court has asked High Courts to set up special benches to monitor trials in over 5,000 such cases for their speedy disposal.
  - ▶ **Prioritising cases:** A three-judge bench led by Chief Justice of India D Y Chandrachud said **criminal cases:**
  - ▶ “Punishable with death or life imprisonment” should be given priority,
  - ▶ Followed by “cases punishable with imprisonment for five years or more, and then other cases”.
  - ▶ **Condition for adjournment:** The bench has also said that the trial should not be adjourned, except for rare and compelling reasons.
  - ▶ **Registration & hearing of case:** In its directions, the SC asked the HC Chief Justices to register a suo motu case with the title, “**In Re designated courts for MPs, MLAs**”.
- The case may be heard by the Chief Justice, or a bench assigned by him.
  - ▶ **Ensuring infrastructure facility:** The apex court has asked the principal district and sessions judge to ensure sufficient infrastructure facility for the designated court and enable it to adopt the necessary technology for effective and efficient functioning.
- **Significance of the move:**
  - ▶ Apex court has noted that criminal cases pending against members of Parliament and State Legislatures “have a **direct bearing on our political democracy**”.
  - ▶ Confidence and trust of the constituency in their political representative, be it an MP or MLA, is necessary for an **interactive, efficient and effective functioning** of a parliamentary democracy.
  - ▶ However, such confidence is difficult to expect when figures, as indicated in the above referred table, loom large in our polity.

### Criminalization of Politics

- **Meaning:** It means the participation of criminals in politics. This means that persons with criminal backgrounds contest in the election and get selected as a member of parliament or state legislature
- **Major Reasons:**
  - ▶ Criminalization of political parties is a result of the connection between criminals and politicians and vote-bank politics
  - ▶ Lack of enforcement of laws and judgments
  - ▶ lack of ethics, and values, and loopholes in the function of the election commission.
  - ▶ It is also linked to political control of state machinery and corruption
  - ▶ The political system is unwilling to change the law or the system.

### Issues of Criminalization of Politics

- **Elected members with criminal records:**
  - ▶ **Nearly 40 percent of members** of the current Parliament have criminal cases pending against them.
  - ▶ Most of them do not feel vulnerable or threatened as they are aware that **it will take years for trials to conclude.**
- **Question of safety & security:**
  - ▶ The main purpose of governance is to provide safety and security to citizens who elect their representatives for this role.
  - ▶ But if the elected members themselves have criminal records, would they be interested in a criminal justice system that is prompt and efficient?
- **Low conviction rate:**
  - ▶ As per the **National Crime Records Bureau's 2021 report**, only 10,416 cases of murder were disposed of during the year with just a 42.4 per cent conviction rate.
  - ▶ The Law minister has admitted to more than 4.7 crore cases pending in various courts.
- **Situation in police stations:**
  - ▶ Politicians play a very powerful role at police stations, compromising both the integrity and impartiality of field staff.
  - ▶ In due course, ordinary criminals graduate to be dreaded ones and form gangs extorting money, grabbing land, threatening witnesses in criminal cases, etc.

### Suggestions & way ahead

- **Rightful demands:**
  - ▶ In this bleak scenario, our reaction as citizens should be to demand more courts, judges and

judicial infrastructure and not to encourage "encounters", which we seem to be applauding.

- **Stopping the electability of criminals:**
  - ▶ Checking the nexus between crime, money, and muscle power will be among the first few steps required to be taken.
  - ▶ The growing dependence of political parties on criminals for muscle power and "electability" must be stopped.
  - ▶ It is high time all political parties came together and developed a consensus on keeping criminals — some with serious charges including kidnapping, rape, murder, grave corruption, and crimes against women — out of the system.
- **Vigilant voters:**
  - ▶ Voters also need to be vigilant about the misuse of money, gifts, and other inducements during election.
- **Efficient Use of technology:**
  - ▶ The use of technology as often stated by the current Chief Justice of India, is a potent weapon to ensure speedy trials.
  - ▶ Citizens need to build up public opinion for the introduction of online court hearings at all levels.
  - ▶ Courts shall curtail frequent adjournments and reduce the trial duration. Court production of jail inmates can also be online and relieve police from escort duties.
  - ▶ For minor ailments, telemedicine facilities can be used for persons in custody.
  - ▶ This will result in more police persons being available on the ground.
- **Regular training of Police force:**
  - ▶ Police officers need to be regularly trained about the **Constitution and human rights** so that they do not resort to their guns.
    - It is unfortunate that after their basic police training, very few officers undergo in-service courses either in law or investigation.
- **Online training:**
  - ▶ Of late, online training is becoming popular in many state police organisations.
  - ▶ As per the Bureau of Police Research and Development, vacancies in police all over the country range at around 20 percent. Police station **officers are thus reluctant to relieve their field staff** for training in police academies.
  - ▶ **Online training modules can bridge the gap.**



## COMMUNITY RIGHTS AND FOREST CONSERVATION

**Context:** The recently passed Forest (Conservation) Amendment Act, 2023 brings substantial legislative changes to the Forest (Conservation) Act of 1980, a crucial environmental law in India governing forest conservation. However, it has received limited attention and little discussion about its impact on forests and their inhabitants.

### Background:

- **Forest Conservation Amendment Act of 2023:**
  - ▶ From the colonial forest law in 1865 to the Forest Conservation Amendment Act, 2023, more than fifteen laws, Acts, and policies have been formulated interlinking forests with legal and policy frameworks.
  - ▶ **Rights of indigenous communities:** There is little to no recognition of the rights of indigenous communities in these Acts, who are the rightful inhabitants of forest lands.
- **What is the new amendment?**
  - ▶ **Critical Issues:** At first glance, the amendment primarily aims to tackle the critical issues of climate change and deforestation's adverse effects, focusing on effective management and afforestation.
  - ▶ **Forest use for economic drive:** The law further aims to determine how forests can be utilised for economic gain, and the manner in which it seeks to achieve this goal is outlined in the legislation.
    - The primary method used to achieve this objective involves removing forests from the law's jurisdiction, thereby facilitating various forms of economic exploitation.
    - As per the amendment, the forest law will now apply exclusively to areas categorised under the 1927 Forest Act and those designated as such on or after October 25, 1980.
    - **Non-applicability of Act:** The Act will not be applicable to forests that were converted for non-forest use on or after December 12, 1996 and land which falls under 100 kilometres from the China and Pakistan border where the central government can build linear projects.

- **Security infrastructure:** To establish security infrastructure and facilities for surveillance, the central government is authorised to construct security measures in areas up to ten hectares.
- **Vulnerable regions:** This provision also applies to areas (up to five hectares) which are designated as vulnerable.
- **New Initiatives:** Initiatives like ecotourism, safari, environmental entertainment, and more may be implemented in these areas. The main objective of these initiatives is to improve the livelihoods of those reliant on forest resources, a goal that has drawn criticism from tribal communities and human rights activists.

### Why was the amendment brought in?

- **The Godavarman Thirumulkpad case:**
  - ▶ **Interpretation of forest land:** A prominent legal dispute that came before the Supreme Court in 1996, led to an interpretation of forest land in accordance with its 'dictionary meaning'.
  - ▶ **All Private Forest:** Subsequently, all private forests were brought under the ambit of the 1980 law.
  - ▶ **Restrictive use of forest land:** This has been a subject of debate as it was argued that the legislation primarily aims to restrict forest land from being used for various non-forest purposes, including the conversion of land for large-scale industries.
  - ▶ **Opposition to law:** The law has faced significant opposition, especially from private landowners, individuals, and organisations involved in forest conservation, for its perceived adverse impact on the country's industrial progress.
  - ▶ **Exclusion of forest and industrial growth:** In other words, the need to exclude forest land from the legal framework was mainly driven by the requirements of the industrial classes in the country.
- **What did the JPC recommend?**
  - ▶ Of the 31-member JPC addressing the issue, only six individuals were from the opposition. The critical comments from the committee members and public appear to have been largely disregarded; reduced to dissenting notes, holding a minority viewpoint on the Bill.
  - ▶ A few days after the Act was enacted, the Odisha government revoked the "deemed forest" status in the State but had to later cancel the order due to public outrage and cited that it is waiting for detailed rules and guidelines from the concerned Central Ministry.

- ▶ If the government were to **remove the forests from the purview of the Forest Conservation Act**, it would **effectively obstruct indigenous communities** from asserting their rights.
- ❑ **What happened to the stipulation of 'prior consent'?**
  - ▶ **Prior Consent:** The Forest Conservation Act underwent important amendments in 2016 and 2017, which stipulated that **prior consent** from the **tribal grama sabha** was mandatory for any alterations to forests for non-forest purposes.
  - ▶ **Removal of Prior Consent:** However, the recent revisions to the legislation have removed the **necessity for such consent**. Nevertheless, in this situation, State governments can proactively engage in specific activities within this framework through the inclusion of grama sabhas, particularly in matters of land acquisition for various purposes, by establishing State-level steering committees.
  - ▶ **Adivasi grama sabhas :** But numerous State governments might hesitate on this aspect, as they hold a preconceived notion that **Adivasi grama sabhas** are '**anti-development**,' and they fear that their decisions could hinder economically lucrative afforestation initiatives.

### What is compensatory afforestation?

- **Compensatory afforestation**, as outlined in the new legislation, encompasses various projects and schemes that can be undertaken by both private individuals and organisations (including large corporations) for afforestation or reforestation purposes.
- The Compensatory Afforestation Act encountered **significant challenges** in the past, primarily due to **ambiguities in the original legislation** and shortage of available land.
- The **goal of the new amendment** is to streamline the process. However, there is apprehension regarding the potential environmental implications of this amendment.
- The law mandates that for **every parcel of land that is lost due to afforestation efforts**, an equivalent amount of land must be afforested elsewhere. It does not specify the type of trees that should be planted, leaving room for discretion.

### How does this affect the Forest Rights Act (FRA)?

- **Impact of FRA:** The FRA has had notable impacts in various regions, such as the **Mendha-**

**Lekha in Maharashtra, Loyendi in Odisha, and Malakkappara in Kerala.**

- **Low Enthusiasm of Government:** Despite the initial enthusiasm, it appears that **both the Central and State governments have become less enthusiastic** about implementing the FRA in their States.
- **Convert forest land for non-forest purposes:** Many consider the Act as an impediment to convert forest land for non-forest purposes. The State government and its bureaucracy hold the view that granting community rights under the FRA could weaken the State's authority over the forest.
- **Limit Adivasi Claims:** The government has opted to reduce or dilute the extent of forest areas, rather than amend the FRA, thereby limiting the potential for additional Adivasi claims.
- **Human-animal conflicts:** The amendment also fails to address the growing issue of human-animal conflicts in forest areas, particularly in the Adivasi hamlets of the Western Ghats region. This conflict not only endangers the livelihoods of the Adivasis but also poses a threat to wildlife.

### What are the problems?

- **Challenges to forest dwelling communities:** Once the law is put into practice, it presents substantial challenges to forest dwelling communities and government agencies.
- **Conflicting ideas of governance:** The concept of afforestation, which offers considerable financial incentives to private individuals and institutions for afforestation projects, fundamentally clashes with the idea of forest governance.
- **Decentralised forest governance:** It contradicts the concept of decentralised forest governance as forests in the country fall under the concurrent list. Such governance practices are against the spirit of federal norms.
- **Security Threat:** Moreover, defining strategic linear projects becomes exceptionally complex and vague. Unlike external security threats like border disputes and cross-border skirmishes, internal environmental security should also be considered a significant concern, especially in States that consistently face natural disasters.



### STATE OF STATE FINANCES REPORT 2023-24

**Context:** As per the report on State finances, it has been found that States face substantial challenges in their finances, marked by high committed expenditure and a persistent revenue deficit.

**Background:**

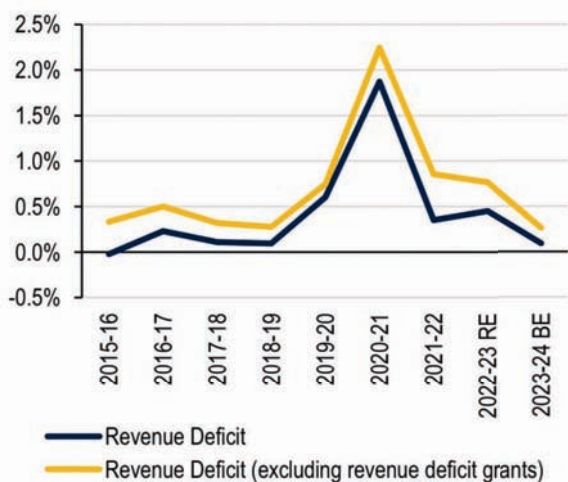
- Recently, the Union **Ministry of Statistics and Programme Implementation** has also released figures for the Gross State Domestic Products.
  - The economies of **19 states and Union Territories** exceeded their pre-Covid levels, with 7 recording double-digit growth rates during 2021-22.
  - The growth rates of 11 states including Gujarat and Maharashtra were not available for 2021-22.

**About the Report:**

- The findings are based on the '**State of State Finances**' report by PRS Legislative Research.
- Objective:** The report is shedding light on the complex fiscal landscape for states **Post-GST and Post-pandemic**.

**Key Findings:**

- State GST (SGST) accounts for over 40% of states' own tax revenue but SGST to **GSDP ratio** continues to be lower than pre-pandemic level.
- SGST revenue is also lower than the level of guaranteed revenue for five years.

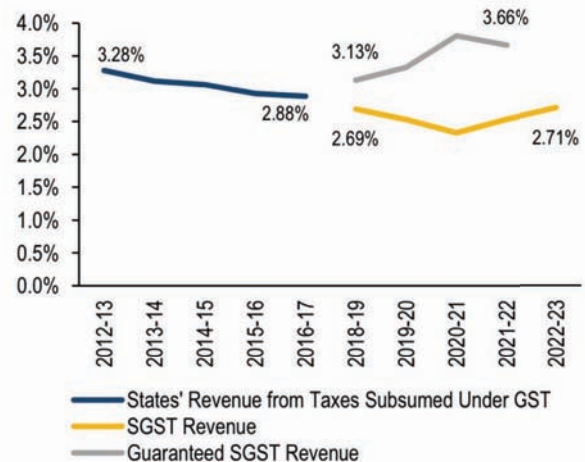
**Figure 1: States' aggregate revenue deficit (as % of GDP)**

Note: Negative revenue deficit indicates a surplus.  
Sources: RBI; State Budget Documents; MoSPI; PRS.

- In FY24, 11 states have budgeted a revenue **deficit-gap** between revenue expenditure and receipts. Of these, Andhra Pradesh, Himachal Pradesh, Kerala, Punjab, and West Bengal did so after accounting for revenue deficit grants.

**About Gross State Domestic Product (GSDP):**

- Gross State Domestic Product (GSDP) is a measure in **monetary terms**, the sum total volume of all finished goods and services produced during a given period of time, usually a year, within the geographical boundaries of the State, accounted without duplication
  - The **State Domestic Product** is classified under three broad sectors such as **Primary sector, Secondary sector and Tertiary sector** and is compiled economic activity wise as per the methodology prescribed by the National Accounts Division, National Statistical Office, Ministry of Statistics & Programme Implementation, and Govt. of India.

**Figure 3: States' tax to GSDP ratio in pre and post GST periods (in %)**

Note: The chart excludes Arunachal Pradesh, Gujarat, and Haryana as pre-GST revenue is not available and Jammu and Kashmir as the state was bifurcated into two UTs in 2019. It excludes 2017-18 as GST was introduced for part of the year.

Sources: CAG, State Budget Documents; MoSPI; PRS.

- Over the past several years, states have spent around **8-9%** of their revenue receipts on subsidies, with a significant portion on power subsidy.

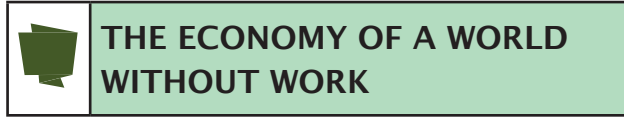
**Report Outcomes:**

- Despite overall state revenue returning to pre-pandemic levels, GST collections as a percentage of Gross State Domestic Product (GSDP) remain below the pre-GST era.
- The cessation of GST compensation grants in June 2022 has adversely affected some states, highlighting the need for revenue rationalization.



### Challenges Highlighted:

- States grapple with high committed expenditure and persistent revenue deficits.
- Non-merit subsidies have increased, pension reforms are being reversed, and state-owned discoms face financial strain.



**Context:** Elon Musk's vision of a future where artificial intelligence renders human labour obsolete raises fundamental questions about the adaptability of the current capitalist system to a work-free paradigm.

### View on AI

- Elon Musk**, during the **Bletchley Park summit on AI**, envisioned a future where AI replaces all human labor, making jobs unnecessary except for personal fulfilment.
  - Musk's **perspective aligns** with the idea that AI, if advanced to its theoretical extreme, could **eliminate the need for work**.
  - However, the practical feasibility of a world without work is questionable.

### Theoretical Perspectives on Work

- Keynes anticipates reduced working hours through technological change, akin to Musk's vision.
  - Keynes sees reduced work hours as a **positive welfare outcome**.
- In contrast, **Marx** emphasizes work as intrinsic to human life and critiques capitalism's alienation of labour.
  - Marx highlights the **alienating impact of capitalism** on meaningful work.

### Capitalism and AI Impact on Economy

- In a capitalist framework, where income is tied to work, a world without work under advanced AI implies challenges in accessing basic resources.
- The capitalist structure necessitates income from work for resource access, challenging Musk's vision.

### Imagining an Alternative Economy

- In a hypothetical scenario where AI dominates production and surplus is distributed to individuals

for basic needs, resembling a non-capitalist world with universal basic income.

- Questions arise about determining income distribution, ownership of machines, and societal readiness for institutional changes.
- Need of the hour is understanding the challenges posed by technological disruption in the context of existing economic institutions.

### Impact of AI on economy

#### Job Displacement and Automation:

- AI advancements lead to automation, potentially displacing jobs in various sectors.
- Routine tasks are particularly vulnerable, impacting employment dynamics.

#### Skill Shift and Reskilling:

- The rise of AI demands a shift in required skills.
- Reskilling becomes crucial to align the workforce with the changing needs of the job market.

#### Productivity and Efficiency Gains:

- AI enhances productivity by performing tasks more efficiently and quickly.
- Businesses benefit from improved processes and cost-effectiveness.

#### Innovation and New Job Creation:

- AI fosters innovation, leading to the creation of new job roles.
- Emerging fields like AI programming and development offer employment opportunities.

#### Impact on Traditional Industries:

- Traditional industries may face disruptions as AI introduces new methods and technologies.
- Adaptation becomes essential for sustained competitiveness.

#### Economic Inequality Concerns:

- AI's benefits may not be evenly distributed, potentially exacerbating economic inequality.
- Addressing disparities in access to AI-related opportunities is crucial.

#### Data Privacy and Security Challenges:

- AI relies on vast amounts of data, raising concerns about privacy and security.
- Safeguarding sensitive information becomes a priority.

### ❑ Ethical Considerations:

- ▶ AI introduces ethical dilemmas, including biases in algorithms and responsible AI use.
- ▶ Ethical frameworks and regulations are essential for responsible AI deployment.



**Context:** As per the report by World Meteorological Organisation (WMO), Carbon dioxide levels reached 50% higher than pre-industrial levels.

### Greenhouse Gas rising levels:

- **GHG rise:** The concentrations of greenhouse gases (GHG) that trap heat in the Earth's atmosphere rose to record levels in 2022, according to the GHG bulletin released by the World Meteorological Organisation (WMO) on November 15, 2023.
  - ▶ The rise in concentrations of GHGs is mainly due to the use of fossil fuels for various human activities.
- **Effects of GHGs rise:** This would lead to a further rise in global average temperatures, sea-level rise, glacial melting and increase in frequency and intensity of rapid-onset extreme weather events such as torrential rainfall, flash floods, tropical cyclones and heatwaves.
- **Current GHG levels:** Global average concentrations of carbon dioxide (CO<sub>2</sub>), which is the most important GHG, reached 417.9 parts per million, for the first time in 2022.
  - ▶ The figure is 50 per cent higher than pre-industrial levels. "They (concentration levels) continued to grow in 2023," said a press release by the **World Meteorological Organization (WMO)**.
- **Historical Comparison of GHG:** The last time CO<sub>2</sub> concentration was at this level was **3-5 million years ago**, when the Earth's average temperature was **2-3 degrees Celsius** warmer and sea levels were 10-20 meters higher than present.

### How much CO<sub>2</sub> causes global warming?

- Around 50 per cent of this CO<sub>2</sub> remains in the atmosphere, causing global warming.
- Around 25 per cent is absorbed by the oceans, causing ocean acidification, which is harmful for marine plants and animals.

- Another 30 per cent is absorbed by ecosystems on **land, such as forests**.
- All these are known carbon sinks, though there is considerable year-on-year variability in them.

### Other Major GHGs:

- The concentrations of the other two major GHGs — methane and nitrous oxide — also grew in 2022.
- **Methane:** It has the second-highest concentration in the atmosphere, reached 1,923 parts per billion.
- **Nitrous oxide:** It has the third-highest concentration in the atmosphere, reached 335.8 parts per billion. It saw the highest year-on-year increase from 2021 to 2022. The gas is 300 times more potent than CO<sub>2</sub> at trapping heat.

### Global Warming by GHGs:

- CO<sub>2</sub> accounts for 64 per cent of the global warming effect, while methane accounts for 16 per cent and nitrous oxide accounts for 7 per cent.

### WMO Analysis:

- **Net Zero:** Given the long life of CO<sub>2</sub>, the temperature level already observed will persist for several decades even if emissions are rapidly reduced to Net Zero.
- **Socioeconomic and environmental costs:** Due to GHG emissions, the socioeconomic and environmental costs will soar. We must reduce the consumption of fossil fuels as a matter of urgency.
- **Interspherical interaction:** There are still a lot of uncertainties in understanding the mechanisms of how CO<sub>2</sub> moves between the ocean, the land biosphere and the permafrost areas, as per the organisation.

### Way Forward:

- **Action Oriented Goals:** These **uncertainties, however, must not deter action**. Instead, they highlight the need for flexible, adaptive strategies and the importance of risk management in the path to net-Zero and the realization of the Paris Agreement's goals.
- **Timely and accurate Data:** The provision of accurate, timely, and actionable data on greenhouse gas fluxes becomes more critical in recent times.
- **Sustainable shifts:** The need for encouraged sustainable shifts in industry perspectives and practices by eliminating incentives and subsidies for plastic producers, manufacturers and distributors. It is also all for imposing appropriate fees and restrictions on industries.

- **Alternatives to Plastics:** It also laid emphasis on the identification of sustainable alternatives to plastics to protect human health and the environment, particularly by addressing plastics or chemicals in plastics. The latter are known carcinogens, endocrine disruptors and substances that persist, bio-accumulate and are toxic in the environment.



**Context:** Traces of microplastics have been found in breast milk, tap water and the bloodstream of humans.

### UNEP Report:

- According to a **United Nations report**, the world is producing around **430 million tonnes of plastics every year** of which two-thirds are for short-term use.
- The production and consumption of plastic products have **grown exponentially** since the 1950s.
- A **2022 report** by the **Organisation for Economic Co-operation and Development (OECD)**, titled '**Global Plastics Outlook: Policy Scenarios to 2060**', states that if the present trends persist **global plastic production will triple and exceed 1 billion tonnes by the year 2060**.

### Plastic Waste generation and its Impact:

- About 350 million tonnes of plastic waste are generated every year of which less than 10 percent is recycled, about 15 percent is incinerated while the remaining is dumped in landfills or littered on land, rivers, lakes, and the oceans.
- This has led to adverse economic, social, environmental and health impacts.
  - ▶ **Health:** Plastics can take up to 500 years or more to decompose and emit harmful pollutants that degrade the environment and are harmful to humans, and animals including livestock, aquatic, and marine life.
  - ▶ **Environment:** Plastic waste dumped in soils affect soil quality, soil biodiversity, and groundwater aquifers.
  - ▶ **Biodiversity:** Cases of wild animals, birds and cattle dying due to the ingestion of microplastics are not uncommon.
- A news report in 2017 stated that about a thousand cows die every year in Lucknow alone from ingesting plastic and other waste.

### Microplastics in humans:

- Traces of microplastics have been found in **breast milk**, tap water and the **bloodstream of humans**.
  - ▶ A study conducted by **Environment International in 2022** found the presence of microplastics in **80 percent of the blood test samples** of the surveyed population.
  - ▶ According to the study, people may be ingesting **3,000-4,000 microparticles of plastics** through their tap water every year.

### Microplastics traces over World:

- The study found the **contamination rate of tap water** with microplastics to be the **highest (94 percent)** in the US, followed by Lebanon and India.
- A study conducted in 2017 found that **83 percent of tap water samples** from around the world contained **plastic pollutants**.

### Microplastics in Ocean:

- It is estimated that **11 million tonnes of plastics** enter the oceans every year and this is projected to triple in the next two decades.
- **Plastic waste**, apart from **other debris** such as abandoned fishing nets and gear caused by poorly regulated commercial fisheries, have been found in all oceans and at all depths.
- Over the period **1970 to 2019**, an estimated 30 million tonnes of plastic waste have accumulated in the oceans while over 100 million tonnes have accumulated in rivers and lakes.
- **Plastics account for 85 percent of marine litter** and have aggravated marine pollution and affected marine species and coastal activities.
- Experts suggest that around **100,000 marine mammals** such as whales, dolphins, seals, and turtles **die every year due to marine plastic pollution**. Every year about a million sea birds die due to ingestion of microplastics or getting entangled in plastic debris. Some studies even suggest that by the year 2050, we may find more plastics in the seas than fish.

### Plastic Pollution and Global Warming:

- **Annual Social and Environmental costs:** According to a 2023 report by the **UN Environment Programme (UNEP)** on '**Turning off the tap: How the world can end plastic pollution and create a circular economy**', the **annual social and environmental costs** of plastic pollution are estimated to range \$300-600 billion a year, with some suggesting it to be still higher at around \$1.5 trillion a year.

- **Plastics and Greenhouse gas:** Plastic pollution will also contribute to global warming. The UNEP report states that under a business-as-usual scenario, **plastics will contribute about 19 percent of greenhouse gas emissions by 2040.**
- **Poor most vulnerable:** The adverse costs and impacts of plastic pollution will fall disproportionately on the poor.

### Reuse, Recycle and Reorient

- **Changed Approach:** To tackle the crisis, the **UNEP report** has proposed a systematic approach of relying on the well-known **3R strategy—reuse, recycle and reorient**—plus diversify and tackle the legacy of such pollution.
- **Employment:** The report states that these measures could lead to an **80 percent reduction in plastic pollution** and a net **increase of 700,000 jobs by 2040.**
- **Opportunities in Informal Sector:** It will create new opportunities in the informal sector as well as encourage innovation. Apart from reducing the annual greenhouse gas emissions by 0.5 gigatonnes of carbon-dioxide-equivalent, it could lead to a \$1.3 trillion in savings in direct public and private costs between 2021 and 2040, and avoid \$3.3 trillion of environment and social costs due to plastic pollution.

### Circular Economy:

- The **OECD report suggests** a host of measures to tackle the adverse environmental impacts of plastic use and encourage a **circular economy.**
- **Taxation:** These include **raising taxes on plastics and plastic packaging;** giving **incentives to reuse and repair plastic items;** **mandating targets for recycled content** in new plastic products; providing extended producer responsibility schemes; improving waste management infrastructure and hiking litter collection rates.

### Way Forward:

- **Plastic Ban:** Although most countries in the world, including India, have banned the manufacture and use of single-use plastics, this addresses only a fraction of the problem.
- **Legally Binding Global Plastics Treaty:** The fifth UN Environment Assembly, which met in Nairobi in March 2022, resolved to enact a legally binding global plastics treaty by 2024 to tackle the crisis—this was endorsed by all the 193 member countries. This will, hopefully, move us on the path to a zero-pollution world sought to be achieved by 2050.



## GWP100 OR GWP\*: MEAT, DAIRY LOBBY PUSHING FOR NEW METHANE METRIC AND ENABLING GREENWASHING

**Context:** New method takes current methane emissions as baseline to present minor reductions as negative emissions or cooling.

### About GWP\*:

- **GWP\* was developed in 2016** by a team of researchers from **Oxford University**, led by two academics who argued it was more accurate than the current systems used to report national methane emissions at the international level.
- It was then **introduced in 2018 at 24th Conference of Parties (COP24)** to the **United Nations Framework Convention on Climate Change.**

### Greenwashing:

- **Greenwashing** is the process of conveying a **false impression or misleading information** about how a company's products are environmentally sound.
- Greenwashing involves making an **unsubstantiated claim to deceive consumers into believing that a company's products are environmentally friendly** or have a greater positive environmental impact than they actually do.

### Background:

- **GWP\*:** Some of the world's big, industrialised meat and dairy companies have been promoting a **new metric for measuring methane emissions**, called GWP\* (pronounced as GWP star), which they argue is a **more accurate way to calculate emissions** from the greenhouse gas (GHG).
- **Manipulation of GHGs:** However, by adopting this new method, they can **manipulate their overall GHG emissions** and escape accountability by falsely claiming climate neutrality.
- **Under 2015 Paris Agreement:** The established metric **under the 2015 Paris Agreement** for **measuring the global warming potential** of a gas over a **100-year period is GWP100**, which is the global warming potential evaluated over a **100-**

**year timeline.** It focuses on the absolute level of emissions.

- **GWP100 vs GWP\*:** GWP100 measures the warming effect of a quantity of a **non-carbon dioxide (CO2)** GHG, emitted at a given point in time, relative to an **equal amount of CO2**. On the other hand, **GWP\*** focuses on changes in emissions over decadal timescales rather than absolute levels.

**What Seeing Stars Report Said:**

- The **application of GWP\*** at a **national or corporate level** requires setting certain parameters that can radically alter how the impact of the same emissions is presented.
- Depending on the choice of baseline year, **the same volume of methane emissions can be described as causing warming, no warming or even cooling.**
- This has meant it can be used by **major methane emitters** to **justify continuing business as usual**, resulting in lack of action to cut methane emissions
- The paper argued that by **taking current levels of methane emissions** as their baseline, **high-polluting countries and companies can use GWP\*** to present even minor reductions in methane as negative emissions or cooling.

**Case Study of Tyson and Fonterra**

◦ **Tyson Emissions**

- ▶ The researchers looked at **different levels of emissions reductions** for **Tyson, one of the**

**world's largest processors of chicken, beef and pork** and **Fonterra, the largest dairy exporting company.**

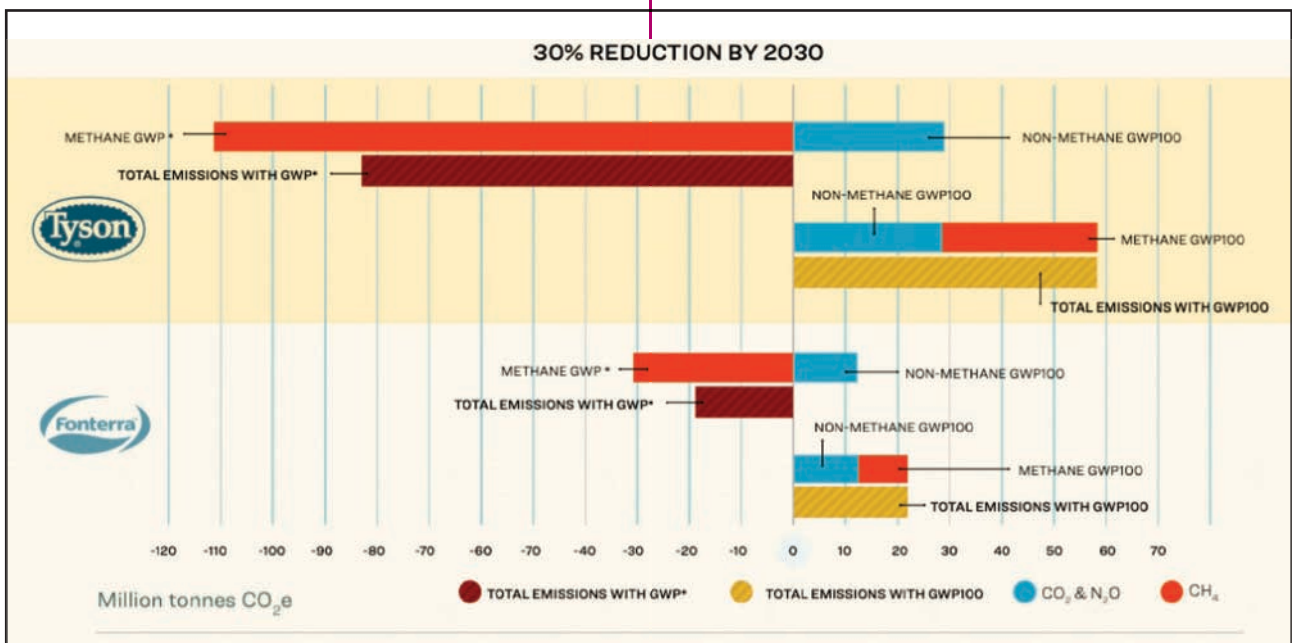
- ▶ Using both GWP100 and GWP\* metrics, they found that **companies could claim climate neutrality with tiny levels of annual emissions reductions, 1.4 per cent and 1.7 per cent, respectively,** by using the second method.
- ▶ **Emission reduction for Tyson:** With a **30 per cent emissions reductions by 2030,** Tyson would be responsible for roughly **58.5 million tonnes of CO2-equivalent using GWP100.** Half of these emissions would be from methane. The emissions amount is similar to the **annual emissions of Peru.**
- ▶ However, using **GWP\*** could enable the company to claim to be reducing around **82.6 million tonnes of CO2 equivalent** from the atmosphere.

◦ **Fonterra Emissions**

- ▶ For Fonterra, a 30 per cent reduction between 2020 and 2030 calculated with GWP\* would enable the company to claim negative emissions (efforts in which CO2 is being removed from the atmosphere) of minus 19 million tonnes of CO2 equivalent.
- ▶ But GWP100 calculations showed it would still be responsible for roughly 21.6 million tonnes of CO2-equivalent — similar to annual emissions of Sri Lanka.

**Case Study of New Zealand:**

- A similar trend for New Zealand, where **half of all emissions come from agriculture, mostly**



**methane**, showed that with a **modest 10 per cent reduction in methane emissions**, the country could report negative methane using GWP\* by 2038.

### Efforts to push for GWP\*

- The researchers found evidence of the **big agriculture lobby pushing the GWP\* methodology** in New Zealand, Ireland, United States and other regions.
- At least **16 industry groups across the UK and New Zealand**, including Beef + Lamb New Zealand and UK farming unions, have jointly urged the IPCC in 2020 to adopt GWP\* for assessing warming impacts.

### Why GWP\* is contentious

- **Climate Change Commitment Goals:** The ability to easily compare the contributions of different gases to climate change to assign accountability and set

fair goals is crucial for global climate commitments. The time horizon used to determine the GWP is important because it affects how much weight is given to short-term warming.

- **Lobbying for GPW\*:** It claimed that the industry and trade groups were heavily lobbying for GWP\* to be used in government policy, international standards and private carbon counting initiatives.
- **Global Criticism:** But it has been criticised on a global policy level because it has the potential to reward the highest historically polluting countries or companies for their past GHG emissions by giving them credit for slight decreases from a high baseline.
- **Penalize emitter countries:** The methodology will also penalise countries with historically low levels of methane emissions for small increases.



## ***Section B* [SPECIALS]**

### **Topic**

☞ **GPS Ankle Monitors: Ethics of Technology and Law.**

## GPS ANKLE MONITORS: ETHICS OF TECHNOLOGY AND LAW

**Context:** Recently first time in India GPS ankle monitors were installed on an individual out on bail to track his movements. This raises multiple Questions of ethics.

**Major Concern:** The **faulty nature of the monitors** can result in unintended consequences for accused persons. Besides, it would be highly imprudent to assume that the police in India are well-equipped to use this technology.

*This brings to fore the ethical concerns regarding the Electronic Monitoring.*

### Background:

- On November 5, a Special Court in Jammu granted bail to Ghulam Mohd Bhat who has been accused of terror financing under the Unlawful Activities Prevention Act, 1967 on the condition that Bhat wears a GPS tracker around his ankle.
- With this order, the Jammu and Kashmir police became the first in the country to deploy a GPS-enabled, wearable tracking device to monitor and record the movement of an accused released on bail.

### Conditions for Bail- Why?

- In spite of the norm "**Bail over Jail**", certain conditions are put for the accused. **Conditions imposed for bail** usually are meant to ensure that those released refrain from contacting victims or witnesses, tamper or manipulate evidence or commit any further crimes.
- As such, conditions often require them to **stay in a certain geographic area** or **prohibit them from leaving the jurisdiction of the court** without permission. **Tracking movements**, thus, is useful in checking compliance with such conditions and ostensibly GPS-enabled trackers are a crucial tool in doing so.

### Key Questions and Concerns

- Validity and reliability of the technology in use-** Error proneness of Technology.
- Capacity of Police to use high end Tech-** Concerns regarding training and Capacity building of Police.
- Legal issues and application of UAPA-**
  - The concerns get even more heightened w.r.t. Indian Criminal Justice system as very little focus is on critical and corrective thinking along with tech enable-ness- Examples are plenty, forensics, cybercrime etc. The tech competence of police in India has come under question time and again.. Whether it is the appreciation of forensic evidence in courts, or the usage of GPS-enabled devices

for monitoring accused persons, technology is perceived to be error-free and objective by most stakeholders in the criminal justice system including the law enforcement personnel and the judiciary.

- The nature of rules, Laws and Court procedures** make it difficult for the processing of such technology to act as support to the legal proceedings.

### Limitations of Technology

- Unhindered connection with sky and good communication** networks are needed. They are available in urban areas but overall the challenges remain on this front.
- Accuracy concerns of the GPS.**
- Other **physical factors** like Buildings, foliage, and weather conditions can lead to a poor quality of signals.
- Dependency on batteries-** Malfunction and Discharge
  - Case:** One such instance where the failure of technology led to severe consequences for the accused, despite no fault of his own is the case of Kevin Jones. Jones was arrested by the police in Oakland County, Michigan (the US) for violating conditions of his release on probation – because the battery of his "tether", the GPS-enabled device used to track him, malfunctioned when he was asleep.

### International Experience

- Proneness to "**False Alarms**"-Research conducted by the University of Chicago shows that ankle monitors are highly prone to false alarms due to poor signal.
- Challenges for Police** to determine the **genuineness** of an alert.
- Lack of Training** of personnel to handle such sophisticated tech.

### Caution

- Given such attitudes, it is not surprising that GPS-enabled trackers have been **readily adopted** in the administration of criminal justice **without due diligence**. However, it is important that we take a step back and confront the questions about the **validity and reliability** of this technology, as well



as the capacity of our law enforcement personnel to use it. Moving ahead with the use of GPS trackers without **addressing these fundamental issues** carries serious risks for the fair trial rights of accused persons.

### Conceptual and Analytical Discourse

#### Technological Ethics

- ▶ The application of GPS ankle monitors raises significant **technological ethics concerns**, primarily revolving around the **reliability and validity of the technology** in question. The technology's track record, as evidenced by experiences in other jurisdictions, highlights its susceptibility to errors. Issues such as the need for an **unobstructed view of the sky**, **dependence on a robust cellular network**, and **vulnerability to atmospheric hindrances** pose substantial challenges, especially in diverse and dynamic environments like India. The assumption of optimal conditions, a prerequisite for accurate tracking, becomes a critical point of contention.

#### Legal Ethics

- ▶ From a legal ethics perspective, the introduction of GPS ankle monitors as a bail condition raises concerns about the **potential infringement of the accused person's rights**. Conditions imposed for bail are traditionally designed to prevent further crimes or tampering with evidence. However, the use of technology that is inherently flawed and prone to malfunctions introduces the risk of false accusations and unjust consequences for the accused.

### Electronic Monitoring and Ethical Concerns

#### Ethical Question 1: Privacy Concerns and Intrusiveness

- ▶ EM utilizes sophisticated tracking technologies for real-time monitoring of individuals, raising questions about privacy infringement. Critics argue that this encroachment violates fundamental human rights, especially in pre-trial cases where individuals may undergo monitoring without a jury conviction. On the other hand, proponents contend that EM is less intrusive than incarceration, emphasizing its role in safeguarding domestic violence survivors. Balancing the scales between privacy rights and public safety becomes paramount.

#### Ethical Question 2: Impact on Third Parties

- ▶ Research reveals that EM disproportionately affects adult male offenders, potentially

reinforcing traditional gender roles. Home confinement, a common aspect of EM, may place a heavier burden on women, contributing to gender inequality. Additionally, the stigmatizing nature of EM can lead to social isolation for the families of offenders, creating a sense of punishment for crimes they did not commit.

#### Ethical Question 3: Financial Implications

- ▶ The financial dynamics of EM introduce ethical dilemmas. While governments see it as a cost-effective alternative, placing the financial burden on offenders, often from economically disadvantaged backgrounds, raises concerns. The potential for long-term economic consequences, coupled with limited employment opportunities during EM, adds complexity to the ethical discourse.

#### Ethical Question 4: Loss of Control Over Public Perception

- ▶ The visibility of EM devices raises questions about an individual's right to control their public image. Restrictions on clothing choices and potential social stigmatization can impact an offender's self-esteem and rehabilitation prospects. Balancing public safety concerns with the individual's right to choose what information to disclose becomes a delicate ethical challenge.

#### Ethical Question 5: Technological Failures and Unjust Imprisonment

- ▶ The imperfect nature of technology introduces ethical concerns regarding unjust imprisonment. Technical glitches, from connectivity issues to inaccurate signals, could lead to false accusations and potential incarceration. Striking a balance between technological advancements and safeguarding against unjust punishment is a critical aspect of the ethical considerations surrounding EM.

### The takeaway

Despite the ethical questions raised by the adoption of EM, its benefits as a humane, cost-effective alternative to incarceration cannot be ignored. To address these concerns, a multi-faceted approach is necessary, including smarter EM programs, public education, family support, and rigorous testing protocols. By implementing these measures, societies can navigate the ethical complexities associated with EM, making it a more acceptable alternative to traditional prison sentences.

### Conclusion

As India pioneers the use of GPS ankle monitors in the context of bail conditions for UAPA-accused individuals, it is imperative to address the dual dimensions of technological and legal ethics associated with this innovation. Critical evaluation, transparent discourse, and enhanced training for law enforcement personnel are necessary steps

to ensure that the deployment of GPS tracking technology aligns with the principles of fairness, justice, and the protection of individual rights in the Indian criminal justice system. Failing to address these ethical concerns may jeopardize the intended objectives of this technological intervention and compromise the integrity of the legal process.



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## ***Section C* [PRELIMS]**

10 Attempt

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- ☞ Products from Uttarakhand bag GI tags
- ☞ Earthquake Emergency alerts largely remain untriggered in New Delhi
- ☞ Season of Cyclones
- ☞ PM PVTG Development Mission
- ☞ Smart Cities ranking: Surat tops while UTs and N-E cities in bottom 10
- ☞ Nagaland Legislative Assembly passes reservation for Women
- ☞ Delhi govt plans 'cloud seeding' to induce rains amid pollution

## PRODUCTS FROM UTTARAKHAND BAG GI TAGS

**Context:** G.I tags been provided to products from Uttarakhand.

### Key Highlights-

- **Uttarakhand's Berinag tea:** Highly sought-after by London tea houses and tea blenders, is made from the leaves of a plant that grows wild in the Himalayas, which are then compressed into a solid mass.
- **Bichhu buti fabrics:** Made from Himalayan nettle fibres, was also on the list of products that bagged the GI tag. As the plant's fibres are hollow, they have the unique ability to accumulate air inside, thus creating a natural insulation and making an ideal clothing material for both winters and summers.
- **Mandua:** A finger millet grown in Garhwal and Kumaon that is part of the staple diet in many parts of the State.
- **Jhangora:** It is a home grown millet commonly cultivated in the rain-fed areas of the Himalayas in Uttarakhand.
- **Gahat:** One of the most important pulses growing in the dry regions of the State, whose medicinal uses have been known to Ayurveda and traditional physicians for centuries.

### Other products which got GI tags included:

- **Lal chawal:** Red rice organically grown in the Purola region.
- **kala bhat** (black soybean);
- malta fruit;
- **chaulai (ramdana)**, a grain used on fasting days;
- **buransh** juice obtained from the red flowers of the *Rhododendron arboreum*; **pahari toor dal**;
- Uttarakhand **likhai** or wood carvings,
- Nainital **mombatti** (candles),
- the **rangwali pichhoda** of Kumaon,
- Ramnagar Nainital litchis,
- Ramgarh Nainital peaches,
- Chamoli wooden Ramman masks, and
- Almora Lakhori **mirchis**, a chilli variant.

### What are G.I tags?

- **Geographical Indications of Goods** are defined as that **aspect of industrial property** which refers to the **geographical indication** referring to a country

or to a place situated therein as being the country or place of origin of that product.

- Typically, such a name conveys an assurance of quality and distinctiveness which is essentially attributable to the fact of its origin in that defined geographical locality, region or country. Under Articles 1 (2) and 10 of the Paris Convention for the Protection of Industrial Property, geographical indications are covered as an element of IPRs.
- They are also covered under **Articles 22 to 24** of the **Trade Related Aspects of Intellectual Property Rights** (TRIPS) Agreement, which was part of the Agreements concluding the Uruguay Round of GATT negotiations.
- India, as a member of the World Trade Organization (WTO), enacted the Geographical Indications of Goods (Registration & Protection) Act, 1999 has come into force with effect from 15th September 2003.

## EARTHQUAKE EMERGENCY ALERTS LARGELY REMAIN UNTRIGGERED IN NEW DELHI

**Context:** While Google's early earthquake warning systems alerted users where shaking was stronger, a cell broadcast tested by the government and telcos in recent months did not trigger.

### Background:

- When tremors hit Delhi and surrounding areas following the 6.4 magnitude earthquake on November 3 2023 and the 5.6 magnitude aftershock on November 6 in Nepal, the government and private early alert systems did not reach many of the people who could feel palpable tremors.

### Cell Broadcast Alert System (CBAS):

- The **National Disaster Management Authority (NDMA)'s Cell Broadcast Alert System (CBAS)** has been tested in recent weeks to send out mass alerts when natural disasters strike, but it did not do so.
- Meanwhile, Google did not send out alerts in the national capital, even though tremors were felt in both instances here.

### Android Earthquake Early Warning system

- The **Android Earthquake Early Warning system** supplements the government's efforts on earthquake alerts and aims to provide people with advance notice that can help them stay safe.

- The Google says it warns users only if the shaking in their area can expect to cross a value of 3.5 on the Modified Mercalli Intensity (MMI) Scale, a measurement of shaking during earthquakes that serves as an alternative to the Richter scale.

### MMI value of 3:

- At an **MMI value of 3** ("weak" shaking), the **United States Geological Service's** description of the scale says that tremors are felt "quite noticeably by persons indoors, especially on upper floors of buildings," and at **4** ("light" shaking), the tremors are felt "indoors by many, outdoors by a few".

### Case of Delhi:

- The tremors in both cases, in New Delhi, **appear to have been in the lower end of these two MMI values**, meaning Google did not send alerts to everyone who felt shaking, as the intensity did not seem as risky in places like Delhi



## SEASON OF CYCLONES

**Context:** Low pressure area forming mid-November expected to intensify into a depression & undergo rapid intensification.

### Cyclones in Bay of Bengal

- **Two back-to-back low-pressure areas** may be forming in the Bay of Bengal, both of which could further **intensify into cyclones**. One of them could also become a severe cyclone.
  - ▶ South Andaman Sea: The first low pressure area, induced by an upper air cyclonic circulation over the South Andaman Sea, the India Meteorological Department (IMD) shared. This system may gain strength to become a depression by mid-November.
  - ▶ Bay of Bengal: Another upper air cyclonic circulation has formed over the south-western parts of the Bay of Bengal. This may also induce a low-pressure area.
- **Fujiwhara Effect:** The simultaneous formation of the second low-pressure area could lead to its interaction with the earlier system. Such an interaction is known as the **Fujiwhara effect**.

### About Fujiwhara Effect:

- When **two ocean storms** (storms, cyclones, hurricanes or typhoons) have formed in the **same region**, are **spinning in the same direction** and **pass close enough to each other**, "they begin an intense dance around their common centre", according to the **National Weather Service (NWS)** of the **National Oceanic and Atmospheric Administration**, United States.
- If **one of the storms is a lot stronger** and bigger than the other, the **smaller one will revolve around the bigger one** and "**come crashing into its vortex to be absorbed**".
- "**Two storms closer in strength can gravitate** towards each other until they reach a common point and **merge, or merely spin each other** around for a while before shooting off on their own paths. In rare occasions, the effect is additive when the hurricanes come together, resulting in one larger storm instead of two smaller ones," according to NWS.

### The Storm situation in India:

- **Unlikely of Fujiwhara Effect:** The **second low-pressure area** will likely form after the dissipation of the first system so the possibility of them interacting under the Fujiwhara effect is not much.
- According to Down to Earth, **both the low pressure areas could intensify into cyclones** with the earlier system also possibly **intensifying into a severe cyclone**.
- The low pressure area forming today earlier would intensify into a depression and undergo **rapid intensification (RI)**.
  - ▶ Rapid intensification: RI occurs when a tropical cyclone gains wind speeds of 56 kilometres per hour or more in a span of 24 hours. RI generally makes it difficult for weather agencies to predict the track and intensity of tropical cyclones.
- **Recent cyclone studies:** Many recent tropical cyclones have undergone RI, which is mainly due to **warmer-than-usual sea surface and subsurface temperatures**. For instance, **cyclone Freddy** in February-March 2023 became the first tropical cyclone ever to experience seven phases of rapid intensification over its lifetime.
- **Cyclone Freddy:** The cyclone had its **genesis near Australia** and moved all across the **southern Indian Ocean** to devastate **Madagascar, Malawi and Mozambique**.
- **Cyclone Biparjoy:** **Cyclone Biparjoy** in the Arabian Sea in June 2023 also showed RI.

**Threat of cyclones on Indian Coasts:**

- ▶ While the threat of the **Fujiwhara effect is far off**, back-to-back cyclones with RI in tow could create considerable impacts along the Indian coasts.


**PM PVTG DEVELOPMENT MISSION**

**Context:** Recently, the Prime Minister has launched Rs. 24000 Crores PM PVTG Development Mission for most vulnerable group amongst the Tribal Population.

**About the mission:**

- **Objective:** The PM-PVTG Development Mission program aims to improve the **socio-economic status** of **Vulnerable Tribal Groups (PVTGs)**.
  - ▶ For this, availability of Rs.15, 000 crore for Scheduled Tribes has been envisaged in the Union Budget.
- **Key Parameters:**
  - ▶ The mission includes;
    - Providing basic facilities like safe housing,
    - Clean drinking water and sanitation,
    - Education, health and nutrition,
    - Better access to roads in settlements for backward scheduled tribes.

S No.	Name of the State MT	Name of INVTGs
1	Andhra Pradesh (including Telangana)	<ul style="list-style-type: none"> <li>◦ Bodo Gadaba</li> <li>◦ Bondo Poroja</li> <li>◦ Chenchu</li> <li>◦ Dongria Khond</li> <li>◦ Gutob Gadaba</li> <li>◦ Khond Poroja</li> <li>◦ Kolam</li> <li>◦ Kondareddis</li> <li>◦ Konda Savaras</li> <li>◦ Kutia Khond</li> <li>◦ Parengi Poroja</li> </ul>
2	Bider (including Jharkhand)	<ul style="list-style-type: none"> <li>◦ Asurs</li> <li>◦ Birhor</li> <li>◦ Birjia</li> </ul>

3		<ul style="list-style-type: none"> <li>◦ Hill Khagria</li> <li>◦ Korwas</li> <li>◦ Mal Pariada</li> <li>◦ Parhaiyas</li> <li>◦ Sauria Paharia</li> <li>◦ Savar</li> </ul>
	Gujarat	<ul style="list-style-type: none"> <li>◦ Kathodi</li> <li>◦ Kotwalia</li> <li>◦ padhar</li> <li>◦ Siddi</li> <li>◦ Kolgha</li> </ul>
4	Karnataka	<ul style="list-style-type: none"> <li>◦ Jenu Kuruba</li> <li>◦ Koraga</li> </ul>
5	Kerala	<ul style="list-style-type: none"> <li>◦ Cholanaikayan (a section of Kattunaickans)</li> <li>◦ Kadar</li> <li>◦ Kattunayakan</li> <li>◦ Kurumbas</li> <li>◦ Koraga</li> </ul>
6	Madhya Pradesh (including Chhatisgaih)	<ul style="list-style-type: none"> <li>◦ Abujh Marias</li> <li>◦ Baigas</li> <li>◦ Bharias</li> <li>◦ Hill Korwas</li> <li>◦ Kamars</li> <li>◦ Saharias</li> <li>◦ Birhor</li> </ul>
7	Maharashtra	<ul style="list-style-type: none"> <li>◦ Katkaria (Kathodia)</li> <li>◦ Kolam</li> <li>◦ Maria Gond</li> </ul>

**Who are Particularly Vulnerable Tribal Groups (PVTGs)?**

- The **Ministry of Home Affairs** has **designated 75 tribal groups** across 18 states and the Union Territory of Andaman and Nicobar Islands as Particularly Vulnerable Tribal Groups (PVTGs).
- Identified as the **most vulnerable among tribal communities**, the concept of PVTGs was introduced in 1975 by the Government of India.
- Initially comprising 52 tribal groups, this category expanded in 1993 with the inclusion of 23 additional groups, bringing the current total to 75.

Notably, **Odisha** has the highest concentration of PVTGs, with 13 groups, followed by Andhra Pradesh with 12.

### How are they classified?

- The Particularly Vulnerable Tribal Groups (PVTGs): PVTGs are more vulnerable among the tribal groups and are determined by the given criteria:
  - ▶ They have declining or stagnant populations,
  - ▶ low levels of literacy,
  - ▶ pre-agricultural levels of technology and
  - ▶ Economically backward.

### SMART CITIES RANKING: SURAT TOPS WHILE UTS AND N-E CITIES IN BOTTOM 10

**Context:** The selected cities were expected to finish all their proposed projects in five years from their selection. Present Ranking is based on project completion.

### Smart Cities Mission and related projects:

- **Launched in 2015**, the Smart Cities Mission selected **100 cities** through a competition in phases from January 2016 to June 2018.
- The selected cities were **expected to finish all their proposed projects in five years** from their selection. In May this year, the deadline for all cities was extended to June 2024.

### Current Status:

- Data is **released by the Housing and Urban Affairs Ministry**.
- Cities in **Gujarat, Uttar Pradesh, Madhya Pradesh, Karnataka, Tamil Nadu and Rajasthan account for the top 10** in terms of completion of projects and financial progress, while UTs and cities in **Northeastern states are in the lowest 10 of the 100**.
- Surat (Gujarat) topped in terms of completion of projects, fund usage and other criteria, followed by Agra (UP), Ahmedabad (Gujarat), Varanasi (UP) and Bhopal (MP) in the top five. The rest of the top 10 include Tumakuru (Karnataka), Udaipur (Rajasthan), Madurai (TN), Kota (Rajasthan) and Shivamogga (Karnataka).
- However the **smaller cities continue to trail due to lack of capacity**.

### Smart Cities Mission

- The objective is to promote cities that **provide core infrastructure, clean and sustainable environment and give a decent quality of life to their citizens** through the application of 'smart solutions'.
- To drive economic **growth and improve quality of life** through comprehensive work on social, economic, **physical and institutional pillars of the city**.
- The focus is on sustainable and inclusive development by **creation of replicable models** which act **as lighthouses to other aspiring cities**. 100 cities have been selected to be developed as Smart Cities through a two-stage competition.
- It is operated as a **Centrally Sponsored Scheme**.

### NAGALAND LEGISLATIVE ASSEMBLY PASSES RESERVATION FOR WOMEN

**Context:** Nagaland Legislative Assembly passes law to provide 33% reservation to women in Urban Local Bodies of the state.

### Salient features of the Act:

- The Nagaland Municipal Bill, 2023 was passed by the State Legislative Assembly in a special session called by the Governor.
- Nagaland Assembly unanimously passed the Bill which retained the 33% of seats in Urban Local Bodies for women.
- Reservation for the post of Chairperson in Urban Local Bodies has been done away with by the new Bill.
- Taxes related to immovable property to be appropriated by Urban Local Bodies have been removed from the new Bill.

### History of the issue:

- The earlier law i.e., Nagaland Municipal Act, 2001 was rejected by the people of Nagaland as they objected to reservation of women.
- This issue led to Municipal Councils not been held in Nagaland since 2004.
- Tribal societies have opposed reservation of seats for women in Municipal Council of Nagaland.



**Impact:**

- Passing of the Nagaland Municipal Bill, 2023 is huge step in the direction of women's participation in politics and policy making.



**Context:** Cloud seeding has only been done earlier with the purpose of bringing rainfall to drought-prone areas, and not to mitigate pollution.

**Background:**

- The **Delhi government** had announced **cloud seeding** or '**artificial rain**' to wash away pollutants in the air.
- The now mooted proposal has been attempted previously in India but only in the monsoon season – when clouds with moisture are present – and pre-monsoon months. Besides, it has only been done before in the country with the purpose of bringing rainfall to drought-prone areas, and not to mitigate pollution.

**About cloud seeding:**

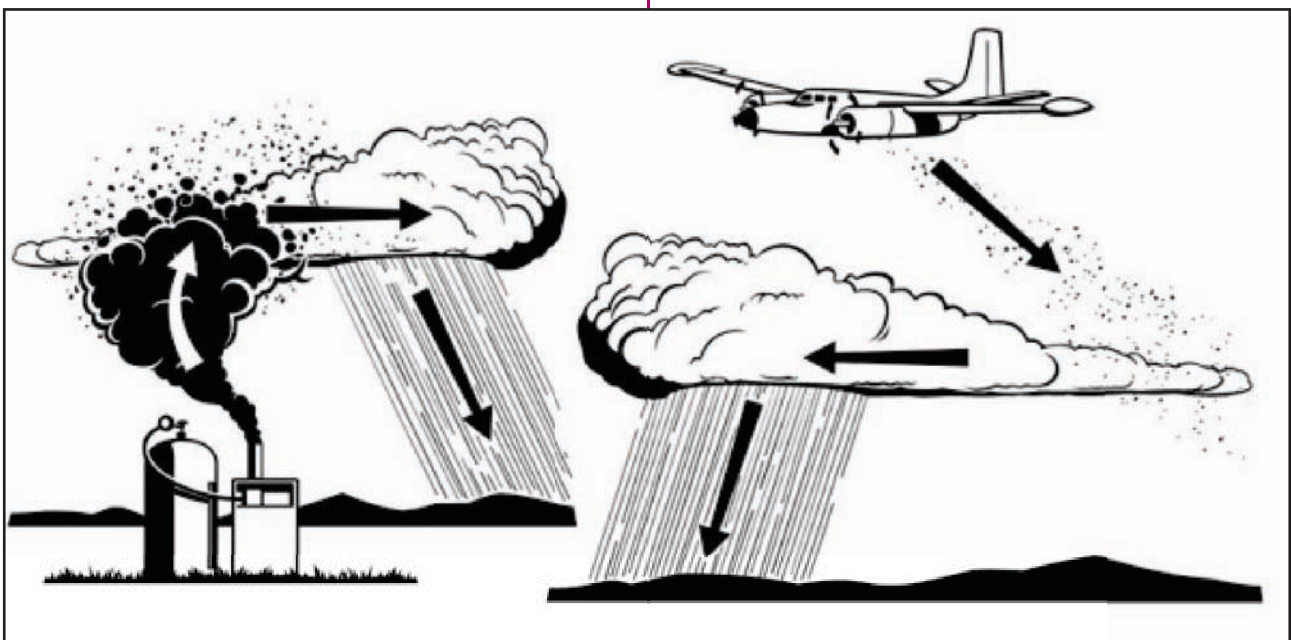
- Condensation:** Water vapour condenses around **small particles** to form the droplets that make up a cloud. These **droplets collide and grow**; as they get heavy and the **cloud gets saturated**, it rains.
- Cloud Seeding Salts:** With cloud seeding, clouds

are usually injected with salts like **silver iodide, potassium iodide, or sodium chloride**, which is the 'seed'. These salts are expected to provide additional nuclei around which more cloud droplets can form. They are dispersed into the cloud either using aircraft or through generators on the ground.

- Microphysical process:** Seeding accelerates cloud microphysical processes, a sufficiently large droplets must be formed that can reach the surface of the earth and not evaporate on the way.
- Cloud condensation nuclei and ice nuclei:** The substance that is dispersed into the cloud needs to have **cloud condensation nuclei and ice nuclei** and these two come from two different salts.
- Cloud droplets:** The cloud condensation nuclei help form **cloud droplets**, and ice nuclei help to form ice crystals. Ice crystals grow faster than drops, and they become large and fall.

**What are the conditions required for cloud seeding to be done?**

- Firstly, cloud cover and clouds of a certain type are necessary.
- Cloud seeding can only happen if there is a sufficient number of clouds and a particular depth to these clouds.
- Inside, there needs to be an adequate number of cloud droplets.
- Cloud seeding is done to increase the radius of the cloud droplets so that they will grow bigger and because of gravity, they will come down as rainfall.
- But with a clear sky, cloud seeding is not possible.



### Has cloud seeding been done before in India, and has it been successful?

- **Previous Cloud Seeding:** Seeding has mostly been attempted during the monsoon in India, in places such as Karnataka, Maharashtra and Tamil Nadu.
- **Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX-IV):** A more recent experiment, the fourth phase of the **Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX-IV)** that took place in the monsoon seasons of 2018 and 2019, was conducted in drought-prone Solapur in Maharashtra. It pointed to a relative enhancement of 18 per cent in rainfall.
- **Complex Cloud Microphysics:** Cloud microphysics is more complicated than we think. We can get some advantage from it in the monsoon season if there are enough clouds. When you seed, all clouds won't rain,

and even without seeding clouds can rain. It is still a very complex and uncertain field of research.

### Can cloud seeding help with pollution levels?

- In India so far, **cloud seeding has not been tried with the purpose of reducing pollution**, but only been tried to deal with drought-like conditions.
- There are a **few cases where China** tried **weather management** options. In India, we don't have investigations done in this aspect (impact of cloud seeding on pollution).
- The conditions in India are different, and we will need a dedicated study on this. Clouds and their processes are very complex, these are non-linear processes. If you do something, it is not known exactly that it is going to give you this much rain or not.



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## ***Section D* [QUIK BYTES]**

### **[SHORT NEWS]**

- ☞ UNESCO declares Gwalior as city of music
- ☞ Mars Solar Conjunction
- ☞ PM Kisan Bhai Scheme
- ☞ India-US Commercial Dialogue

### **[LOCATION IN NEWS]**

- ☞ Bhagwan Birsa Munda Sanctuary

### **[SPECIES IN NEWS]**

- ☞ Vairengte bent-toed gecko

## UNESCO declares Gwalior as city of music



UNESCO has added 'Gwalior' in its Creative Cities Network as **City of Music**.

### Gwalior as the City of Music:

- **Gwalior** is the **second city in India** to be designated as the 'City of Music' by UNESCO, **after Varanasi in 2015**.
- The city is widely regarded as the **birthplace of Tansen**, one of the greatest musicians and composers in Indian history, who was also one of the 'Navratnas' (nine jewels) in the court of Emperor Akbar.
- The city is also the **origin of the Gwalior Gharana**, the oldest and most influential school of Hindustani classical music.
- The city hosts one of the **biggest annual music festivals** in India, the Tansen Sangeet Samaroh, which attracts thousands of music lovers and artists from across the country and abroad.

## Mars Solar Conjunction



Recently, the NASA has stopped sending commands to its fleet of robotic probes on or orbiting the Mars because of solar conjunction.

### What is Solar Conjunction?

- About every 26 months, when Mars and Earth are on opposite sides of the Sun, communication between the two planets is disrupted.
- During the days surrounding such an alignment, called a solar conjunction, the Sun can disrupt radio transmissions between the two planets.
- Solar conjunction occurs every two years.

### NASA's Mars Mission:

- **Perseverance Rover:** It is a robotic explorer to land on Mars as part of NASA's on-going Mars 2020 Mission.
- **Main Job:** Seek signs of ancient life and collect samples of rock and regolith (broken rock and soil) for possible return to Earth.
- The rover will collect samples of rock and soil, encase them in tubes, and leave them on the planet's surface to be returned to Earth at a future date.
- **Launch:** It was launched on July 30, 2020 from Cape Canaveral, Florida.
- **Landing:** Successfully landed on the surface of Mar's Jezero Crater on Feb. 18, 2021.

## PM Kisan Bhai Scheme



### PM-Kisan Bhai Scheme

- This scheme aims to incentivize farmers to retain their produce for a minimum of three months post-harvest, granting them the autonomy to decide when and where to sell their crops.
- It seeks to break the monopoly of traders in setting crop prices, giving farmers greater control over their produce.
- This initiative grants farmers the autonomy to decide when to sell, in contrast to the current practice where most crops are sold around harvest, typically spanning 23 months.

### Key Components

- Warehousing Rental Subsidy (WRS): Small farmers and farmer producer organizations (FPOs) can avail a WRS benefit of ₹4 per quintal per month for a maximum of three months, irrespective of warehousing charges.

**Prompt Repayment Incentive (PRI):** The government proposes to extend a 3% additional interest subvention under the Kisan Credit Card (KCC) scheme for farmers pledging their produce and obtaining loans at subsidized interest rates.

## India-US Commercial Dialogue



India and the US have signed an agreement to promote innovation through increasing cooperation among startups, addressing regulatory hurdles and sharing best practices on fundraising by entrepreneurs.

### About:

- India and the US have signed an agreement to promote innovation through increasing cooperation among startups, address regulatory hurdles and share best practices on fundraising by entrepreneurs.
- The memorandum of understanding (MoU) on enhancing innovation ecosystems is made through an innovation handshake under the framework of India-US Commercial Dialogue.
- The MoU is signed with the objective to connect the two sides' dynamic startup ecosystems, address specific regulatory hurdles to cooperation, share information and best practices for startup fundraising and promote innovation and job growth, particularly in Critical and emerging technologies (CET) as identified under India-US initiative for Critical and Emerging Technology (iCET).
- The MoU signals a joint commitment to strengthen the startup ecosystem in deep tech sectors and promote cooperation in critical and emerging technologies.

## LOCATION IN NEWS

## Bhagwan Birsa Munda Sanctuary



Recently, on the 23rd foundation day of Jharkhand at the Raj Niwas, the Asola-Bhati Wildlife Sanctuary in the national capital will be renamed Bhagwan Birsa Munda Sanctuary.

**About the Sanctuary:**

- The Asola-Bhatti Wildlife Sanctuary has a unique place in India's network for protected areas.
- It is the only protected area representing the north-eastern, rolling outliers as a landform of the country's oldest hill ranges, the Aravallis.
- The sanctuary covers an area of **32 sq. kms** and this urban sanctuary could be a role model for all the conservation work undertaken by the Department of Forests & Wildlife GNCT of Delhi.

**Floral Diversity:**

- The vegetation in the Wildlife Sanctuary is predominantly an open canopied thorny scrub. The native plants exhibit xerophytic adaptations such as thorny appendages, wax-coated, succulent and tomentose leaves.

## SPECIES IN NEWS

## Vairengte bent-toed gecko

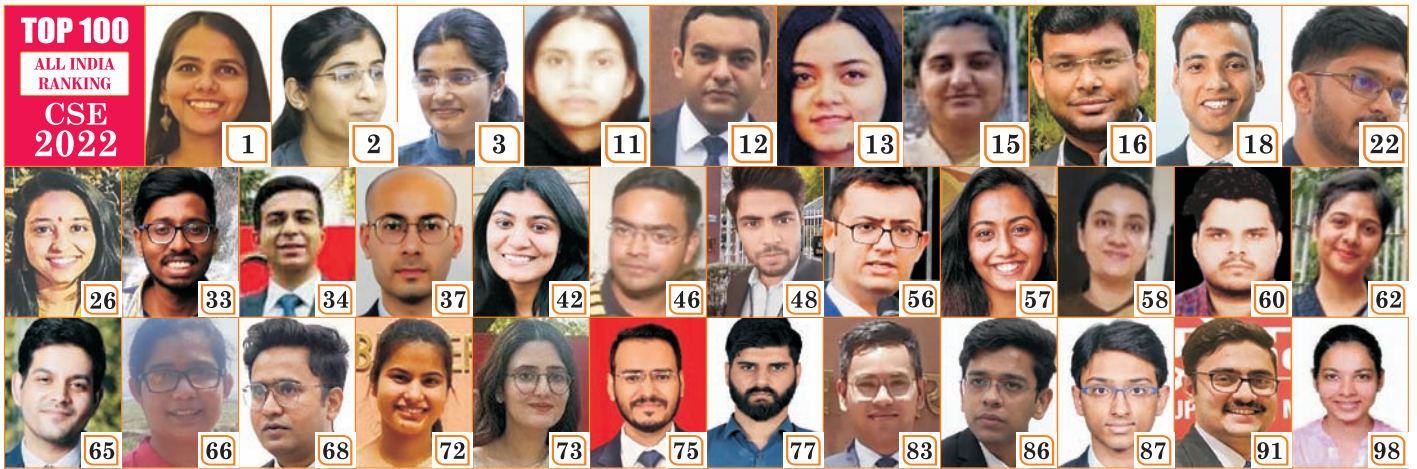


The new species has been named '*Cyrtodactylus vairengtensis*' after the town in Mizoram where it was found, while the common name suggested for the new species is '**Vairengte bent-toed gecko**'.

**About the species:**

- A team of scientists and researchers have discovered a new species of gecko endemic to Mizoram, taking the number of geckos native to the **state to 6**, and **22 across northeast India**.
- The distinct feature of this new species is the number of femoral pores which distinguishes it from other members of the *Cyrtodactylus* family.
- Femoral pores are located on the underside of the hind legs in lizards that secrete a mixture of lipids and proteins and are thought to be used to attract mates and mark territories.





## SUCCESS IS A PRACTICE WE DO!

