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*Supplementary reading material for MGP and Current Affairs classes of
ForumIAS Academy*

AN EXCLUSIVE CURRENT AFFAIRS MAGAZINE FOR

PRELIMS + MAINS

PREPARATION

August 2023

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Congratulations

Celebrating our CSE 2022 Topper's Remarkable Achievement!

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8 Selections in Top 10

64 Selections in Top 100

I was a part of MGP at Forum IAS. Apart from this I also took Current Affairs classes for mains by Dipin Dandekar Sir. The top notch quality of the content and the versatile perspectives I got from Sir's classes really boosted my score in GS. One on one interaction with Ayush Sir during my interview preparation helped me.

I am really grateful to Forum IAS especially Dipin Sir and Ayush Sir for their valuable inputs.


Garima Lohia
AIR 2

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I enrolled myself in multiple courses at ForumIAS - SFG, ANFG, MGP, current affairs classes and Ethos+ classes. The quality of content, the consistency of classes and availability of mentorship right when I needed it helped me throughout my preparation journey.

A special thanks to Ayush Sir and Dipin Sir for their efforts and constant support, even though I was practically invisible!

Smriti
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5 students in Top 5, 8 students in Top 10 and 64 students in Top 100 Ranks List of CSE 2022 are ForumIAS Academy students.

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Focus Article

Bills to Reform India's Criminal Justice System

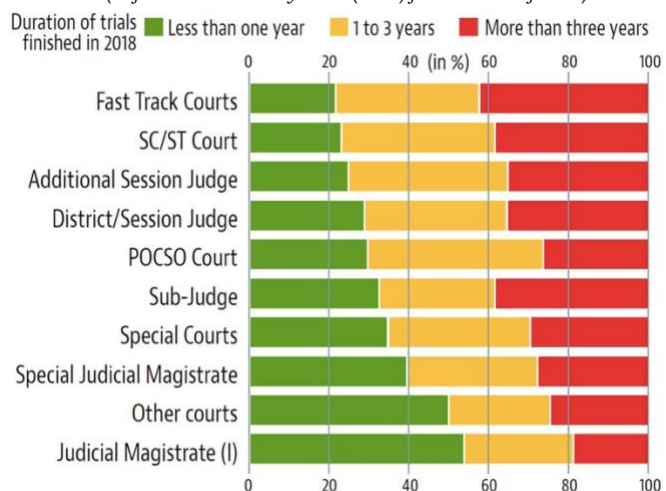
News: The Government has introduced *Bharat Nyaya Sanhita Bill*, *Bharat Nagrik Suraksha Sanhita Bill* and *Bharat Sakshya Bill*, 2023 to replace the IPC, CrPC and Indian Evidence Act, 1872 respectively.

What are the issues with the Criminal Justice System (CJS)?

- **Delays:** The trial process is marred by delays and frequent adjournments of hearings in court due to lack of adherence to procedures.
- **Pendency of Cases:** According to the National Judicial Data Grid, there are ~4.7 crore cases are pending in courts in India. (Refer EPIC January 2023 (click) for Reducing Pendency of Cases in Judiciary).
- **Resource Constraint:** The Justice System in India faces resource constraint across all components.
 - There are only 21 judges per million population (Government in Rajya Sabha, 2023) against 50 judges per million recommended by the Supreme Court in *All India Judges Association Vs. Union of India (2002)*. India Justice Report, 2022 (Refer EPIC April 2023 (click) for India Justice Report, 2022) noted 30% vacancies in High Courts and 22% vacancies in lower courts.
 - The Police-to-Population ratio is 152.8 police personnel per lakh persons (Government in Lok Sabha, 2023) against 222 recommended by the UN.
 - The prisons in India are operating at 130% of the capacity (2021, 5.54 lakh inmates against capacity of 4.23 lakhs). The ratio of undertrials has reached 77% in 2021. (Refer EPIC February 2023 (click) for Prison Reforms).
 - There is lack of forensic laboratories (7 Central and 31 State Forensic Laboratories in India) and experts for scientific investigation of evidence.
- **Quality of Investigation:** Lack of personnel impact quality of investigation.
 - Political interference and corruption impact impartiality of investigation.
 - Police personnel are poorly trained and lack resources required for scientific handling of crime scenes leading to loss of forensic evidence (ballistics, blood or DNA samples).
 - Police personnel have to **handle both law enforcement and criminal investigation** overburdening them.

Criminal Justice System

- It is an apparatus employed by the Government to enforce standards of conduct required by the Rule of Law from the people subjected to authority.
- The system is made up of set of laws, procedures, personnel and institutions that aim to investigate, prosecute, penalize and prevent criminal conduct.
- In India, the Prosecution (Laws/Procedures) have been governed primarily by the Indian Penal Code, 1860; Criminal Procedure Code, 1973 and Indian Evidence Act, 1872.
- There are numerous other laws related to specific offences (like terrorism, crimes against children etc.) but these 3 laws form the principle basis of criminal justice in India.



Source: HT, NCRB Analysis (2018). Only 20% cases in Fast Track Courts were completed within 1 year. In most courts, > 30% cases take more than 3 years for adjudication.

- Police are accused of **custodial violence** to **coerce testimony** from suspects.
- **Outdated Laws:** The Indian Penal Code, 1860 (though periodically amended) is still largely a colonial legacy e.g., Section 377 on homosexuality was declared unconstitutional only in 2018 (*Navtej Johar vs Union of India*). Criminal Laws are not in tune with modern times and new technology e.g., admissibility of e-evidence (electronic evidence or evidence in digital format).
- **Public Trust:** There is lack of public trust in the system. People try to **avoid filing complaints fearing harassment by police** or **long judicial process in courts**. Experts have noted that lack of trust in justice system is a reason **people avoid intervening in crime scenes**. They consciously avoid being a witness to a crime rather than stepping in to stop it. They are reluctant to render help to victims of road accident despite the Good Samaritan Law.

What changes have been proposed under the new Bills?

Bhartiya Nyaya Sanhita Bill, 2023 (BNS)

- It will replace the Indian Penal Code, 1860.
- **Sedition:** Section 124A of the IPC has been removed. Chapter VII (Offences against the State) covers acts endangering sovereignty, unity and integrity of India like **exciting secession, armed rebellion, encouraging separatism** etc. Such acts will be punishable with 7 years or life imprisonment.
- **Terrorism:** Terrorist acts have been defined as acts that disturb public order; intimidate the general public; or threaten the unity, integrity and security of India. Acts of terrorism will attract a minimum imprisonment of 5 years, life imprisonment and death in some cases.
- **Mob lynching:** Specific provision for mob lynching has been added and punishment ranging from 7 years imprisonment to death penalty has been prescribed.
- **Organized crime:** Organized crime has been defined comprehensively including the offences of kidnapping, robbery, trafficking, and other economic and cybercrimes, when committed by a group of individuals, whether as members of a crime syndicate or for such a syndicate.
- **Sexual Intercourse by Deceitful Means:** The BNS has proposed imprisonment up to 10 years for sexual intercourse with a woman on false promise of marriage.
- **Gang Rape:** The BNS has proposed death penalty for gang rape of women below 18 years.
- **Community Service:** The BNS calls for **community service as a punishment for petty offences**. The provision is similar to the US where it is prescribed for offences like vandalism, petty theft, and drunk driving.

Indian Penal Code, 1860 (IPC)

The Charter Act, 1833, established a Law Commission (1834). **Lord Macaulay was appointed its chairperson**. The Commission, under his guidance, consolidated and codified the criminal laws of India in the form of IPC. **IPC was enacted by the Legislative Council in 1860**. Till then a mix of Hindu, Muslim and British laws was applicable across India. It led to ambiguities as same crime had a different punishment in the Presidencies of Calcutta, Madras and Bombay. **Codification introduced uniformity in criminal law**. IPC has remained at the heart of India's Criminal Justice System since then.

Bhartiya Nagrik Suraksha Sanhita Bill, 2023 (BNSS)

- It will replace the Criminal Procedure Code, 1973.
- **Undertrials:** Under the CrPC, 1973, if an accused has spent under detention half of the maximum period of imprisonment for an offence (except for offences punishable by death), during investigation or trial, he must be released on his personal bond. The Bill expands the exceptions to include offences punishable by life imprisonment, or if proceedings are pending against a person for more than 1 offence.
- **Trials in Electronic Mode:** The Bill provides that all trials and proceedings **may be held in electronic mode** (including video conferencing). It provides for the production of electronic communication devices (mobiles, computers etc.), likely to contain digital evidence, for investigation or trial.

- **Forensic investigation:** BNSS mandates forensic investigation for offences punishable with **at least 7 years of imprisonment**.
- **Timelines for Procedures:** The Bill prescribes timelines for various procedures.
 - Judgement within 30 days of completion of arguments (extendable up to 60 days).
 - Framing of charges by a sessions court within 60 days from the first hearing.
 - Informing the victim of progress of investigation within 90 days
 - Medical practitioners to submit reports of rape survivors to the investigating officer within 7 days.
- **Trial in Absence:** BNSS provides for conduct of trial and pronouncement of judgement in the absence of a proclaimed offender (who has absconded). Proclaimed offender refers to a person who is accused of an offence punishable with imprisonment of at least 10 years or death and fails to appear at a specified time and place as specified by a Court.
- **Signatures and finger impressions:** CrPC empowers a Metropolitan/Judicial Magistrate to order any person to provide specimen signatures or handwriting. BNSS also includes finger impressions and voice samples.
- **Mercy Petition:** Under BNSS, the mercy petition in death sentence cases has to be filed within 30 days of dismissal of the appeal or special leave to appeal by the Supreme Court.
 - No appeal shall lie in any Court against the order of the President made under Article 72.

Code of Criminal Procedure, 1973

The **Code of Criminal Procedure** is the main legislation on **procedure for administration** of criminal law in India. It was enacted in 1973 and replaced the CrPC 1882 (amended 1898). It provides the machinery for the investigation of crime, apprehension of suspected criminals, collection of evidence, proceedings in Court determination of guilt or innocence of the accused person etc.

Bhartiya Sakshya Bill, 2023 (BS)

- It will replace the Indian Evidence Act, 1872.
- **Admissibility of Electronic or Digital Records as Evidence:** The 1872 Act provides for two kinds of evidence: documentary and oral evidence. The Bill provides that **electronic or digital records will have the same legal effect as paper records**. It expands electronic records to include information stored in communication devices like smartphones, laptops, and on emails, server logs, and voice mails.
- **Oral Evidence:** Under the 1872 Act, oral evidence includes statements made before Courts by witnesses. The Bill adds any information given electronically to be considered as oral evidence.

What are the Government's Rationale for the New Bills?

The **Statement of Objects and Reasons** of the Bills note:

Bhartiya Nyaya Sanhita Bill, 2023

- The IPC was enacted in 1860. The Government considered to **make existing laws relevant to the contemporary situation** and provide speedy justice to common man, with a view to **create a legal structure which is citizen centric**.
- The offences against women and children, murder and offences against the State have been given precedence. **Various offences have been made gender neutral.** (*Address crimes against women*).
- New offences of terrorist acts and organised crime have been added with deterrent punishments in order to **deal effectively with the problem of organised crimes and terrorist activities.** (*Check organized crime*).
- A new offence on acts of secession, armed rebellion, subversive activities, separatist activities or endangering sovereignty or unity and integrity of India has also been added. (*Address concerns of national security*).
- The fines and punishment for various offences have also been suitably enhanced. (*Act as deterrent*).

Bhartiya Nagrik Suraksha Sanhita Bill, 2023

- The Statement notes issues like complex procedures, delays, pendency and low conviction rates etc. as **hurdles in speedy delivery of justice**. The Government wants the **procedures to be citizen centric**.
- It provides for the **use of technology** and forensic sciences in the investigation of crime. (*Help in improving conviction rate*).
- Specific time-lines have been prescribed for time bound investigation, trial and pronouncement of judgements. (*Help in faster delivery of justice*).
- Citizen centric approach have been adopted for supply of copy of first information report to the victim and to inform them about the progress of investigation. (*Increase transparency*).
- In cases where the punishment is 7 years or more, the victim shall be given an opportunity of being heard before withdrawal of the case by the Government.
- Summary trial has been made mandatory for petty and less serious cases. (*Quick trials and reduce pendency*).

Bhartiya Sakshya Bill, 2023 (BS)

- The Evidence Act was enacted in 1872 and does not address the technological advancements.
- The Bill provides for appearance of witnesses, accused, experts and victims through electronic means. (*Reduce delays, streamline the process and improve convenience*).
- It provides for admissibility of an electronic or digital record as evidence. (*Widen the scope of investigation, improve conviction rate*).
- The Bill introduces **more precise and uniform rules** of practice of courts in **dealing with facts and circumstances** of the case by means of evidence. (*Improve objectivity in trials, better adjudication*).

What are the concerns associated with the Bills?

- The Government has repealed the Sedition Law which was criticized for misuse. However, BNS has introduced new offences like exciting secession, 'subversive activities', 'encouraging feelings' of separatist activities etc. **The subjective terms like 'encouraging feelings' can lead to similar misuse**.
- Critics have argued that Bills continue to rely on the philosophy of the British to instil fear through harsh punishments. The Bill has prescribed harsh punishments including death penalty and increased mandatory minimum sentences for certain offences. **There is lack of focus on criminal reformation and rehabilitation**.
- The effectiveness of the Bills to ensure faster delivery of justice will **depend on actual implementation**. Criminal Procedure Code too had rules (e.g., on number of adjournments) but **discretion of Judges added element of subjectivity**. BNSS may end up with similar constraints.

What should be approach ahead?

- The Bills should be **deliberated thoroughly** in the Parliament to address the concerns.
- The Government should focus on **reforming other components** of the justice system including **police, jail and judicial reforms**. Access to resources, capacity enhancement and use of technology should be the top priority.
- Multiple Commissions and Committees

have suggested reforms. **The recommendations should be implemented gradually** e.g., Supreme Court had recommended separation of law enforcement and criminal investigation for better policing in the Prakash Singh Judgment. The Union Government should consult with States to implement the reforms.

Committees on Reforms

Justice Mulla Committee (1980): Jail Reforms

Ribeiro Committee (1998): Police Reforms

Padmanabhaiah Committee (2000): Restructuring of Police

Malimath Committee (2003): Reforms on Criminal Justice

Supreme Court Directive (2006): Police Reforms (*Prakash Singh Judgment*)

Madhav Menon Committee (2007): Draft National Policy on Criminal Justice

General Studies Paper I

1. Challenges Faced by India in 1960s-1980s (Post Independence)

News: The Prime Minister talked about the Mizoram Insurgency in his speech in the Lok Sabha. India faced multiple internal and external security threats in the 1960s-1980s.

What challenges were faced by India in the 1960s?

- **Wars:** India fought two wars with China (1962) and Pakistan (1965) which posed considerable security and economic challenges. Relationship with China had begun to worsen in the late 1950s, due to the border dispute and India's support to Dalai Lama.
- **Political Challenges:** There was political instability with untimely deaths of Pt. Nehru (1964) and then Mr. Shastri (1966). The deaths had created a large leadership vacuum.
- **Mizo Insurgency:** The Mizo insurgency had erupted in 1960s and lasted till mid-1980s with the signing of Mizoram Peace Accord in 1986. Two events in 1960s worsened the conflict: Use of India Air Force against the insurgents in 1966 that led to casualties of civilians. In 1967, the Indian Army implemented the **Protected and Progressive Villages (PPVs)**. It forced the locals to **abandon their homes and assets** in the inaccessible interiors of the State (forests etc.) to live inside **protected villages** (fenced areas closely guarded by the Armed Forces). Some political commentators have called the PPVs as 'Concentration Camps minus the gas chambers'.
- **Regional Movements:** 1960s also witnessed emergence and strengthening of regional movements like Dravid Movement in Tamil Nadu and Punjabi Suba movement in Punjab. The
- **Communal Tensions:** Theft of a relic kept at the Hazratbal shrine in Srinagar led to communal tensions in J&K and elsewhere. Widespread rioting against the minority community in East Pakistan (now Bangladesh) led to influx of refugees into India.
- **Economic Challenges:** The economic situation was worsened by the famines in 1965-67 period posing serious food security challenges. India was dependent on foreign nations for food aid.

What were the challenges in the 1980s?

- **Insurgencies:** Radical insurgency emerged in Punjab in late 1970s-early 1980s. 1984 was a tumultuous year with Operation Bluestar, assassination of PM Indira Gandhi and widespread rioting against the Sikh community. In late 1980s, insurgencies erupted in J&K and Assam.
- **External threats:** The Tamil Eelam movement in Sri Lanka and India's participation to curb the secessionist movement through IPKF had posed new challenges. Relationship remained tense with Pakistan and China. Exercise Brasstacks (1986-87) had led to a war-like situation with Pakistan.

What are the lessons to be learnt from these challenges?

- **Tackling Insurgencies:** Use of hard tactics and force may not always lead to peace. Dialogue, talks and negotiations can **help address the underlying reasons of insurgencies** and can result in establishment of more long-lasting and durable peace.
- **Human Rights Concerns:** The 'Protected and Progressive Villages' initiative led to significant rights abuses. It teaches the need for **oversight** and **ethical considerations in security operations**.
- **Internal Stability and National Security:** The political transitions of 1960s and 1980s (the untimely death of Pt. Nehru without a clear successor) underscore the importance of ensuring continuity of political leadership. It also shows interconnectedness of political leadership and internal security. Political parties must have a transition plan to address such uncertainties. New leadership should be pre-identified and suitably groomed regarding national and international issues so that transitions are less disruptive.

- **Alertness with respect to Neighbours:** India should always be mindful of internal political developments in the neighbouring countries that have implication for India's strategic interests. At the same time, India should **avoid overt interference in their internal affairs** as a lesson from India's experience in Sri Lanka.
- **National Unity during Crises:** The diverse challenges, from the Punjab insurgency to the Kashmir unrest, highlight the need for promoting national unity and harmony.

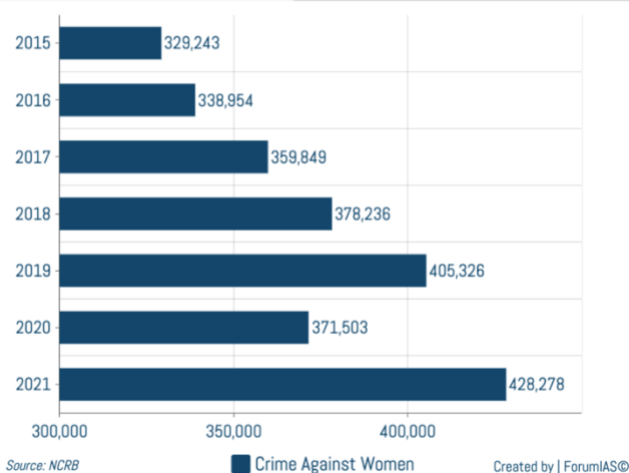
2. Supreme Court's Handbook on Combating Gender Stereotypes and Gender Justice

News: Despite reforms, the incidents of violence against women has shown an increasing trend, indicating gender justice remains elusive. Release of Handbook by the SC is a positive development in this regard.

What is the trend regarding crimes against women?

- The crimes against women include rape and rape with murder, assault, kidnapping, abduction and trafficking, acid attacks, forced marriage, domestic violence and cruelty by family members, dowry harassment, online harassment, stalking among others.
- Barring 2020, the crimes against women **has shown an continuous increasing trend** and reached the high of 4.28 lakhs in 2021. Maximum cases were lodged in Uttar Pradesh (56,083; 13.1%), followed by Rajasthan (40,738; 9.5%), Maharashtra (39,526; 9.2%) and West Bengal (35,884; 8.4%).
- In terms of crime rate (number of crimes/lakh population), Assam (168.3) was at the top, followed by Delhi (147), Odisha (137), Haryana (119.7) and Telangana (111.2).
- In 2021, **31,677 cases of rape were filed** (~87 cases every day). Rajasthan (6,337; 20%) was at the top followed by Madhya Pradesh (2,947; 9.3%), Uttar Pradesh (2,845; 9%) and Maharashtra (2,496; 7.9%).

Crime Against Women



What are the features of Handbook on Combating Gender Stereotypes?

- The Handbook aims to assist judges and the legal community in **identifying, understanding and combating stereotypes about women.**
- It contains a **glossary of gender-unjust terms** and **suggests alternative words/phrases** which may be used while drafting pleadings, orders and judgments, e.g., instead of using stereotyped words like "seductress", "promiscuous woman", "whore"; simply "woman" should be used.
- The Handbook **identifies common stereotypes about women**, many of which have been utilised by courts; and demonstrates **why they are inaccurate** and **how they may distort the application of the law**

Stereotypes

- > A stereotype is defined as "a set idea that people have about what someone or something is like, especially an idea that is wrong".
- > Stereotypes are typically held against individuals by virtue of their membership of a group. They are assumptions or beliefs that individuals belonging to specific social groups (gender, ethnicity etc.) have certain characteristics or traits e.g., "Women are poor at driving".
- > Stereotypes influence one's thoughts and actions towards other people. Stereotypes can **lead to exclusion and discrimination** in workplaces, educational institutions, and public places e.g., women employees are not provided leadership roles because they are "emotional" and "can't take tough decisions".

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e.g., it counters the stereotype that “Women are overly emotional, illogical, and cannot take decisions” by stating the reality that “A person’s gender does not determine or influence their capacity for rational thought”.

- The Handbook also encapsulates the current doctrine on key legal issues which may be relevant while adjudicating certain cases, particularly those concerning sexual violence.

How do stereotypes impact judicial decision making?

- Stereotypes impact the **impartiality** and the **intellectual rigour** of judicial decisions. Judges may end up ignoring the requirement of law or distort the application of law due to stereotypical beliefs e.g., the Mathura Rape case. In **Mahmood Farooqui v. NCT of Delhi (2017)**, a Delhi HC Judge remarked that a ‘feeble no’ by a rape survivor may mean ‘yes’ and may have been misconstrued by the rape accused as ‘assent to the intercourse’. The HC acquitted the accused. Such stereotypes tend to **shift focus of the trial from consent to the character of the assault survivor**.
- Even when judges reach legally correct outcomes, the use of reasoning or language that promotes gender stereotypes **undermines autonomy**, and **dignity of the individuals** before the court.
- Using stereotypes goes **against the constitutional principle of ‘equal protection of laws’**, (the law should apply uniformly and impartially to every individual **irrespective of their membership to a group or category**).
- The use of stereotypes by judges also has the effect of **entrenching and perpetuating stereotypes**, creating a **vicious cycle of injustice**.

Gender Stereotyping in Judiciary: **Tukaram Vs. State of Maharashtra (1979)**

- A tribal girl named Mathura was raped in police custody in Gadchiroli, Maharashtra (1972).
- The trial court (1974) held that the tribal girl was ‘habituated to sexual intercourse’, her **consent was voluntary** and acquitted the accused.
- The Bombay High Court overturned the judgment by the sessions court. The HC stated that this is a case of **passive submission** given with subject to threat of death or injury. The HC sentenced the two accused to 5 years and 1 year of imprisonment.
- The **Supreme Court again overturned the HC decision** and acquitted the accused. It held that the **girl had raised no alarm**; there were **no visible marks of injury** on her body suggesting no struggle. She **did not raise any alarm to stop the crime**, indicating **voluntary submission** and hence there was no rape.

How will the Handbook on Combating Gender Stereotypes be useful?

- The Handbook is expected to **sensitize the judges** about the prevalent gender biases. It can help in **correct application of the law** in dealing with gender-sensitive cases.
- It can help **counter the absurd reasoning patterns** and **regressive interpretations of laws** driven by gender biases (like women wearing western outfits are of ‘loose character’) which can alter judicial decision-making.
- It is a first step towards **addressing biases prevalent in the judiciary** (Refer EPIC December 2022 (click) for Representation of Women in the Judiciary). A study by the Carnegie Mellon University had found that cultural stereotyping present in 25 languages that ‘women more suited to the domestic sphere’ had undermined gender equity efforts in STEM Careers (Refer EPIC September 2022 (click) for Breaking the ‘Glass Ceiling’: Rising Number of Women in STEM). Addressing gender bias shows SC’s willingness to correct the gender discrimination. Progressive judgments may act as a catalyst for broader social change.

3. Gender Harassment at Workplace and the POSH Act, 2013

News: Issues in the implementation of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 has impacted its effectiveness in addressing issues of harassment.

What is the trend of sexual harassment cases at the workplace?

- According to a report by the International Labour Organization (2022), nearly **23% of employed individuals globally experienced violence and harassment at work**. The report also noted that the recurrent episodes of sexual harassment are higher among women at 56.5% at work.
- A research had found that the majority of cases (~70%), harassment is done by persons who command authority at senior positions. Women are twice as likely as men to experience gender-based harassment and sexual abuse.
- An analysis conducted by Mint revealed that India's leading publicly traded companies witnessed a **70% increase in sexual harassment complaints** during the period of 2022-23. The number of cases registered under the Act reached 759 in 2021-22 in top listed companies (BSE 100 index).
- Experts argue that the increase in cases may be due to **improved reporting mechanisms** and clear guidelines. Employees may have a **greater sense of confidence in the redressal process** and more women may be coming forward to seek resolution. Companies have tried to **raise awareness through regular training sessions**.

Salient Features of PoSH Act, 2013

- > It aims to create a safe and conducive work environment for women and provide protection against sexual harassment.
- > The Act and the Handbook on Sexual Harassment of Women at Workplace defines sexual harassment, lay down the procedures for complaint and inquiry, and the action to be taken in cases of sexual harassment.
- > The Act mandates every employer to constitute an Internal Complaints Committee (ICC) at each office or branch that has 10 or more employees.
- > The complaint must be made "within 3 months from the date of the incident". The ICC can extend the duration under certain circumstances. The ICC may either forward the victim's complaint to the police, or it can start an inquiry that has to be completed within 90 days.
- > If the allegations are proven, the ICC will recommend action "in accordance with the provisions of the service rules" of the company, that may vary from company to company.

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What are the impacts of sexual harassment at the workplace?

- Harassment causes **mental stress** and prevents the employee from fully utilizing her potential.
- The impact of harassment is not limited to the victim employee alone. Hostile work environment **instills fear in the minds of all female employees, reducing their productivity**. It reduces the space for women to make meaningfully contribute to the growth of the company.
- Long-term repercussions include depressive disorders, reduced engagement, premature departure from jobs and hindrance in career progression.
- A study (2018) has observed that the overall **financial consequences of workplace harassment amount to US\$ 2.8 billion**. For individual women victims, the financial losses can vary from US\$ 600,000 to 1.3 million.
- **Fear of harassment is a major reason for women not joining the workforce**. McKinsey (2015) had reported that US\$ 2.9 trillion of additional annual GDP in 2025 could be added in India by bridging the gender gap.

What are the challenges in addressing workplace harassment?

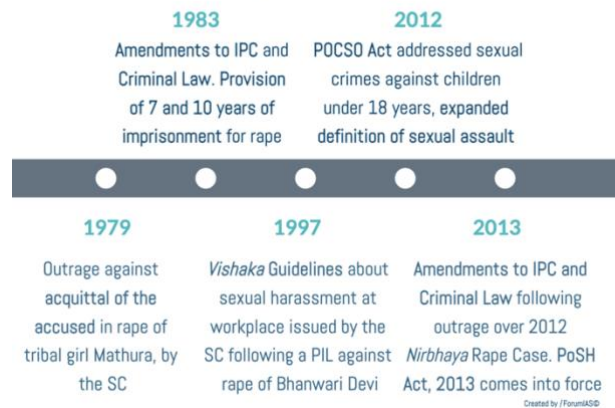
- A lot of women do not report their experiences **fearing stigma** as well as **retaliation by the management** hampering the prospects of their **career progression**. Hence the number of cases of workplace harassment remain significantly underreported.
- Many entities have not established the **Internal Complaints Committee (ICC)** as mandated by the Act. The SC recently lamented the absence of ICC in 16 out of the 30 national sports federations.

- The Act mandates establishment of a local committee in every district to receive complaints from women working in **firms with less than 10 employees** and **from the informal sector**, including domestic workers, home-based workers etc. However, due to **low awareness, women workers in the informal sector are unable to benefit from the Act.**

What should be done going ahead?

- The PoSH Act penal provisions for employers not adhering to the mandate of the Act, including cancellation of license in case of repeat violations. However, the implementation has been lax. There is a need to take strict action against the defaulting employers.
- Companies have been taken steps to increase awareness and sensitize their employees regarding harassment at the workplace. Efforts should be scaled up. The responsibility of ensuring safe and inclusive work environment must be driven by the top management.
- The Government must review the existing mechanism for addressing complaints in the informal sector and take steps to generate greater awareness and make the Act more inclusive.

Movement Against Rape in India



4. Challenges in the Planning of Delhi NCR

News: Delhi National Capital Region (NCR) has undergone rapid urbanization. This has posed new challenges like pressure on infrastructure, pollution, income inequality etc.

What the challenges faced by the Delhi NCR?

- **Population and Urbanization:** The NCR region has been undergoing rapid urbanization and its population is expected to reach 7 crore by 2031 and 11 crore by 2041. The region is expected to surpass Tokyo as the most populous urban agglomeration by 2028.
- **Infrastructure:** Haphazard expansion has led to fragmented infrastructure related to drinking water, sewerage, electricity etc. Lack of affordable urban housing has led to formation of illegal slums and squalor. According to official estimates, Delhi's slum population is ~20 lakhs (~12%), but experts contend that share of population living in slums is much higher.
- **Income Inequality:** Delhi has one of the highest per capita income in India. However, the distribution is not uniform. A very large section of people lack access to even basic amenities. Most jobs are in the informal sector lacking social security, women's participation is low.
- **Environmental Issues:** The NCR is among the most polluted regions in the world. Every year, **air quality in the NCR deteriorates to hazardous levels** in November-December. The **Yamuna river** has become polluted due to **discharge of untreated industrial effluents** and **domestic sewerage**. There is impending water crisis due to falling water table, leakages, wastage and **poor water-use behaviour**.
- **Crime Rate:** In 2021, Delhi had the highest crime rate in India (1,480 crimes/100,000 people). It also has one of the worst rate of crime against women.

Counter Magnet Areas (CMAs)

They were envisaged in **Regional Plan 2001** (NRCPB). They are such urban areas as may be located **sufficiently away from the NCR** and, should have known established roots and inherent potentials to function as **viable independent growth foci**. They should have attributes of **physical, social and economic viability, nodality with respect to transportation network** and have the **quality of physical linkages** in the form of **transportation and communications facilities**.

National Capital Region

- The NCR region has been created under the **NCRPB Act, 1985**. It includes **National Capital Territory (NCT) Delhi**, and 14 districts of **Haryana**, 8 of **UP** and 2 of **Rajasthan**.
- NCR had population of 5.81 cr in 2011, and is expected to rise to 11 cr by 2041. The level of **urban population** in NCR will reach **67% by 2041**.
- Area under NCR is 55,083 sq. km. in 2018.
- NCR is the **largest dry-port** and **largest Logistics Hub** for the entire North India.
- NCR contributes ~8% to India's GDP.
- NCR is **highest employment contributor** to the economy.
- NCRPB has also identified 9 **Counter Magnet Areas (CMAs)** like Ambala, Jaipur, Patiala-Rajpura, Kanpur-Lucknow, Dehradun etc.



What should be done going ahead?

- **Powers of NCRPB:** A 2020 CAG report had noted that NCRPB has failed to meet its objective “*coordinating and monitoring the implementation of the RP [regional plan]...so as to avoid any haphazard development of the region*”. The Regional Plan 2021 was enforced in 2005, but the **member States did not finalise the sub-regional plans** for their respective areas. Instead, they passed master plans with massive deviations from the provisions of the NCRPB Plan. Sub-regional plans have to be prepared in conformity with the provisions of the Regional Plan. In this context, the NCRPB has to be given greater powers in implementing the Regional Plans.
- **Coordination:** Each State has its own interests which they tend to push through in the Regional Plans. NCRPB consists of Chief Ministers of the member States and is headed by the Union Urban Development Minister. A new executive committee, within the NCRPB, should be established for better coordination and balance interests of all States. It should devise **place-specific development strategies**.
- **Multi-Stakeholder Platform:** A new platform should be established involving the government, private sector, academia, industrial bodies, and civil society representatives to address development needs collaboratively.
- **Targeted Infrastructure and Investment:** Spatio-economic assessments should be used to target infrastructure investments and foreign direct investments in economically dynamic locations. It will ensure better returns and job growth.
- **Inclusivity:** Regional Plan and sub-plans should ensure **safe and accessible work environments**, along with child and elder care facilities, to enable greater participation of women in the economy. Spatio-economic

Challenges Before NCRPB

- **Multiple laws** across 4 sub-regions (NCT, Haryana, Rajasthan and UP).
- Different land assembly and **change in land use provisions** varying vastly across 4 States.
- **Approval processes** for different economic and construction activities vary vastly across sub-regions.
- **Low resource allocation** for projects with holistic, macro pan-NCR objectives.
- **Time consuming, complicated, cumbersome and non-digital approval processes** across all 4 sub-regions.
- **Entry barriers** between 4 sub-regions: local priorities.
- **Archaic laws** like Delhi Land Reforms Act, etc. hold back development and create islands of chaos like Lal Dora/ Extended Lal Dora, etc.

assessments can also improve access to education, healthcare, basic services, and jobs for marginalized groups.

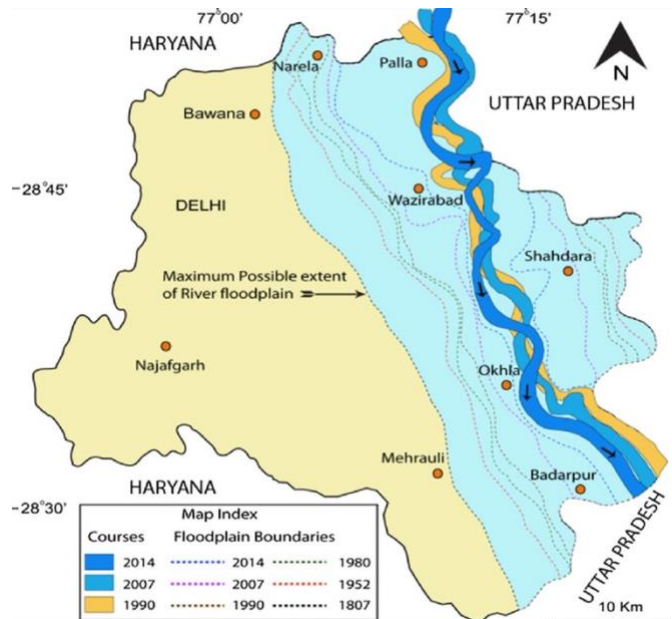
- **Environmental Consciousness:** Keeping climate change in mind, the planning process should incorporate environmental impact assessments, promoting sustainable practices and valuing planetary resources while pursuing economic growth.

5. Yamuna Floodplains: Importance and Concerns

News: Large parts of Delhi were inundated by Yamuna's waters. Experts have attributed this, among other factors, to encroachment over Yamuna floodplains.

What is the significance of Yamuna Floodplains?

- **Historical Importance:** The environmentalist Anupam Mishra has called Yamuna as Delhi's "real town planner". Delhi was traditionally planned along the river's course. It ensured Delhi never faced water scarcity.
- **Ecological Role:** Floodplains recharge groundwater and store excess water, replenishing the city's water supply. Sediments of floodplains create aquifers that rejuvenate groundwater.
- **Livelihoods:** A 2022 report identified 56 *bastis* housing 46,750 people on Yamuna floodplains. Half of these households depend on farming in the floodplains; others rely on fishing etc. among others
- **Agricultural Value:** Rich silt deposited on banks aids farming. Common crops include rice, wheat, and vegetables.
- **Flood Control:** Floodplains slow water runoff, help manage large inflow of waters and prevent floods.



Source: The Hindu. The changing course of Yamuna and extent of floodplains.

What are the challenges faced by the Yamuna River's Floodplains?

- **Encroachment:** Rapid urbanization and haphazard construction activities affect floodplains. Construction on floodplains has restricted the river's natural flow.
- **Loss of Floodplain:** Restriction on river's natural flow increase the risk of floods. Delhi had experienced major floods in 1978, 1988, 1995 and now in 2023.
- **Lack of Proper Policies:** Floodplain zoning has not been adequately included in the Master Plan.
- **Pollution:** Population growth has outpaced sewage infrastructure, increasing river pollution.

What should be done going ahead?

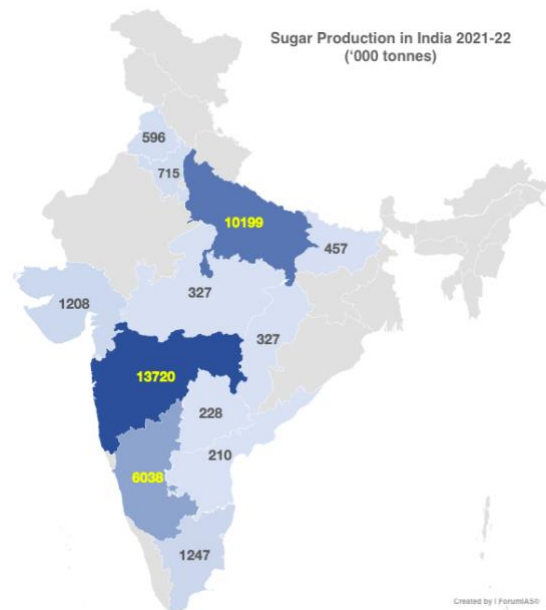
- **Floodplains in Master Plan:** Master Plan for Delhi's development should have graded but strict restrictions on construction activities in the floodplains. Violation of rules should be heavily penalised including erring officials responsible for implementation of plans.
- **River Health:** The focus should be on desilting and rejuvenating the river. Industrial effluents and domestic sewerage should be properly treated before discharging into Yamuna.

6. Rising Sugar Production in India and Associated Issues

News: India became the top sugar producer in the world in 2021-22 with production of 390 lakh tonnes. But extensive use of resources in sugar production has raised concerns of a potential water crisis in future.

What are the reasons behind rising sugar production?

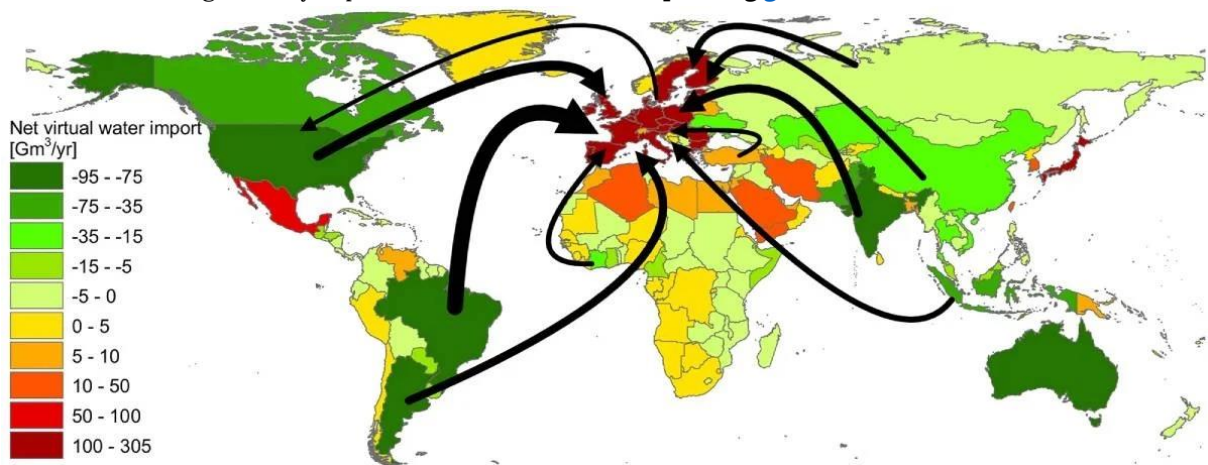
- The sugar production has risen due to policy measures encouraging cultivation of sugarcane.
- The Union Government has implemented the **Fair and Remunerative Price Scheme** that ensures minimum prices to be paid by sugar mills to the farmers. State Governments too offer significant **subsidies to incentivize the cultivation of sugarcane**.
- India is the 2nd-largest exporter of sugar and exported 110 lakh tonnes in 2021-22.



Maharashtra, UP, and Karnataka contribute to ~75% of India's sugar production.

What is the impact of sugar production on groundwater?

- Depending on location, sugarcane requires 150-200 cm of water. But top sugar(cane) producing States receive 100-150 cm rainfall, necessitating dependence on groundwater.
- Production of 100 kg of sugar consumes ~200,000 litres of groundwater. Thus **India is exporting large amount of water (virtual water trade)** along with sugar. The situation is exacerbated by India's export of other **water-intensive commodities** like rice, buffalo meat etc.
- This is concerning as many experts have warned about **impending groundwater crisis in India**.



Source: [waterfootprint.org](https://www.waterfootprint.org/). Virtual water trade refers to the import and export of hidden water in the form of products that require water in production like crops, textiles, livestock etc. India is one of the biggest exporter of virtual water, EU is the biggest importer.

What should be the approach?

- There is a need to **re-evaluate the policies** that incentivize the production and export of water-intensive commodities. Policies should incentivize diversification of crop patterns suitable to local agro-ecological conditions, while ensuring fair income to farmers.
- **Water-conservation measures** should be promoted to **check overuse and wastage of groundwater**. Rainwater harvesting, wastewater treatment etc. can **promote utilization efficiency of water resources**.

General Studies Paper II

1. Appointment of Chief Election Commissioner and Other Election Commissioners

News: The Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Bill, 2023, has been introduced in the Parliament.

What was the need for a new Bill?

- In March 2023, a 5-Judge Bench of the Supreme Court had ruled the appointments of Chief Election Commissioner (CEC) and other Election Commissioners (ECs) shall be made by a **Committee comprising the Prime Minister, Leader of Opposition (LOP) and the Chief Justice of India (CJI)**. (Refer EPIC March 2023 (click) for Supreme Court's Judgment on Selection of Election Commissioners).
- The SC's Judgement was based on a PIL filed in 2015 that had challenged the constitutional validity of the practice of appointment of CEC/ECs by the Union Government. Before SC's March 2023 Judgment, ECs/CECs were appointed by the President on the recommendation of the Union Government.
- The SC had said that **process will be followed till the Parliament enacts a law in this regard**.
- The Act repeals the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act, 1991.

Article 324(2)

The Election Commission shall consist of the Chief Election Commissioner and **such number of other Election Commissioners**, if any, as the President may from time-to-time fix and the **appointment** of the Chief Election Commissioner and other Election Commissioners shall, subject to the provisions of any law made in that behalf by Parliament, **be made by the President**.

What are the key features of the Bill?

- **Selection Committee:** The CEC and other ECs will be appointed by the President on the recommendation of a Selection Committee. The Selection Committee will consist of: the **Prime Minister as Chairperson**, the **Leader of the Opposition in the Lok Sabha** (or the leader of the largest opposition party) and a **Union Cabinet Minister nominated by the Prime Minister**.
- **Search Committee:** A Search Committee will prepare a panel of 5 persons for the consideration of the Selection Committee. **The Search Committee will be headed by the Cabinet Secretary**. It will have 2 other members, not below the rank of Secretary to the Central Government, having knowledge and experience in matters related to elections. The Selection Committee may also consider candidates who have not been included in the panel prepared by the Search Committee.
- **Qualification of CEC and ECs:** Persons who are holding or have held posts equivalent to the **rank of Secretary to the Central Government** will be eligible to be appointed as CEC and ECs. Such persons must have expertise in managing and conducting elections.
- **Salary and Allowances:** The 1991 Act provided that the salary of the ECs will be equal to that of a Supreme Court judge. The Bill provides that salary, allowance, and service conditions of the CEC and other ECs will be the same as that of the **Cabinet Secretary**.
- **Re-appointment:** The CEC and other ECs will not be eligible for re-appointment.
- **Conduct of business:** All business of the Election Commission is to be conducted unanimously. In case of difference of opinion between the CEC and the other ECs on any matter, it shall be decided through majority.

What are the concerns associated with the Bill?

- **Functioning of the Selection Committee:** Section 8(1) of the Bill provides that the **Selection Committee can regulate its own procedure** for selecting the CEC or other ECs. The rules will be formed by the Government

(Executive) after the passage of the Bill in the Parliament (Legislature), giving Executive greater control over the process. Section 8(2) authorises the Committee to **consider a person other than those included in the panel by the Search Committee**. This may undermine the Search Committee.

- **Control of the Executive:** The Bill does not clarify the process for resolving a difference of opinion between the Selection Committee Members. If the rules specify that decision of selecting CEC/ECs would be based on majority instead of consensus; the view of Leader of Opposition can be overruled by the PM and the Union Minister. Thus the Executive will have a greater say in the selection process. The Constituent Assembly had debated and decided that the election machinery should be outside the control of the Executive. The Bill violates constitutional spirit.
- **Status of CECs:** The eligible candidates for CEC/ECs must have held a post equivalent to the rank of Secretary to the Government of India. Their salary should be same as that of the Cabinet Secretary. Some experts say that this is downgrading of the status of CEC from being equivalent to the SC Judge (Order of Precedence 9A) to that of Chief Secretary (Order of Precedence 11).

Functions of the Election Commission

- The Election Commission is a **permanent and independent body** established by the **Constitution of India** to ensure **free and fair elections** in the country.
- **Article 324** of the Constitution provides that the power of superintendence, direction, and control of elections shall be vested in the Election Commission.
- The functions of Election Commission include:
 - It is responsible for **conducting elections** to the Parliament, State Legislatures, the Offices of President and the Vice-President of India.
 - It prepares and periodically **update electoral rolls** and to register all eligible voters.
 - It **recognises Political Parties** and grants them election symbols.
 - It issues a **Model Code of Conduct** and keeps an eye on the election expenditure of candidates.
 - It sets **limits on election campaign expenditure** per candidate and monitors the same.
 - It **advises the President/Governor** on matters relating to the disqualifications of the Members of Parliament/State Legislative Assembly.

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What are the positive aspects of the Bill?

- **Removal of ECs:** Under Section 324(5) of the Constitution, the CEC can be removed from the Office in the same manner as the removal of a Judge of the SC. ECs can be removed based on the recommendation of the CEC.
- **Clarity of Process:** The Bill provides for clear process, including eligibility and the procedure, regarding the appointment which was missing earlier.
- **Inclusion of Opposition:** The inclusion of Leader of Opposition in the Lok Sabha will improve diversity of opinion and make the selection process more inclusive.

Section 11(2) of the Bill

The **Chief Election Commissioner** and **other Election Commissioners** shall not be removed except in accordance with the provisions contained in the first and second provisos respectively of **Clause (5) of Article 324 of the Constitution**.

The introduction of the Bill is a positive development. There has been **criticism of absence of CJI from the Selection Committee**. But a former CEC has said that inclusion of CJI can be avoided. There may be a **conflict of interest** if, in future, the CJI adjudicates on a matter to which Election Commission of India (ECI) is a party or the very appointment of the CEC/EC is questioned in the SC.

To dispel the misgivings about the Bill, the Government can formulate the rule that the **decision of the Selection Committee should be through consensus**, ensuring weightage to the opinion of Leader of Opposition.

2. Bringing Political Parties under the Purview of the RTI Act

News: The Supreme Court is hearing a batch of petitions seeking a declaration that the national and regional parties are 'public authorities' under the RTI Act.

What was the CIC Order in 2013?

- In 2010, Association of Democratic Reforms (ADR) had filed an RTI application asking information about the '**10 maximum voluntary contributions**' received by all national political parties in the past 5 years.
- Political parties had responded that they did not fall under the purview of the RTI Act.
- The ADR filed a petition with the Central Information Commission.
- In June 2013, the CIC declared the then **6 national parties as 'Public Authorities' within the purview of the RTI Act**. Accordingly, these political parties were directed to designate Chief Public Information Officers (CPIOs) and the Appellate Authorities at their headquarters in 6 weeks' time.
- The political parties have not complied with the CIC order.

CIC Order on Political Parties

- **Funding:** National Parties have been substantially financed by the Central Government and hence considered public authority under Section 2(h) (ii) of the RTI Act.
 - They are allotted land in Delhi and other State Capitals; accommodations and bungalows are provided on concessional rates.
 - They enjoy total tax exemption under Section 13 A of the Income Tax Act.
- **Public Character:** Elections are contested on party basis and Political Parties affect the lives of citizens, directly or indirectly, in every conceivable way.
 - In spite of being non-governmental, they come to wield directly or indirectly influence on the exercise of governmental power. They control vital State organs.
- **Constitutional and Legal Provisions:** Political Parties are required to be registered with ECI under Section 29A of the RoP Act, 1951.
 - Political Parties can recommend disqualification of Members of the House in certain contingencies under the Tenth Schedule.

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What are the concerns in including political parties under the RTI Act?

- **Political Parties as Public Authorities:** Several experts have challenged CIC's declaration of political parties as Public Authorities. **Political parties are formed voluntarily and are not statutory bodies**. Their public engagement is by choice, not by law.
- **Risk to Internal Discussions:** RTI coverage could expose sensitive internal discussions on strategy, campaigns, and selection of candidates. Disclosure of such confidential information might jeopardize the essence of democratic competition.
- **Access to Information:** Major parties' financial accounts are already on the website of the Election Commission. Donor lists and public affidavits about candidates are publicly accessible.
- **Expanding Ambit:** If political parties are included under the RTI Act, NGOs and private corporations might be next as they too receive considerable benefits from the Government including exemptions and incentives etc. All entities receiving Government subsidies can be classified as Government bodies or public authorities.
- **Transparency in Funding:** The main issue is disclosure of large and anonymous donations to the political parties. Inclusion in RTI Act may not address this concern. An alternate avenue ensuring transparency in electoral funding may be required. (Refer EPIC August 2022 (click) for RTI Act: Benefits and Concerns).

What are the arguments in favour of inclusion of political parties under the RTI Act?

The ADR has provided several arguments in favour:

- **Government Benefits:** As noted by CIC, political parties benefit from income tax exemptions, access to real estate at concessional rates, use of All India Radio, *Prasar Bharti* for political campaigns etc. (national parties).
- **Public Authority:** Courts have ruled that for a body or institution to be a public authority and to come under RTI, there is no necessary condition for them to be established by a Government Order or Notification.
- **Impact on Public:** Political Parties are taking decisions that are of public importance and welfare.
- **Lack of Information:** Political Parties put out only very limited information regarding their internal functioning details such as total number of members of the Party, internal elections in the Party, details about the office bearers, criteria to induct members etc. The **most critical missing aspect is the source of political funding**. (Refer EPIC September 2022 (click) for Issues in Electoral Funding in India).

- **Entities under RTI:** A lot of NGOs, trusts, cooperative societies, schools, hospitals, sports bodies etc. getting direct or indirect benefits from the Government are under the ambit of RTI.

What should be the approach?

- The SC is hearing the petitions and is expected to deliver the judgment soon. Some political parties have told the SC that they **support the cause of financial transparency of political parties in the area of financial matters**. However, they are **against revealing confidential information** like criteria for selection of candidates or other internal discussions.
- Political parties have raised valid concerns. Hence a middle ground can be chosen. Political parties can be declared as public authorities, with a mandate to declare source of funding. **Confidential information can be exempted from the purview of the RTI Act.**
- **Reforms with respect to electoral funding**, as suggested by the ECI should be undertaken.
 - Cut-off for anonymous donation should be reduced to INR 2,000.
 - More transparency should be ensured in electoral bonds.
 - Public disclosure of funding sources on websites of the parties.

Section 2(h) RTI Act, 2005

“Public Authority” means any authority or body or institution of self-government established:

- By or under the Constitution.
- By any other law made by Parliament.
- By any other law made by State Legislature.
- By notification issued or order made by the appropriate Government, and includes any:
 - Body **owned, controlled or substantially financed**.
 - Non-Government organisation **substantially financed**, directly or indirectly by funds provided by the appropriate Government.

3. Issues Related to Age of Consent

News: The Bombay High Court has called for reduction in the age of consent, expressing concern over criminalization of adolescent's romantic relationships.

What is age of consent?

- ‘Age of consent’ refers to the legally defined age at which an individual is considered **capable of granting consent for sexual activities**.
- In most countries, the age of consent is 16-18 years. However, in many countries there are **exceptions based on the age difference between the partners** e.g., in Canada, the age of consent is 16 years but sex with minors aged 14-15 is permitted if the partner is less than five years older (i.e., 19-20 years), and sex with minors aged 12-13 is permitted if the partner is less than two years older (i.e., 14-15 years).
- In India, under **Section 375 of the IPC, sex with a girl below 16 years has been classified as rape**. The **POCSO Act, 2012 has raised the age of consent to 18 years**. Sexual activity with a child below 18 years is a criminal offence irrespective of the consent. (Refer EPIC December 2022 (click) for Functioning of the POCSO Act).

What are the issues with current age of consent?

- **Criminalization of Consensual Activity:** With rising access to internet and increased mobility at a younger age, more and more adolescents are indulging in sexual activity. However, POCSO Act, 2012 criminalizes such consensual sexual activity.
- **Family Pressure:** In most cases, families oppose the relationship between consenting adults. They file criminal complaints under the POCSO Act leading to arrest and incarceration of adolescents. Though courts have started taking lenient view in recent times, there is non-uniform application of law with many courts awarding full sentence to adolescents as prescribed by the Act. Women's rights activists claim that the POCSO Act has become a tool for families to control girls

- **Rising Pendency:** Filing of criminal complaints even in case of consensual activities leads to overburdening of cases. According to NCRB, the number of juveniles (between the ages of 16 and 18) apprehended under the POCSO Act has jumped by 180% between 2017-2021. A study on POCSO Act done by an advocacy group, Vidhi Centre for Legal Policy, had shown that **only**

Recent HC Judgments on the Issue



- **Vijayalakshmi vs State (2021):** The Madras HC stated that punishing an adolescent boy, who enters into a relationship with a minor girl by treating him as an offender, was never the objective of POCSO Act.
- **AK v. State Govt of NCT of Delhi (2021):** The Delhi HC stated that the intention of POCSO was to protect children below the age of 18 years from sexual exploitation and not to criminalise romantic relationships between consenting young adults.
- **Dharmendra Singh v State Govt of NCT (2020):** The Delhi HC has attempted to increase the chances of bail of an accused by issuing guidelines that pertain to close-in-age exemptions, available in statutory rape cases in most US states. Also known as the Romeo-Juliet law, it provides a degree of protection to the offender where the age difference between him and the victim is within the stipulated limit.
- Karnataka High Court urged the Law Commission of India to have a rethink on the criteria for age of consent, taking into consideration the ground realities.

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- **~14% POCSO cases resulted in conviction**, while 43% cases resulted in acquittal.
- **Change in Society:** The criminalization of adolescent sexuality **ignores social reality**. According to the NFHS-5, 39% women had their first sexual experience before turning 18. NFHS-5 also provides additional evidence of sexual activity among unmarried adolescent girls. It reports contraception use by 45% of unmarried girls in the age group of 15-19 years.

What should be the approach?

- Judiciary (especially higher judiciary) has taken a lenient view. Many HCs have quashed cases filed against consenting adolescents under the POCSO Act. They have asked the Government to review the age of consent.
- Countries like Canada have a **relaxed view with respect to age of consent when the age difference is small** (e.g., consensual sex between 12-13 and 14-15 years). The idea is that young minds may be curious about sex, and **there is no ill-intent**. The same isn't true when age gap is large, as the older person is fully aware of impact on the child (while the child is not) and is considered manipulating a child to fulfil his own carnal desires. A similar approach can be considered in cases of small age gaps in India.
- The Bureau of Police Research and Development could **analyse the cases of consensual sex** across States and help the Union Government in taking a decision of reducing the age of consent based on evidence.
- Some **leverage should be allowed to the judiciary to interpret consent** in cases of the victim being of lower age based on the **child's understanding of consequences**.
- The Supreme Court must step in to address the differing interpretations by the lower and High Courts.
- Focus should be on comprehensive sex education for adolescents to help them make informed decisions.

4. Mediation Bill Passed by the Parliament

News: The Mediation Bill, 2021 has been passed by the Parliament.

What is Mediation?

- It is a type of **Alternative Dispute Resolution (ADR)**, in which effort is on finding a solution agreeable to both parties.
- Mediation is **voluntary, binding process** in which an **impartial and neutral mediator facilitates disputing parties in reaching a mutually acceptable settlement**.
- A mediator does not impose a solution but creates a conducive environment in which disputing parties can resolve all their disputes.

What are the key provisions of the Mediation Bill?

- It defines Mediation to include pre-litigation, online and community mediation, conciliation, whereby parties, request a third person to assist them in their attempt to reach an amicable settlement of a dispute.

- Parties can try to settle commercial or civil disputes through mediation before approaching any court or tribunal. The **pre-litigation mediation is voluntary and not mandatory**. Voluntariness is a quintessential principle of mediation.

- A party may withdraw from mediation after 2 mediation sessions.
- The mediation process must be completed within 90 days, which may be extended by another 180 days by the parties.

- The **Mediation Council of India** will be set up. Its functions include **registering mediators**, and **recognising mediation service providers** and **mediation institutes** (which train and certify mediators).
- At present, mediations are ordered by the courts. When a dispute is settled through mediation, the settlement agreement is converted into a decree by the court, making it binding on the parties. The Mediation Bill puts a **mediated settlement agreement on par with a court judgment** without the need for any further court sanction.
- Mediation agreements can only be challenged on grounds of: Fraud, Corruption, Impersonation, or Relating to disputes not fit for mediation.

Benefits of Mediation

- > **Speedy Process:** Mediation is faster than court-based litigation.
- > **Cost-Efficient:** Mediation is more cost-efficient and economical than court proceedings.
- > **Amicable Settlement:** In Mediation, the settlement is reached amicably through mutual agreement. The settlement is agreeable to both parties and there is no aggrieved party.
- > **Enforcement:** The settlement agreement is easy to enforce as both parties are satisfied with the outcome.
- > **Success Rate:** Mediation has higher success rate, typically ~50%.
- > **Judicial Pendency:** Mediation reduces burden on courts and help address judicial pendency.

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What are the limitations of the Mediation Bill?

- **Exclusions:** The bill has a lengthy list of cases not suitable for mediation e.g., many disputes involving the Government are excluded, indicating a preference for the State to continue litigations.
- **Guidelines:** Section 49 states that the Union or State Governments can frame scheme or guidelines for resolution of any dispute through mediation or conciliation where they (Governments) are a party. In such cases, mediation or conciliation may be conducted in accordance with such scheme or guidelines. This guidelines may favour the Government, thus reducing the utility of mediation for the other party.
- **Limited Application:** Section 2 limits the applicability of the Act only to commercial disputes where one of the party to the dispute is Union/State Government or one of their agencies. The Government is the biggest litigant and circumscribing the applicability of the Act limits its effectiveness, especially in addressing judicial pendency.
- **Community Mediation:** Section 45 requires a panel of 3 mediators for community mediation. Experts have called the condition of 3 mediators unnecessary which might impact consensus building.
- **Interim Relief:** Section 8 allows a party to seek interim relief from a competent court or tribunal, before or during mediation proceedings, under exceptional circumstances. The exceptional circumstances have not been defined. It is against established norms regarding mediation process. It may lead to some parties abandoning mediation proceedings midway.

What should be done going ahead?

- The ambiguities related to certain sections should be clarified. The Rules to be formulated under the Act should be clear and without confusion.
- The Government(s) should focus on **creating a favourable ecosystem for the mediation process** to flourish and expand. The scope of the Act should not be limited only to commercial disputes for issues involving Government. Awareness has to be raised among the public regarding the mediation process.

5. The Digital Personal Data Protection Act, 2023

News: The Digital Personal Data Protection Bill, 2023 has been passed by the Parliament.

What is the need for a data protection Act?

- In today's digital economy 'Data is the new oil'. The metaphor shows that 'data' will play the same role in economic activity and growth in the 21st century as oil did in the 20th century.
- Personal data contain information that relates to an identifiable individual. Businesses and Government entities process personal data for delivery of goods and services. Processing of personal data allows **understanding preferences of individuals**, which is useful for **customisation, targeted advertising**, developing recommendations etc. Processing data may **aid law enforcement**.
- Unchecked processing may have **adverse implications for the privacy of individuals**. Privacy has been recognised as a fundamental right. It may subject individuals to harms like financial loss, loss of reputation, profiling, privacy breaches, identity theft and other malicious activities. As technologies like AI advance, the potential for extensive data collection, analysis, and manipulation grows exponentially.
- India does not have a standalone law on data protection. The Bill intends to fill the gap.



What are the key features of the Digital Personal Data Protection Act, 2023?

- **Applicability:** The Act applies to the processing of digital personal data within India that have been **collected online or have been digitized** (collected offline). It will also apply to the processing of personal data outside India if it is for offering goods or services in India.
- **Consent:** Personal data may be processed only for a **lawful purpose** after **obtaining the consent of the individual**. Notice must be given before seeking consent. Consent may be withdrawn at any point in time. Consent will not be required for 'legitimate uses' defined in the Act. For individuals under 18 years of age, consent will be provided by the parent or the legal guardian.
- **Rights of Data Principal:** An individual whose data is being processed (Data Principal), will have the right to: Obtain information about processing, **seek correction and erasure of personal data**, nominate another person to exercise rights in the event of death or incapacity, and grievance redressal.
- **Duties of Data Principal:** Data principals must not: Register a false or frivolous complaint, and furnish any false particulars or impersonate another person in specified cases. Violation of duties will be punishable with a penalty of up to INR 10,000.

• Obligations of Data Fiduciaries:

The entity determining the purpose and means of processing (data fiduciary), must: Make reasonable efforts to ensure the accuracy and completeness of data, **build reasonable security safeguards to prevent a data breach**, inform the Data Protection Board of India and

Challenges in Formulating Data Protection Law

- Balancing the **Rights of Data Principal** with the **compliances of Data Fiduciary**. Regulations shouldn't be so stringent to make data processing by Data Fiduciary impractical.
- Balancing the Right to Privacy of Data Principals with **reasonable exceptions**.
- Technology evolves fast. Data Protection Law shouldn't be unduly centred on providing solutions to contemporary concerns while **ignoring problems that may emerge in future**.
- Data Principals should be **able to readily exercise their rights and remedies** given their unequal bargaining power with respect to Data Fiduciaries.

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affected persons in the event of a breach, and **erase personal data as soon as the purpose has been met** and retention is not necessary for legal purposes (storage limitation). In the case of Government entities, storage limitation and the right of the data principal to erasure will not apply.

• **Transfer of Personal Data Outside India:** The Act allows transfer of

personal data outside India, except to countries restricted by the Central Government through notification.

• **Exemptions:** The Central Government may exempt certain activities from the application of the Act. These include: Processing by government entities in the interest of the security of the state and public order, and research, archiving, or statistical purposes.

• **Data Protection Board of India:** The Central Government will establish the Data Protection Board of India. Its key functions are: Monitoring compliance and imposing penalties, directing data fiduciaries to take necessary measures in the event of a data breach, and hearing grievances. Appeals against the decisions of the Board will lie with Telecom Disputes Settlement and Appellate Tribunal.

• **Penalties:** The Act specifies penalties for various offences e.g., up to INR 200 crore for non-fulfilment of obligations for children, INR 250 crore for failure to take security measures to prevent data breaches.

Benefits of Digital Personal Data Protection Bill, 2023

- **Understandable and Accessible:** The Bill has been written in concise, straightforward and uncomplicated manner with minimum use of legal jargon and liberal use of illustrations.
- **Principles-based Approach:** The Bill focuses on principles and outcomes instead of modes and processes. It give businesses flexibility in achieving compliance.
- **Light-touch Approach:** Businesses will benefit from the **light-touch and facilitative approach** of the Bill towards personal data protection. The Government has reposed trust in the private sector to act as responsible custodians of the personal data of their customers.
- **Impetus for Startup Ecosystem:** The rationalized and minimally intrusive data protection regime will attract global tech investments. Startups will be exempted from certain obligations helping them to grow. It will provide **impetus to the Startup ecosystem** and **enhance their global competitiveness**.

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What are the concerns related to the Act?

• **Exemptions:** Exemptions for the State may lead to data collection, processing, and retention beyond what is necessary. This may not be proportionate and may violate the fundamental right to privacy. The SC has held that any infringement of the right to privacy should be proportionate to the need for such interference.

• **Risk of Surveillance:** The Act empowers the Central Government to exempt processing by government agencies from any or all provisions, in the interest of the security of the State and maintenance of public order. The Act does not require government agencies to delete personal data, after the purpose for processing has been met. This may lead to profiling and surveillance by Government and its agencies.

• **Regulating Harm:** The Act does not regulate risks of harms arising out of processing of personal data. The Srikrishna Committee has observed that harm is a possible consequence of personal data processing. Harm may include material losses such as financial loss, identity theft, loss of reputation, discrimination, and unreasonable surveillance and profiling.

• **Lack of Rights:** The Act does not provide for **right to data portability** and the **right to be forgotten**, which were provided by earlier versions. The Srikrishna Committee had observed that a **strong set of rights of data principals is an essential component of a data protection law**. The rights are based on principles of autonomy, transparency, and accountability to give individuals control over their data.

Rights of Users under the GDPR

- **The right to be informed:** Data subjects must be informed about the collection and use of their personal data when the data is obtained.
- **The right to access their data:** A data subject can request a copy of their personal data via a data subject request. Data controllers must explain the means of collection, what's being processed, and with whom it is shared.
- **The right of rectification:** If a data subject's data is inaccurate or incomplete, they have the right to ask to rectify it.
- **The right of erasure:** Data subjects have the right to request the erasure of personal data related to them on certain grounds within 30 days.
- **The right to restrict processing:** Data subjects have the right to request the restriction or suppression of their personal data (though it can still be stored).
- **The right to data portability:** Data subjects can have their data transferred from one electronic system to another at any time safely and securely without disrupting its usability.
- **The right to object:** Data subjects can object to how their information is used for marketing, sales, or non-service-related purposes. The right to object does not apply where legal or official authority is carried out, a task is carried out for public interest, or when the organization needs to process data to provide customized services.

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- **Cross-border Transfer of Data:** The Act provides that the Central Government may restrict the transfer of personal data to certain countries through a notification. This implies the **transfer of personal data to all other countries without any explicit restrictions**. In the absence of robust data protection laws in another country, data stored outside India may be more vulnerable to breaches or unauthorised sharing with foreign governments as well as private entities.
- **Independence of the Data Protection Board:** A short term appointment (2 years) with the **scope for re-appointment may affect the independent functioning** of the Board. The SC has observed that short terms along with the provisions of re-appointment **increases influence and control of the Executive**.
- **Provisions for Children:** Under the Act, a child has been defined as a person under 18 years of age (13-16 years in the US, UK and EU). The Act requires all data fiduciaries to obtain **verifiable consent from the legal guardian** before processing the personal data of a child. A sizable number of children will need to seek parental consent for services they can easily access right now. There are questions about how data processing entities will verify the age of children and obtain parental consent. If every data fiduciary will have to verify the age of everyone signing up for its services, **anonymity in the digital sphere may be reduced**.

The EU has adopted comprehensive approach for data protection through measures like Data Act, Digital Services Act, Digital Markets Act, and the AI Act. India's approach should be similar. (Refer EPIC December 2022 (click) for Draft Digital Personal Data Protection Bill, 2022: Benefits and Concerns).

6. Impact of Digital Divide on Children

News: The lack of digital access, connectivity, and literacy among children from vulnerable sections.

What is digital divide?

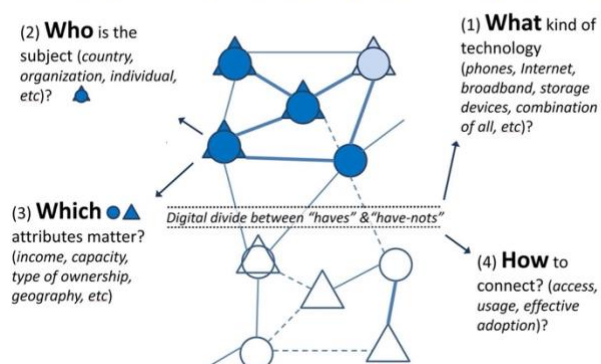
- Digital divide is the **unequal access to digital technologies**, like internet, smartphones, tablets, and laptops etc.
- It **creates a division and inequality** around access to information and resources.
- Women, the elderly, individuals with disabilities, ethnic or linguistic minorities, indigenous communities and residents of impoverished or remote areas are impacted by digital divide.
- **Children from underprivileged backgrounds** are most vulnerable. They lack access to resources needed to utilize modern smart technologies.

- According to a report jointly released by UNICEF and the International Telecommunication Union, 2.2 billion children and young people aged 25 years or younger lack internet connectivity in their homes. **768 million children without internet access reside in South Asia**.
- A report by the Unified District Information System for Education Plus (UDISE+), **~66% schools in India lack access to the internet**. Less than 50% of the schools surveyed had functional computers. (Refer EPIC November 2022 (click) for Unified District Information System for Education Plus (UDISE+) 2021-22).

What are the impacts of digital divide on children?

- In a digitized world, digital divide impacts **academic, professional and personal endeavours of children**.

4 Perspectives to analyze the Digital Divide



Source: Hilbert (2011). A framework for analyzing Digital Divide based on What (technology), Who (people impacted), Which (basis like income), and How (access, usage etc.).

- Access to internet serves as gateway to knowledge, information and opportunities. Digital connectivity provides access to **e-learning, online education** and **participate in virtual classrooms**. Digital divide leads to loss of opportunities to learn and grow. **Unequal access to connectivity and online resources** sharply **exacerbates the existing disparities**.

- Lack of internet access **impacts social development**. They are unable to connect with peers, explore diverse perspectives and access content that can enrich their knowledge and experiences.
- Digital gap **hinders exposure to digital literacy** and **essential technological skills** which are indispensable for today's workforce.
- As a result, the digital divide exacerbates existing **socio-economic inequalities** and perpetuates a cycle of disadvantage for rural communities. (Refer EPIC March 2023 (click) for Bridging Gender Digital Divide).

How India's Digital Divide Hurts Edtech Access

School Type	% Enrolled Children				
	Number of Smartphones in the Household				
	No Smartphones	One	Two	Three or More	Total
Government School	43.6	43.6	9.7	3.1	100
Private School	25.6	50.3	16.7	7.2	100

11.1%
Families across government and private schools that bought a new phone for children's education since the lockdown

20%
Children in government schools only have feature phones, as compared to 15.7 percent students in private schools

12.7%
Children in government and private schools had access to other smartphones (eg: neighbour) when there wasn't any in their household

Source: Inc42.com. Children studying in government schools tend to lack access to smartphones impacting their ability access online education.

What should be done?

- To bridge the digital divide and ensure equal opportunities for children from rural households concerted efforts are required. This entails **expanding internet infrastructure, enhancing connectivity in remote areas**, and **making internet services more affordable and accessible**.
- Public-private partnerships can play a crucial role in implementing initiatives to address these challenges, such as establishing **community centers** with internet access or leveraging innovative technologies like satellite-based internet connectivity.
- **Collaborative efforts** among government agencies, educational institutions, private corporations through CSR funds, and non-profit organizations is required. It can help develop comprehensive strategies aimed at empowering rural communities and **providing them with the tools needed to succeed in the digital era**.
- **Investing in closing the digital divide** for education is particularly crucial. The private sector can play a pivotal role by investing in infrastructure, expanding connectivity, and offering affordable internet.
- Telecom companies can collaborate with governments to extend network coverage, while tech companies can support **digital literacy** and **skills training**.
- **Capacity-enhancement** programs that combine digital literacy with entrepreneurship initiatives from marginalized communities, to leverage technology for personal and economic development.

7. Performance of the PM Jan Arogya Yojana (PM JAY)

News: The Pradhan Mantri Jan Arogya Yojana (PMJAY) has completed 5 years. The scheme has benefited the users in multiple ways. However, a CAG report on the scheme has raised certain concerns.

What are the achievements of the PMJAY?

- **Subscribers:** According to the National Health Authority (NHA) records, 7.87 crore beneficiary households had been registered (November 2022). They constitute 73% of the targeted households of 10.74 crore. The beneficiaries get a health cover of INR 5 lakh per family per year for secondary and tertiary care hospitalization.

- **Benefits to Users:** The scheme has covered ~5.4 crore admission events worth ~INR 66,000 crore in the last 5 years. It has resulted in **savings of INR 100,000 crore for the users. 48% treatments under the scheme have been availed by women.**

○ It has reduced the out-of-pocket expenditure and increased access to tertiary care. (Refer EPIC February

2023 (click) for Out-of-Pocket Expenditure Still High: Economic Survey 2022-23).

○ The scheme has improved the health-seeking behaviour of beneficiaries.

- **Quality of Services:** The scheme has improved the quality of delivery of healthcare services by introducing standard treatment protocols, quality certification etc.

- **Complementary Services:** Several related initiatives have been launched under the scheme like **Ayushman Bharat Digital Mission (ABDM)**, like **Ayushman Bharat Health Infrastructure Mission** etc. to improve the quality of service delivery. The ABDM aims to develop the backbone necessary to support the **integrated digital health infrastructure** of the country. It will help create an efficient, accessible, inclusive and affordable healthcare system.

Salient Features of PMJAY

- > Health cover of up to **INR 5 lakh per family per year** on family floater basis, for **secondary and tertiary care hospitalization** through a network of Public and Empanelled Private Healthcare Providers.
- > **Cashless and paperless treatment** for the beneficiary at the time of hospital admission, no money is required.
- > **No cap on family size, age or gender.** Dependents of the registered beneficiary can avail benefits on his/her card.
- > Coverage of 3 days of pre-hospitalization, 15 days of post-hospitalization expenses including **medicines, follow-up consultation and diagnostics.**
- > **Benefits are portable across the country.** A beneficiary can avail AB-PMJAY benefits in empanelled hospitals from any State beyond his/her home State.
- > The Scheme covers 1949 procedures with 27 specialties (April 2022).

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Efficient



Accessible



Inclusive



Affordable



Timely



Safe

Source: nha.gov.in. Expected benefits of PMJAY and ABDM.

What are the issues associated with PMJAY?

- **Leakages and Fraud:** The CAG report has noticed errors in beneficiary database like invalid names, duplicate PMJAY IDs, unrealistic size of family members in a household etc. In one case, 7.5 lakh beneficiaries were found linked to a single mobile phone number. Ineligible beneficiaries had availed the benefits ranging from INR 0.12 lakh to INR 22.44 crore. There have been reports of some doctors defrauding innocent patients.
- **Hospital Services:** The CAG Report has observed that some of the Empanelled Health Care Providers (EHCPs) neither fulfilled minimum criteria of support system and infrastructure nor conformed to the quality standards and criteria prescribed under the Scheme Guidelines.
- **Awareness:** Many poor households are still unaware about the scheme and its benefits. They continue to spend out-of-pocket to access healthcare services.
- **Infrastructure:** The more fundamental challenge is shortage of hospitals providing secondary and tertiary care especially in rural areas. Lack of timely healthcare exacerbate health issues.
- **Claim Management:** Claim settlement process suffers from issues like delays in settlement, inadequate validation checks, payment prior to submission of claims etc.
- **Grievance Redressal:** The grievance redressal system is slow and unresponsive. The CAG report noted that only 9% of registered complaints were addressed within the prescribed time limit.

How can the scheme be improved further?

- **Coverage:** The Government should aim for covering 100% of target beneficiaries. The number of conditions or diseases covered under the scheme can be expanded.
- **Awareness:** Existing health outreach programmes can be used to raise awareness among users. Network of ASHAs, ANMs and Anganwadi workers can be used to spread awareness. PM Arogya Mitras (AMs) are

responsible for operating the Beneficiary Identification System, help beneficiaries in claim settlement etc. More AMs can be hired for awareness generation.

- **Claim Settlement:** The claim settlement process can be simplified to ensure quick and hassle-free settlement. Regular audits of the process can help identify bottlenecks to smoothen the process.
- **Infrastructure:** Government has been deploying technology for faster and affordable delivery of healthcare services. Government should expand tertiary care infrastructure to increase access to healthcare in rural areas.

8. Issues with the Working of the National Commission for Women (NCW)

News: The handling of the cases related to gender violence in Manipur by the National Commission for Women has raised concerns about its functioning.

What are the issues associated with the functioning of NCW?

- **Resource Constraint:** NCW faces resource constraint, including shortage of manpower and finance, which impacts its independent functioning.
- **Political Interference:** Critics say the appointments to Commission are political in nature. Members are dependent on political patronage, compromising their independence. They are reluctant to investigate matters which may reflect negatively on the Government.
- **Lack of Powers:** The recommendations of the NCW are not binding on the Government. Often, the recommendations are either neglected or implemented very slowly. Similarly, the Commission does not have punitive powers. The Ministry of Law and Justice had rejected a proposal to provide punitive powers (to arrest and penalize) to the Commission as the powers fall in the domain of police and judiciary.
- **Awareness:** Most women are unaware of the NCW and fail to approach the Commission to seek their assistance.
- **Commission's Approach:** NCW has faced repeated criticism for its handling of certain incidents like the Manipur violence incident (women paraded naked), attack of pub in Mangalore (women present in a pub were physically assaulted for drinking alcohol) etc. Members of NCW, on multiple occasions, have blamed the victim for the crime (victim shaming).

All States have their own State Women Commissions and they face similar challenges.

What are the achievements of NCW?

- Despite its constraints, NCW has played a **constructive role in strengthening the implementation of laws** like Domestic Violence Act (2005), Dowry Prohibition Act (1961), Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 etc.
- NCW has been instrumental in providing **legal and psychological support to women survivors of violence**.
- On multiple occasions, **strict follow-up by NCW** on cases of violence has **created pressure on law enforcement agencies** to investigate and bring such cases to logical end.

National Commission for Women

- > The National Commission for Women was set up as statutory body in January 1992 under the [National Commission for Women Act, 1990](#).
- > The Commission has been established with the objective to:
 - Review the Constitutional and Legal Safeguards for Women.
 - Recommend remedial legislative measures.
 - Facilitate redressal of grievances.
 - Advise the Government on all policy matters related to women.
- > The NCW performs functions like [investigate matters related to safeguards provided for women](#); look into complaints and take suo motu notice of matters related to deprivation of women's rights; non-compliance of policy decisions; inspect jails, remand homes or other places of women's custody.
- > The Commission has all the [powers of a civil court](#), while investigating certain matters listed above.
- > The Commission consists of a Chairperson, 5 members and a Member-Secretary; all [nominated by the Central Government](#).

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- It has also raised awareness on issues like **child marriage**, **female foeticide** etc.
- NCW has regularly **organized workshops** and consultations for **economic empowerment of women** etc.

What should be done to strengthen NCW?

- **Appointments:** Members of the NCW should be appointed through consultation process with other stakeholders like opposition parties and civil society organizations. Members should be sensitive to gender issues so that incidents related to victim shaming etc. can be avoided.
- **Resources:** The Commission should be greater access to financial resources to undertake its functions. New members should be finalized before the creation of vacancy. Support staff should be increased.
- **Performance Audit:** Regular audits (external) should be conducted to assess the performance.
- **Proactive Approach:** The Commission should be more proactive in its approach. Members should regularly make field visits, especially to remote rural areas to understand the challenges faced by women. It will raise more awareness among women at the ground level.

9. India's Ambition as a Global Power

News: India's standing as a responsible global power has improved considerably over the last decade. However, several constraints limit India's ability to be labelled as a Global Power?

What factors are responsible for India's rising global prominence?

- India has become the **5th largest economy** in the world, and is poised to become the 3rd largest over the next 3-4 years. **India's share in global trade is rising.** India has one of the **highest foreign exchange reserves** after China, Japan and Switzerland.
- India is among the **most militarily powerful nations**. India is considered as the **strongest naval power in the Indian Ocean Region with 2 operational aircraft carriers** (at par with China, Japan and the UK).
- India is a **nuclear power** and has achieved the '**survivable**' **nuclear triad status**: having power to launch nuclear weapons from land, air and sea.
- India is becoming technologically advanced. With *Chandrayaan-3*, India has become the first country to land a rover near the south pole of Moon. India is among top 10 nations in terms of patent applications filed in 2021.
- India is member of **diverse multilateral groups** like G20, Quad, I2U2, SCO, BRICS etc. India's case for permanent seat in the UN Security Council has received widest support (*Refer EPIC October 2022 (click) for Reforms in the United Nations Security Council*). The US has sought India's membership for NATO Plus (*Refer EPIC July 2023 (click) for NATO Plus: Should India Join? and Swing Power*). India's mediation has been sought to end the Russia-Ukraine war.

What factors limit India's power?

- India's GDP per capita (nominal) is ~US\$ 2,200 (estimates differ based on agency/org), and India ranks between 130-140 at a global level.
- India was ranked 132 based on Human Development Index in 2021. Access to healthcare, education and basic amenities remain skewed in India. India has highest disease burden for many diseases like TB, malaria etc.
- While there has been considerable improvement in pulling people out from poverty, India still has the highest number of poor people in the world.
- There are major governance and law and order issues in India. Corruption and crime rate are high e.g., it is nearly impossible to start a new business without paying a bribe of some kind. India's ranks poorly in global indices related to freedom, democracy or governance. (*Refer EPIC December 2022 (click) for Analysis of India's Performance on Various Global Indices*).

- A large proportion of Government's budget goes toward welfare services. This reduces budget that can be provided for overseas development assistance. In contrast, China has increased its global influence through massive investments under the Belt and Road Initiative (BRI). (Refer EPIC October 2022 (click) for India's Overseas Development Cooperation).

What should be India's approach?

- **Domestic handicaps** limit India's ability to influence the global order. Many foreign policy experts are of the opinion that India is still a **swing power** that has the **ability to influence but not reshape international order**.
- In this context, the Government should continue to focus on **enhancing India's domestic capabilities**, economic, human resources, technological etc. Robust and stable domestic economic and governance systems will improve India's leverage globally.
- Simultaneously, India should continue to **pursue an independent foreign policy** that ensure strategic autonomy and preserving the short- and long-term interests.

10. India-Sri Lanka Relationship

News: The Prime Minister of Sri Lanka visited India. India provided vital support to Sri Lanka to overcome the economic crisis. The bilateral relationship is warm but China factor is a major irritant.

What are the salient aspects of India-Sri Lanka Relationship?

• Historical and Cultural

Relations: India and Sri Lanka have a shared legacy of historical, cultural, religious, spiritual and linguistic ties that are more than 2,500 years old. Buddhism is one of the strongest pillars connecting the two nations and civilizations from the time of Emperor Ashoka.

• Commercial Relations:

The economic cooperation has increased multi-fold over the years. The **India-Sri Lanka Free Trade Agreement** (ISFTA, 2000) helped in expansion of trade. India has traditionally been among **Sri Lanka's largest trade partners**, with an overall bilateral trade of US\$ 5.5 billion in 2022.

- India is also one of the largest FDI contributors in Sri Lanka. According to the Central bank of Sri Lanka, the total FDI from India so far exceeds US\$ 2.2 billion. In 2021, India was the largest source of FDI which amounted to US\$ 142 million.

- **Development Cooperation:** India was the pillar of support during Sri Lanka's economic crisis in 2022. India provided grants worth US\$ 570 million, with the overall commitment of more than US\$ 3.5 billion. Grant projects cut across sectors such as education, health, livelihood, housing, industrial development etc. (Refer EPIC April 2022 (click) for Economic Crisis in Sri Lanka).

- **Maritime Security:** The SLINEX naval exercises have become one of the most visible manifestations of Indo-Sri Lanka cooperation in maritime security. Sri Lanka is a part of India's regional maritime security architecture with Sri Lankan coastal surveillance radars being integrated to the International Fusion Center – Indian Ocean Region (IFC-IOR) at Gurugram in India.

Highlights of the Sri Lanka PM's Visit

- > **"Promoting Connectivity, Catalysing Prosperity: India-Sri Lanka Economic Partnership Vision":** Lays out the vision of connectivity in 5 areas: maritime, air, energy and power, trade, economic and financial and people-to-people.
- > **Maritime and Air Connectivity:** New investments will be made in developing ports and airports in Sri Lanka, resuming ferry services. Flight networks to connect Tamil Nadu and Sri Lanka's Northern and Eastern Provinces will be expanded.
- > **Energy and Power Connectivity:** It will include developing renewable energy, wind and solar plants in Sri Lanka.
- > **Trade Connectivity:** Steps will be taken to increase trade. India will continue support for Sri Lanka's economy. An MoU has been signed to operationalise UPI digital payments in Sri Lanka and to designate the **Indian Rupee as currency for trade**.
- > **People-to-people Connectivity:** Explore ways of enhancing tourism, cultural and religious travel, and educational collaboration.

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What is the strategic significance of Sri Lanka?

- **Strategic Location:** Sri Lanka is strategically located in the Indian Ocean. The East-West maritime route passing around Sri Lanka carries around two-thirds (~67%) of the world's oil and half of the world's container transportation.
- **Maritime Security:** Sri Lanka is home to ports that have the potential to become important maritime hubs in the Indian Ocean. Sri Lanka has a vital role in securing the strategic Sea Lanes of Communication.
- **China's Influence:** China has expanded its influence in the Indian Ocean Region, particularly through the Belt and Road Initiative (BRI). China has established terminals in both the ports of Colombo and Hambantota. India wants a close cooperation with Sri Lanka to counter Chinese influence in the region. It is necessary to ensure India's security and peace in the region.



What are the challenges in India-Sri Lanka Relationship?

- **Fishing Disputes:** India and Sri Lanka signed the **Indo-Lanka Maritime Boundary Agreement** in 1974. Yet the maritime dispute persists. Indian fishermen continue to cross the maritime border into Sri Lanka in the Palk Strait, resulting in encounters with the Sri Lankan Navy, leading to tensions and assaults. Sri Lanka complains about **use of deep sea trawlers by Indian fishermen** that reduces the catch available for the Sri Lankan fishermen.
- **Tamil Issue:** There is concern regarding Sri Lanka's lack of measurable progress in fulfilling commitment to **finding a political solution to the Tamil issue**. The Tamil community in Sri Lanka has been demanding the implementation of the **13th Amendment** that provides for devolution of powers.
- **Chinese Influence in Sri Lanka:** There was a dispute in 2022 regarding docking of Chinese vessel Yuan-wang 5 in Hambantota port, which Sri Lanka allowed despite India's protests. China misuses its economic leverage (Debt Trap Policy) to arm twist Sri Lanka to compromise India's strategic interests.

What should be done going ahead?

- The Government should push for the **resolution of the fishermen dispute** with a mutually acceptable solution. Environmental experts have raised concerns regarding use of trawlers by Indian fishermen. The Government should look for a more sustainable alternative.
- India has done well to provide economic support to Sri Lanka at the time of crisis which help build goodwill among Sri Lankans. China continues to wield huge influence on Sri Lanka due to which Sri Lanka is forced to take decisions which may go against India's strategic interests. India should continue its support to gradually pull Sri Lanka away from Chinese influence.
- India should gradually nudge Sri Lanka to implement the governance reforms related to devolution of powers to address the grievances of Tamil people.

General Studies Paper III

1. Poverty Measurement in India

News: According to the Multidimensional Poverty Index (MPI) released by the NITI Aayog, 135 million people exited poverty between 2015-21. However, several experts have questioned the methods of measurement of poverty in India.

What are various approaches to poverty measurement?

Monetary Measures (Income and Consumption)

- **Consumption-based Approach:** This method measures poverty based on spending on consumption by the people. This has been the traditional method of measuring poverty in India. Expert committees under Lakdawala, Tendulkar and Rangarajan have drawn 'poverty lines' based on certain criteria. Data collected from expenditure surveys are used to estimate the level of poverty.
- **Income-based Approach:** In this approach poverty is assessed by determining the amount of money required for a subsistence diet or a minimum standard of living. However, collecting comprehensive data on income is a major challenge.

Multidimensional Approach (Based on 'Capabilities' or 'Deprivations')

- The multidimensional approach offers a more **comprehensive view of poverty**, looking beyond just income or consumption. It **measures deprivations across multiple dimensions** like health and nutrition, education, and standard of living.
- Consumption and income-based methods provide direct financial measures of poverty. Multidimensional approach offers a **holistic view**, capturing a wider **range of deprivations**.
- Different countries and organizations might prefer one method over the other based on the availability of data and the prioritized dimensions of poverty.

What are the shortcomings/challenges in the approaches to poverty measurement?

Monetary Measures: Income Approach

- There are difficulties in **assessing the incomes of self-employed people**, daily wage labourers, etc.
- There are large fluctuations in income due to seasonal factors, and additional side incomes.
- Income data are difficult to collect in largely rural and informal economy.

Monetary Measures: Consumption Approach

- **Subjectivity of Poverty Line:** The setting of poverty line based on consumption expenditure is subjective and might not accurately reflect the diversity of living conditions across regions.
- **Price Variations:** The cost of essential items varies across regions. **Consumption approach does not always account for these price differentials**, leading to inconsistencies in poverty assessment. There's been a growing gap between consumption estimates from National Accounts Statistics (NAS) and National Sample Survey (NSS) data, which is concerning.
- **Lack of Updated Data:** India hasn't had official consumer expenditure data post-2011-12, making direct comparisons challenging. The 2017-18 survey data hasn't been officially released, leading to indirect methods and diverse conclusions on poverty trends.

Multidimensional Poverty Index (MPI)

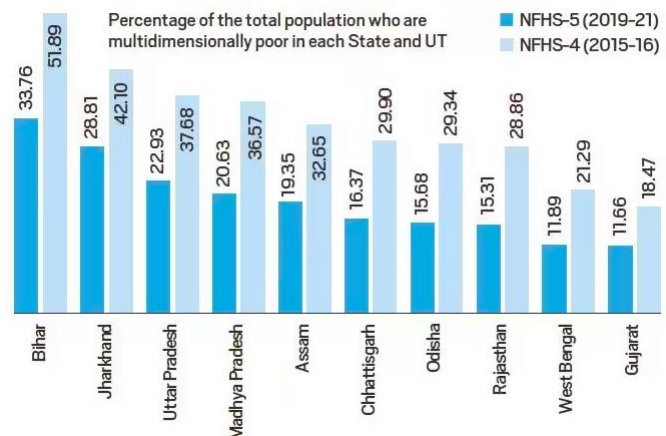
- **Holistic but Complex:** MPI offers a broader view of poverty by considering factors beyond just income, such as health, education, and standard of living. India's MPI measures deprivations in 12 variables, including maternal health and bank account access.

- **Comparative Analysis:** India's adaptation of the MPI differs from the Global MPI. The inclusion of two additional variables in India's MPI (maternal health and bank account) can create challenges in making direct comparisons (with other countries).
- **Data Availability, Comparison and Aggregation:** Data for parameters like child mortality are not available at household level but for groups (like at District or State level). There are challenges in aggregating data e.g., data related to parameters like access to clean drinking water and child mortality can't be aggregated together.

What has been the trend of poverty in India?

- In July 2013, based on the Tendulkar poverty line, the Planning Commission pegged the number of poor at 269.8 million or 21.9% of the population. Since then, no official poverty estimates have been released.
- There has been a noted decline in poverty rates based on MPI Approach.
- According to NITI Aayog Report (July 2023), between NFHS-4 (2015-16) and NFHS-5 (2019-21), the multidimensional poverty rate reduced from around 25% to under 15%. ~135 million (or 13.5 crore) Indians moved out of multidimensional poverty during this period.
- **The Global MPI 2023 report** revealed that from 2005-06 to 2019-21, ~415 million people in India moved out of poverty. Delving deeper, 270 million out of these individuals moved out of poverty between 2005-06 and 2015-16.
- **Middle-Class Evolution:** Private research by People Research on India's Consumer Economy (PRICE) in 2021 categorized 196 million Indians as 'Destitutes', 432 million as 'Middle Class', and 732 million as 'Aspirers'.

Poverty headcount ratio: poorest among large states



Source: Indian Express. Bihar, Jharkhand, UP, Madhya Pradesh, Assam, Chhattisgarh, Odisha and Rajasthan still have more than 15% of their population facing multidimensional poverty.

What should be done ahead?

- **Regular Upgradation of Consumption Data:** The data from Consumption Expenditure Survey of 2017-18 were discarded apparently due to discrepancies. Regular conduct of consumer expenditure surveys is necessary to accurately estimate the number of poor.
- **Diverse Parameters:** Analysis shows that inclusion of parameters like maternal health help in better gauging the poverty levels. More such metrics can be added to make poverty measurement more comprehensive.
- **Cross-check with Traditional Measures:** Despite the advancements in measuring poverty, it's essential to periodically compare new data with traditional measures like the ones proposed by Lakdawala, Tendulkar, and Rangarajan Committees. Such comparisons can provide a holistic view.
- **Strengthen Socioeconomic Infrastructure:** To sustain the trend of poverty reduction, India should further invest in health, education, and standard of living improvements.
- **Clear Definition of Middle Class:** It is important to clarify the definition of 'middle class' in India. Recent data from the **People Research on India's Consumer Economy (PRICE)** survey segmented households based on annual income, categorizing 'Middle Class' between INR 5 lakh to INR 30 lakh. A standardised definition can help create targeted policies.

2. Finance Commission: Issues with Recommendations

News: The 16th Finance Commission will have to address some critical issues in devolution of funds to States.

What is the need for a Finance Commission?

- **Resolving Vertical Fiscal Imbalances:** Vertical fiscal imbalances occur due to the **asymmetry** in the constitutional scheme of **assignment of resources and responsibilities** between the Union and the State Governments (e.g., Union Government levies and collects Income and Corporate Taxes).
 - The Union Government has been assigned larger share in collection of tax revenues, and State Government have larger responsibility in terms of expenditure (public health, law and order, agriculture etc. are State Subjects, education is concurrent).
- **Reducing Horizontal Fiscal Imbalance:** Horizontal fiscal imbalances arise due to differences between States due to **different resource bases, levels of development** and **pressure of population** leading to different expenditure requirements.
- **Liberalized Economy:** In the Pre-1991 period, the Union Government had alternative methods to **compensate States through investments in PSUs** (e.g., establishing a fertilizer plant in a backward area). Post market liberalization, the economic contribution and role of PSUs has decreased.
 - With the abolition of the Planning Commission (played central role in allocation of funds to States), Finance Commission has become the primary authority responsible for shaping India's fiscal federalism. (Refer EPIC February 2023 (click) for Fiscal Imbalance Between Union and State Governments).

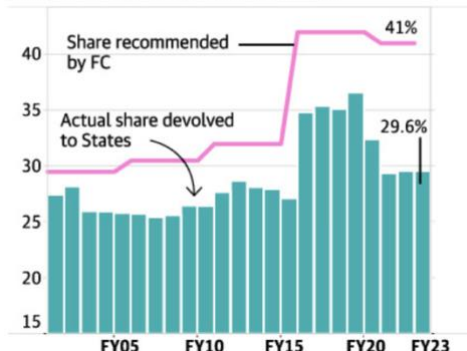
What are the challenges in implementing recommendations of the Finance Commissions?

- **Lack of Compliance:** The Union and State Governments do not implement all recommendations of the Commission due to **political compulsions** or **different policy priorities**.
- **Complex Reforms:** Some reforms suggested by the Commission are complicated and difficult to implement. They require major changes in procedures and the progress on implementation is slow.
- **Resource Constraints:** The State Governments in particular face resource constraints. This can make it hard for them to put the recommendations into practice.
- **Conditionalities:** Some States object to the conditions attached to grants. They believe these restrictions limit their options to decide their expenditure.
- **Insufficient Data:** There can be a lack of necessary data to implement the recommendations. The 13th FC pointed out statistical gaps that hindered implementation.
- **Performance-Based Grants:** The 15th FC proposed performance-based grants. However, this requires the establishment of clear and efficient performance metrics, which can be challenging.

Impactful Recommendations of Finance Commission

- Introducing tax devolution as a major component of vertical transfers, gradually increasing the States' share from 10% to 42%.
- Implementing performance-based incentives for states to promote fiscal discipline, population control, forest conservation, power sector reforms, etc.
- Establishing disaster relief funds for States and Local Bodies to enhance their preparedness and response capabilities for natural calamities.
- Introducing grants for Local Bodies to strengthen their fiscal autonomy and accountability in delivering essential services.
- Introducing grants for specific sectors like health, education, justice delivery, and statistical systems, addressing critical gaps and needs in these areas.

The chart shows the States' share in the divisible pool of taxes mandated by the Finance Commission and the actual share devolved to the States (figures in %)

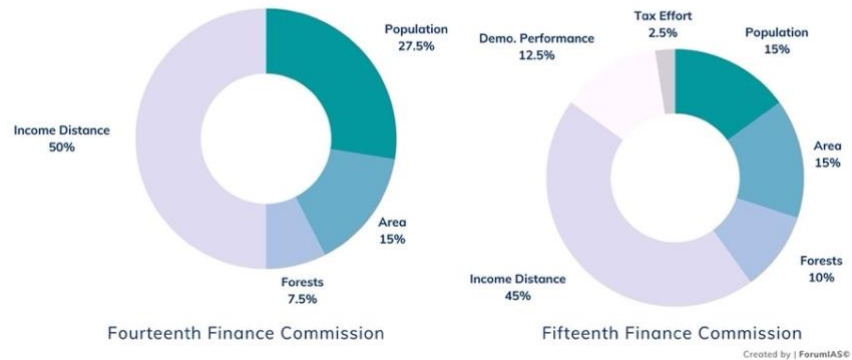


Source: The Hindu. The actual devolution to States at 29.6% is much lower than that recommended by the Finance Commission (41%).

- **Criteria:** Finance Commissions have struggled to **attribute the causes of fiscal deficit of States to fiscal incapacity versus fiscal irresponsibility**. Successive Finance Commissions have modified the distribution criteria, with the richer States compensating the poor States, without exacerbating the divide between them. However, every formula has been criticized as being unfair or inefficient.

Criteria for Horizontal Distribution

Fifteenth Finance Commission added some new parameters in the devolution formula



What should be the key priority areas for the 16th Finance Commission?

- **Cesses and Surcharges:** The share of State in gross tax revenues has declined due to rising contribution by **non-shareable cesses and surcharges** (11.5% in 2004-05 to 20% in 2020-21) in Government's revenues. (Proceeds from cesses/surcharges are not part of divisible pool). Commission has to ensure fair share to the States. It can also consider putting a cap on the revenue that can be raised through cesses/surcharges. (Refer EPIC September 2022 (click) for Fiscal Centralization in India).
- **Distribution Criteria:** Several States have criticized the Commission's distribution formula e.g., most rich States want lesser weightage to the per-capita income criteria. The Commission should hold extensive consultations to arrive at a distribution formula acceptable to all.
- **Restraining Freebies:** The FRBM Act should have acted as check on populist spending. But Governments have bypassed the mandate of the Act. They have found new ways of raising debt without it appearing in the books. The 16th Finance Commission should set **guidelines regarding spending on freebies** vis-à-vis obligation of fiscal prudence. (Refer EPIC August 2022 (click) for The Issue of Freebies and EPIC June 2023 (click) for Need of Expenditure Council in India).
- **Debt Levels:** The combined debt-GDP ratio of Union and State Governments peaked at 89.8% in 2020-21. 58.7% for the Union Government, and 31.1% for States. The debt levels have shown improvement, but they are much above FRBM norms; 40% for Union and 20% for States.
- **Impact of COVID-19:** The 16th Finance Commission must consider the repercussions of the pandemic on the fiscal condition of Union and State Governments. The Commission needs to factor in their respective expenditure requirements and priorities.

3. Rising Debt Level of the Government

News: The debt levels of Government has shown a rising trend. A debt level can impact macroeconomic stability and economic growth.

What is the level of Government debt?

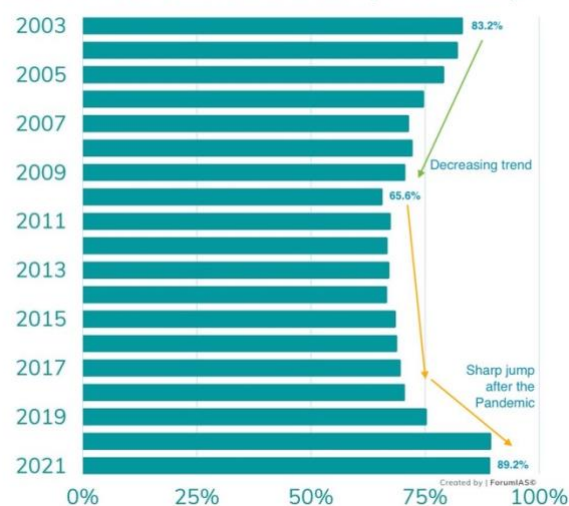
- The total debt of Union and State Governments reached **89.6% of the GDP in 2020-21**. This was accompanied by sharp rise in fiscal deficit at 13.3% of the GDP (2020-21) due to the COVID-19 pandemic.
- Post pandemic, the debt ratio recovered to ~86% with fiscal deficit at 8.9%.
- The **cumulative debt of all State Governments amounted to ~31% of the GDP** in 2020-21. States like **Punjab** (48.9%), **West Bengal** (37.6%), **Rajasthan** (35.4%) have **high debt-to-State GDP ratio**. States like Maharashtra and Gujarat have kept their debt ratios below 25%.

- States with highest existing debt levels are also **expected to have the highest rise in debt in future** e.g., Punjab's debt level may rise to 55% by 2027-28.

What are the concerns with high debt levels?

- **Interest Payments:** In 2022-23, the interest payments (~INR 9.5 lakh crore) by Government of India accounted for **~3.5% of India's GDP** and **~24% of the total Union Government expenditure**. This reduces the budget available for spending on welfare (health, education etc.) and infrastructure.
- **Crowding Out:** Large borrowing by the Government **reduces the funds available in the economy for the private sector** to invest on expansion of operations, infrastructure etc. The fall in productive investment **slows down the growth rate of economy**.
- **Sovereign Credit Ratings:** High debt leads to **downgrading of sovereign credit rating** (i.e., higher risk of default). This raises the cost of new debt (i.e., higher interest rate on fresh borrowings) and consequently higher interest payments, becoming a vicious cycle. There is **higher currency risk** (depreciation of currency leading to higher payment outgo) if a large proportion of Government debt is external (say in US\$).
- **Market Discipline:** Ideally, **States with higher debt levels should pay higher interest rate on fresh borrowings as they have greater risk of default**. However in India, due to absence of interest rate variation on market borrowings, States with high debt are not penalized with higher interest rate, prompting them to borrow more, **accumulating further debt**.
- **Inter-generational Equity:** Higher borrowing by current Governments to fulfil populist promises (freebies) will impact the **ability of future generations to meet their needs**.
- **FC Grants:** Based on Finance Commission recommendations, Union Government provides Post-Devolution Revenue Deficit grants to States. This reduces incentives for State Governments to check their deficit.

India's Government Debt (% of GDP)



What should be done going ahead?

- States should **increase revenue mobilization** through **widening the tax base**, raising more through taxes like property tax. Measures should be taken to improve the Tax-to-GDP ratio.
- **Use of Technology** has made tax administration more efficient. Cross-matching GST with income-tax returns can further **improve compliance** and **check evasion**.
- Governments should focus more on **productive investments** in infrastructure instead of populist schemes.
- There is a need to **strengthen the Finance Commission**. The Commission gets dissolved after submission of report. There is no parallel institution or body to monitor State finances. **A permanent fiscal or expenditure council** can be established.
- Union/State Governments should **ensure fiscal discipline** by adherence to mandate of FRBM Act.

4. Minimum Guaranteed Income Bill, 2023

News: The Government of Rajasthan has tabled the Minimum Guaranteed Income Bill, 2023 in the State Legislative Assembly.

What are the salient provisions of the Minimum Guaranteed Income Bill, 2023?

- The Bill aims to cover the entire adult population of the State with guaranteed wage or pension.

- The Bill has 3 broad categories: Right to minimum guaranteed income; Right to guaranteed employment; and Right to guaranteed social security pension.
- **Minimum Guaranteed Income:** Each adult citizen of the State will be guaranteed a minimum income for 125 days a year through the Rajasthan Government's **Indira Gandhi Shahri Rozgar Guarantee Yojana** for urban areas and through Union Government's **Mahatma Gandhi National Rural Employment Guarantee Act** (MGNREGA) in rural areas.
- **Right to Guarantee Employment:** According to the Right to Employment, once the work in a rural or urban employment schemes are finished, the entitled **minimum wages must be paid weekly** or not later than a fortnight.
 - A Program Officer will be appointed by the State Government. The officer will ensure that the work site is within a 5-km radius of the location in which the job card is registered in both rural and urban areas. The Program Officer must also ensure the **applicant gets work within 15 days of receiving the application**. If not, the applicant is eligible for **unemployment allowance** on a weekly basis and in any case not later than a fortnight.
- **Right to Guaranteed Social Security Pension:** Government will provide eligible categories such as aged, disabled, widows, and single women with a minimum pension of INR 1,000 per month. The pension will be increased at the rate of 15% each year.
- The proposed Act will incur **expenditure of INR 2,500 crore per year** for this scheme which may increase with time. (Refer EPIC June 2022 (click) for Universal Basic Income).

What are the concerns associated with the Bill?

- Some experts have expressed concerns regarding implementation of the Scheme. Unlike the rural areas served by MGNREGA, the **demand for work in urban regions is not seasonal**. Providing year-long employment opportunities in urban areas may be hard.
- There are concerns related to **availability of suitable public works projects in urban areas**. Urban Local Bodies (ULBs) have capacity limitations to effectively manage such large initiatives.
- **Rajasthan has high debt level** (35.4% of State GDP). The proposed Act will add to the **fiscal burden on the exchequer**. A report by RBI had stated that in 2022-23, Rajasthan had announced freebies equivalent to 8.6% of its own tax revenue.

What should be the approach?

- The efforts of the Government of Rajasthan to provide jobs should be appreciated. Such initiatives help reduce income inequalities.
- However, the Government's must realize that they can't be the primary providers of employment. The Government's focus should be on delivering quality basic welfare services like health and education. The primary responsibility of job creating should that of the private sector. For that, the Government's should undertake suitable reforms and provide basic infrastructure. This will enable the private sector to undertake greater investments and create more jobs. (Refer EPIC July 2022 (click) for Government as Principal Employer: Union Government's 1 Million Job Promise).

5. MSMEs: Significance and Challenges

News: Micro, Medium and Small Enterprises (MSMEs) can play a vital role in economic growth. However, they continue to face multiple challenges despite several initiatives by the Government.

What is the significance of MSMEs?

- **Contribution to GDP and Exports:** In 2020-21, MSMEs accounted for 26.8% of Gross Value Added (GVA).

- The contribution of MSMEs in exports stood at 42.6% (April 2022–August 2022).
- The MSMEs contributed **38.4% of India's total Manufacturing GVA** (2020–21).
- The Ministry of MSME has set a goal of increasing its contribution to GDP to 50% by 2025.
- **Rural Development:** 51% of MSMEs are located in rural areas. In contrast to large corporations, MSMEs have aided in the **industrialization of rural areas at a low capital cost**. The sector has made significant contributions to the **rural socioeconomic growth** while also supplementing major industries.
- **Creation of Employment:** MSMEs employ over 11.1 crore people (~45% of all workers) and are **India's largest employer outside of agriculture**.
- **Simple Structure:** MSMEs offers the **flexibility of starting with limited resources** under the owner's control. As a result, making decisions becomes easier and more efficient. A large corporation requires a specialist for every departmental function due to its complex organisational structure.
- **Innovation Promotion:** They support local resource mobilisation, capacity building, industrial development in rural areas, and give aspiring entrepreneurs a chance to develop innovative products. MNCs are increasingly purchasing semi-finished and auxiliary products from small businesses.
- **Social Inclusion:** According to the Annual Report of The Ministry of MSMEs (2021–22), socially backward groups owned ~67% of MSMEs (overall) and ~74.4% in rural areas.
- MSMEs can play a significant role in creating an **inclusive and sustainable society**. They encourage **balanced regional development, gender equity**, and the use of banking services and products. In light of the information presented above, MSMEs can become the '**growth engine of the nation**'.

Classification of MSMEs

MSMEs are classified on the basis of annual turnover or investment in equipment/machinery. They are regulated under the Micro, Small & Medium Enterprises Development (MSMED) Act, 2006.

Entity	Investment	Annual Turnover
Micro	< INR 1 Cr	< INR 5 Cr
Small	< INR 10 Cr	< INR 50 Cr
Medium	< INR 50 Cr	< INR 250

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Statement No. 2.4: Percentage Distribution of enterprises by social group of owner in rural and urban Areas.

Sector	SC	ST	OBC	Others	Not known	All
Rural	15.37	6.70	51.59	25.62	0.72	100.00
Urban	9.45	1.43	47.80	40.46	0.86	100.00
All	12.45	4.10	49.72	32.95	0.79	100.00

Source: Ministry of MSMEs. OBCs have highest share in ownership of MSMEs.

What are the challenges faced by MSMEs?

- **Financial Constraints:** Only 16% of SMEs have timely access to finance, forcing small and medium-sized businesses to rely on their own resources.
- **Lack of Formalisation:** ~86% of the country's manufacturing MSMEs are unregistered. Only ~1.1 crore of the 6.3 crore MSMEs (~17.5%) are **registered under the Goods and Services Tax (GST)** regime, and the number of income tax filers is even lower. Because of limited availability and access to data, as well as legacy underwriting methods, the **credit requirement of Indian MSMEs' have largely gone unmet**.

Entities Under Ministry of MSMEs

- **Khadi and Village Industries Commission (KVIC):** It is a statutory body engaged in **promoting and developing khadi and village industries** for providing employment opportunities in rural areas, thereby strengthening the rural economy.
- **The Coir Board:** It is a statutory body established for **promoting overall development of the coir industry** and improving living conditions of workers in the industry.
- **National Small Industries Corporation Limited (NSIC):** It was established in 1955. It is responsible for promoting, aiding and fostering growth of micro and small enterprises in the country, generally on commercial basis.
- **National Institute for Micro, Small and Medium Enterprises, (NI-MSME):** It was established in 1960. It is responsible for **enterprise promotion and entrepreneurship development**, enabling enterprise creation, performing diagnostic development studies for policy formulation, etc.
- **Mahatma Gandhi Institute for Rural Industrialisation (MGIRI):** Its objectives are to **accelerate rural industrialisation** for sustainable village economy, **empower traditional artisans**, encourage innovation through pilot study and R&D for alternative technology using local resources.

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- **Access to Technology:** Majority of MSMEs use outdated technology. Adoption of new technology and training employees is difficult and expensive, especially in manufacturing sector. Lack of access to IT education contributes to the technological gap. Another significant factor is a **lack of awareness**, which **reduces willingness to invest in advanced technology solutions**.
- **Skill Development:** Skilled employees are critical for business growth. MSMEs lack capacity to put in place systems for on-the-job training or upskilling their workforce.
- **Creativity:** The Businesses are becoming more **knowledge-based**. Their success and survival are inextricably linked to **creativity**, and **innovation**. To remain competitive, MSMEs must incorporate innovation into their operations. However, they **lack the resources and capacity to undertake innovations**.
- **Competition:** MSMEs face stiff competition from global and domestic giants. Large firms have cost advantages due to their massive scale which MSMEs are unable to match.
- **Approval Processes:** Owners of MSMEs are forced to navigate various government departments in order to obtain construction permits, enforce contracts, pay taxes, start a business, and trade across borders. In addition, regulatory risks and policy uncertainty limit scaling-up of MSMEs.

Digital Initiatives in the MSME Sector

- **Udyog Aadhar Memorandum:** It is a 1-page **online registration system** for MSMEs based on **self-certification**.
- **MSME Databank:** It enables the Ministry of MSME to **streamline and monitor the schemes** and pass on the benefits directly to MSMEs. MSMEs can update their enterprise information as and when required.
- **MY MSME:** It is a web-based application module in the form of a mobile app to facilitate the MSMEs to enjoy benefits of various schemes.
- **MSME Sampark:** It is a digital platform wherein **jobseekers** (students or trainees of MSME Technology Centres) and **recruiters can register themselves** for mutually beneficial interactions.
- **MSME Sambandh:** For effective **implementation of the Public Procurement Policy**, Central Ministries and Public Sector Enterprises (CPSEs) must procure 25% annual procurement from MSEs. The Ministry of MSME has launched MSME Sambandh.
- **MSME Samadhaan:** This portal gives information about **pending payments** with the Central Ministries, State Governments, with respect to micro and small enterprises (MSEs).
- **MSME Sambhav:** It is a national-level awareness programme to push economic growth by promoting entrepreneurship and domestic manufacturing.
- **Grievance Monitoring:** The Ministry of MSME has started an **MSME internet grievance monitoring system** (e-Samadhan) to help track and monitor the grievances and suggestions.

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Initiatives to Support MSMEs

- **Prime Minister's Employment Generation Programme:** It is implemented by the KVIC to generate employment opportunities in rural and urban areas by setting up new self-employment micro enterprises.
- **Credit Linked Capital Subsidy Scheme:** Its objective is to **facilitate technology upgrade among MSEs (Micro and Small)** by providing **capital subsidy of 15% on institutional finance** of up-to INR 1 crore for **induction of improved technology** in the specified 51 sub-sectors/products.
- **Credit Guarantee Trust Fund for Micro and Small Enterprises (CGTMSE):** It provides **collateral-free credit** to the micro and small enterprises (MSEs) sector.
- **Special Credit Linked Capital Subsidy Scheme (SCLCSS):** It helps enterprises in the **services sector** meet **various technology requirements**. It provides 25% capital subsidy for procurement of equipments through institutional credit to MSMEs owned by SC/ST entrepreneurs.
- **Raising and Accelerating MSME Performance (RAMP):** It aims at strengthening institutions and governance at the Centre and State, improving Centre-State linkages and improving access of MSMEs to market and credit, technology upgradation and addressing issues of delayed payments.
- **Mudra Loan Scheme:** It provides 3 types of financing loans: **Tarun** (loans up to INR 10 Lakhs), **Kishore** (loan up to INR 5 Lakhs), **Shishu** (loan up to INR 50,000).

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Initiatives to Support MSMEs

- **A Scheme for Promotion of Innovation, Rural Industry & Entrepreneurship (ASPIRE):** It aims to create new jobs, promote entrepreneurship culture in the country, promote innovation in the MSME sector.
- **Entrepreneurship and Skill Development Programmes (ESDP):** The Ministry of MSME has been organising several programmes focussing on the process of **improving skills and knowledge of entrepreneur**, and enhancing the capacity to develop, manage and organise a business venture.
- **Scheme of Fund for Regeneration of Traditional Industries (SFURTI):** Its objective is to organise traditional industries and artisans into clusters to make them competitive and **provide support for their long-term sustainability**, enhance marketability of products, build innovative products, improve technologies etc. It covers 3 types of interventions, e.g., **soft interventions** (build general awareness, counselling, skill development, etc.); **hard interventions** (creating common facility centers, raw material banks, etc.); **thematic intervention** (brand building, e-commerce initiatives, R&D etc.)
- **Scheme for Micro & Small Enterprises Cluster Development Programme (MSE-CDP):** The Ministry of MSME has adopted the **cluster development approach** as a key strategy for **enhancing productivity and capacity building** of Micro and Small Enterprises (MSEs). It includes activities like funding for setting up **Common Facility Centres (CFC)** and **Infrastructure Development Projects (IDP)**.

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What more should be done to support MSMEs?

- There is a need to push for greater **digitisation of MSMEs**. Scarcity of proper infrastructure, finance, and limited knowledge, has slowed down the pace of digitalization of MSMEs. Digitising MSMEs could help in enhancing efficiency and reliability, cutting costs, and keeping up with latest technological trends.

- The **National Logistics Policy (NLP)** should be used to **boost the competitiveness** of MSMEs. It aims to reduce logistics costs as a % of GDP from 13-14% to 8%. Lower costs will encourage more MSMEs to use logistics services powered by technology.

- With the advent of online **e-commerce platforms**, MSMEs have got access to a new **channel to expand their markets**. However,

MSMEs will require assistance to scale-up operations to meet the growing demand. The Government should enlist **India Post** as a **last-mile delivery partner** capable of facilitating cash-on-delivery transactions.

- Similarly, the broad **reach of Indian Railways** can be leveraged to quickly and cost-effectively ship goods to the most remote parts of the country. This can **expand the reach of products manufactured by MSMEs**.

MSMEs can play a vital role in growth of the economy as India enters the *Amrit Kaal* phase. They can help in **inclusive and balanced development** and **make India a global manufacturing hub**. The Government has been supporting the MSMEs through various initiatives, the need is to focus on the implementation and realizing the outcomes.

Initiatives to Support MSMEs

- **Financial Support to MSMEs in ZED Certification:** It promotes **Zero Defect and Zero Effect (ZED)** manufacturing among MSMEs. It encourages MSMEs to **constantly upgrade their quality standards** in products and processes, **promote adoption of quality tools** and **energy-efficient manufacturing**, and adopting the **Zero Defect production processes** without impacting the environment.
- **Building Awareness on Intellectual Property Rights (IPR) for MSMEs:** It has been launched to promote awareness about IPRs among MSMEs by **assisting them in technology upgrade** and enhancing competitiveness and **effective utilisation of IPR tools**.
- **Promotion of MSMEs in North Eastern Region and Sikkim:** Its main purpose is to stimulate MSMEs in the North East by establishing **mini-technological centres**, developing new and existing industrial estates, and **promoting tourism**.
- The Small Industries Development Bank of India (SIDBI) has tied up with **Google** to pilot **social impact lending** with **financial assistance up to INR 1 crore at subsidised interest rates** to micro enterprises.
- **Bombay Stock Exchange (BSE)** is collaborating with the **All-India MSME Association (AIMA MSME)** to encourage and **promote the listing of MSMEs and start-ups**.

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6. Restrictions on Trade as a Policy Measure

News: The Government of India recently imposed restrictions on import of laptops, tablets, and other electronic items. The move has been criticized by experts as short-sighted measure that will harm the economy in the long run.

What are the instances of trade restrictions by India in recent times?

- The Government has introduced restrictions on imports of laptops, tablets and some types of computers. Importers of these commodities would be **required to get authorization or license** for their import into India.
- In July 2023, Government had restricted imports of certain gold jewellery and articles.
- Export of farm commodities like wheat, rice, onions etc. has been banned from time to time when-ever, there has been a shortage of these commodities, accompanied by price rise, in the domestic market.

Types of Trade Barriers

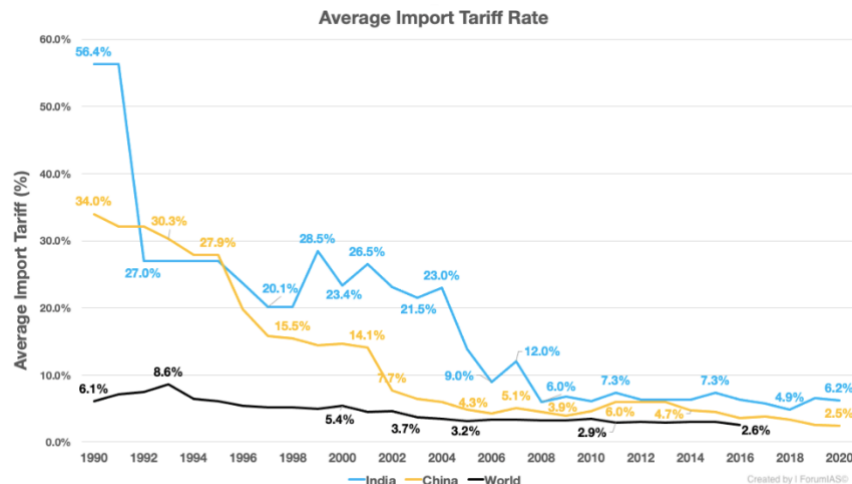
- > **Tariffs:** They are levied on imported r exported good. They can be specific (e.g., INR 10,000 on each laptop) or ad valorem (15% on the price of the laptop).
- > **Non Tariff Barriers** include Licenses, Quotas, Local Content Requirement, Embargo etc.
- > **License:** The importer must obtain a license for importing goods to domestic market. The Government can limit the granting of import licenses or may deny license for certain products or imports from certain countries altogether.
- > **Quota:** The import of certain goods can be limited to a certain quantity e.g., import of only 100,000 laptops in a financial year.
- > **Local Content Requirement:** A certain % of goods may be required to be made/procured locally.
- > **Embargo:** A political decision to stop trade with certain countries like US embargo in Cuba.
- > **Regulatory Standards:** Requirements environment standards (low carbon footprint), no use of child labour, quality of agri commodities. Fall in grey area, and considered indirect barrier.
- > **Voluntary Export Restrictions:** Exporting country agrees to restrict exports to avoid the imposition of mandatory restrictions by the importing country.

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What are the WTO rules on import licensing?

- WTO provides certain **exceptions and flexibilities** to its member countries which allow them to take certain measures under **specific circumstances** that might otherwise be considered trade-restrictive.

- **Article XXI** of the GATT allows members to take measures that they consider necessary for the protection of their essential **security interests**.
- **Article XII** of the GATT allows members to impose restrictions on trade to safeguard their **external financial position** and **balance of payments**.
- The **WTO Agreement on Import Licensing Procedures** sets out rules for all members on the use of import licenses to regulate trade.



The average import tariff levels in India have fell sharply in the post-liberalization era (1991), but they are still above the global average (2.6% in 2017).

- The Agreement aims to **promote transparency, predictability** and **fairness in the administration of import licensing procedures**. It intends to **prevent arbitrary use of import licensing** which could create barriers to trade and undermine the principles of the WTO.
- It requires the import licensing to be **simple, transparent** and **predictable**. The Governments should **publish sufficient information** regarding reasons and process for granting licenses. It also provides the requirement of notification to the WTO upon introduction of new import licensing procedures.

What are the benefits of trade restrictions?

- **Self-reliance:** Import restrictions protect domestic industry from foreign competition and allows them to grow. In the absence of restrictions, cheaper imported goods will reduce demand for goods manufactured domestically and drive domestic manufacturers out of business.
- **Safeguard Domestic Consumers:** Government relies on export restriction/ban when there is a shortage of a commodity in domestic market to prevent rise in price e.g., ban on export of wheat/rice etc. (Refer EPIC June 2022 (click) for Ban on Export of Wheat by Government).
- **Employment:** A robust domestic manufacturing ecosystem creates livelihood opportunities.
- **National Security:** Sometime import of certain products need to be restricted/banned due to national security concerns e.g., Chinese firms have been accused of installing spyware on electronic items which pose national security threat. In such cases banning import of certain items becomes imperative.
- **Retaliation:** Trade restrictions are an avenue to counter similar measures adopted by another country. Both US and China resorted to trade restrictions to retaliate against the other. Similarly, a country may impose anti-dumping duty to retaliate against domestic subsidy provided by another country.

What are the negative impacts of trade restrictions?

- **Higher Prices:** Restrictions make cheap imported goods inaccessible to consumers forcing them to pay more.
- **Harm Domestic Industry:** Overprotecting domestic industry from external competition harm them in the long run. There is a sense of complacency in the industry and lack of innovation due to isolation from competition. The productivity stagnates or falls down. Domestic industry may become perpetually dependent on protectionist policies for survival. This was the case in India pre-1991.
- **Lack of Scientific Advancement:** In the absence of incentives to innovate, there are low investments in R&D, and lack of development of new products and scientific advancements.

- **Investments:** Knee-jerk reactions (e.g., export ban due to shortage in domestic market) add to policy uncertainty, which deters foreign investors from investing in domestic markets. In the long term, this may lead to relocation of supply chains elsewhere.

What should be the way forward?

- **Integrate Global Value Chains:** The Government should focus on enhancing capabilities of domestic industry to become a hub of manufacturing and integrate domestic manufacturing with global value chains. This Government should facilitate faster regulatory clearances, quicker land acquisition, uninterrupted power supply, better infrastructure etc. (Refer EPIC July 2023 (click) for China Plus One (China + 1) Strategy).
- **Stable Trade Policy:** Frequent resort to trade restrictions should be avoided as they prove more harmful in the long run. A stable, clear and consistent trade policy will help attract foreign investment and technology.
- **Domestic R&D:** A robust domestic R&D ecosystem will promote innovation, and enhance capabilities of domestic manufacturing/industry. (Refer EPIC July 2023 (click) for Status of R&D in India).

Trade barriers must be deployed with caution. Import licensing but could work for India if wielded well as part of a strategy for local manufacturing.

7. India Stack: Meaning and Benefits

News: India Stack forms the basis of digital revolution in the Indian Economy.

What is India Stack?

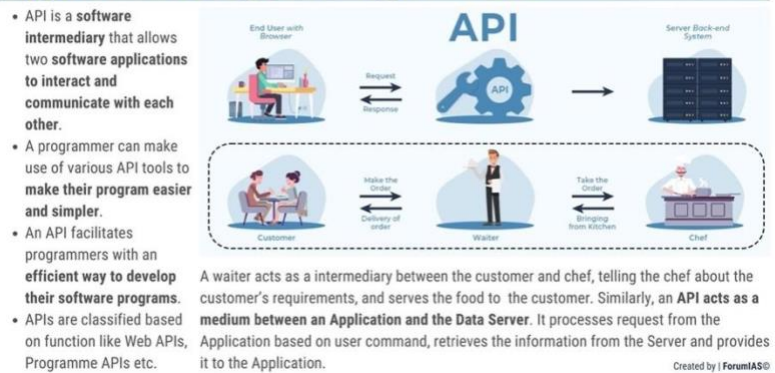
- India Stack is a **collection of government-backed APIs** (Application Programming Interface) on which **private companies can build software**. It includes set of open APIs that allows Governments, Businesses, Start-ups and Developers to utilize a **unique digital Infrastructure** to develop innovative products solve India's unique problems, especially related to service delivery.
- India Stack consist of **4 layers**: Presence-less layer, Paperless layer, Cashless layer and Consent layer.
 - **Presence-less Layer:** It consists of **universal biometric digital identity** allows people to participate in any service from anywhere in the country. It includes the **Aadhaar**.
 - **Paperless Layer:** It involves digital records of individual's identity that are accessible everywhere, eliminating the need for massive amount of paper collection and storage. It includes the **Digital Locker**.
 - **Cashless Layer:** It is an electronic **interoperable payment network** that allows **seamless digital payments**. **UPI is built on cashless layer**. (Refer EPIC August 2022 (click) for Unified Payments Interface and Digital Payments in India).
 - **Consent Layer:** It allows data to move freely and securely. It will democratize the market for data. **Account Aggregator Framework** is part of this layer. (Refer EPIC September 2021 (click) for Account Aggregator).
- India Stack is a collection of disparate technology products and frameworks. The components of India Stack are **owned and maintained by different agencies**.



What are the benefits of India Stack?

- Aadhar-based authentication has **enabled direct transfer of benefits (DBT)**. It has helped **check leakages in Government's programmes**. It has also enabled quick delivery of Government services.
- Cashless digital payments have contributed to **quick transfer and settlements**, fastening the pace of economic activities **leading to economic growth**.
- Initiatives like Digilocker have made several Government **processes more convenient**. It has eliminated the need for huge amount of paperwork.
- Account Aggregator Framework will help **curb financial fraud** and improve the delivery of financial services.

Application Programming Interface



What are the concerns associated with India Stack?

- **Privacy Concerns:** Experts have expressed concerns related to violation of privacy with the capturing of biometrics of users. In the absence of statutory data regulation framework (Digital Personal Data Bill pending), and absence of robust safety measures, there are high chances of data leakages and misuse.
- **Access:** A large section of the population lack digital literacy and means to access the services. The divides are caused by poverty (unable to afford smart phones, internet), vernacular content etc.
- **Cyber-frauds:** The digitalization of economy has been accompanied by rise in cyber-frauds especially financial frauds. (Refer EPIC April 2023 (click) India's Digital Public Infrastructure).

What more should be done?

- **Usability:** Applications should be designed keeping in mind the constraints of access and literacy e.g., applications in vernacular languages that be accessed on feature phones at low internet speed.
- **Connectivity:** Government should ensure connectivity in remote areas.
- **Digital Literacy:** Improving digital literacy can enable benefits to be accessed by large number of people. Awareness generation can help curb cyber-frauds.
- **Curb Cyber-frauds:** In most cases, cyber-crimes transcend boundaries of States, constraining State police forces. The Union Government should consider setting-up a special **pan-India Counter Cyber-crime Force**, with representation from all States, for quick resolution of inter-State cyber-crimes.
- **Data Privacy:** The Digital Personal Data Bill should address all concerns with respect to data privacy.

8. The Forest Conservation Amendment Act, 2023

News: The Parliament has passed the Forest Conservation Amendment Act, 2023.

What is the need for the amendments?

- **Different Interpretations:** In *T.N. Godavarman Thirumulkpad vs Union Of India (1996)*, the Supreme Court **expanded the definition of forests** to include areas which look like forest in their dictionary meaning. This led to complications as some lands were already being utilized for non-forestry purposes like settlements, institutions, and roads etc. **Differing interpretations regarding the applicability of the Forest Conservation Act, 1980** to different categories of land like recorded forest lands, private forest lands, plantations, has led to **frequent disputes between forest and revenue authorities**.

- **Delays in Approval Process:** The existing Act requires consent from multiple authorities at the State and National levels before engaging in any non-forest activity in an area designated as 'forest'. The approval process was very difficult and challenging. It took almost a year even for minor requests like building access paths on the designated forest land.
- **Creation of Additional Carbon Sink:** There are apprehensions that plantations on private lands can attract the FCA. Hence, the **afforestation and plantation of trees outside forests is not getting desired impetus**. This has become a **hindrance in enhancing green cover** to fulfil the target of creating additional carbon sink of 2.5-3.0 billion tons of CO₂ equivalent.
- **Security Infrastructure:** The strategic and **security related projects of national importance need to be fast-tracked**; along the LAC, LOC and the Left-Wing Extremism areas.
- **New Challenges:** Following the enactment of the FCA, several new challenges have arisen concerning ecological, social, and environmental developments. These challenges include mitigating the impact of climate change, meeting the national targets of achieving Net Zero Emissions by 2070, and maintaining or enhancing the forest carbon stock.

It has become imperative to incorporate these issues within the scope of the Act.

Salient Features of Forest Conservation Amendment Act, 2023

- > **Land under the purview of the Act:** 2 types of land will be under the purview of the Act:
 - Land declared/notified as a forest under the Indian Forest Act, 1927 or under any other law.
 - Land notified as a forest on or after October 25, 1980 in a government record.
- > **Exempted Categories of Land:** Certain lands have been exempted from the provisions of the Act
 - Forest land along a rail line or a public road providing access to a habitation (max. size 0.10 hectare).
 - Forest land situated within 100 km from international borders, Line of Control, or Line of Actual Control, for construction of a strategic linear project of national importance/security.
 - Forest land up to 10 hectares, for constructing security-related infrastructure or for defense related projects, camps for paramilitary forces, up to 5 hectares in a LWE affected areas.
- > **Permitted Activities in Forest Land:** The 1980 Act specifies certain activities that are excluded from non-forest purposes meaning that restrictions on the use of forest land for non-forest purposes do not apply. The Amendment add more activities like zoos and safaris, ecotourism facilities etc.
- > **Name:** The Amendment renames the parent legislation, the FCA, to *Van (Sanrakshan Evam Samvardhan) Adhiniyam*, which translates to Forest (Conservation and Augmentation) Act.
- > **Preamble:** The Amendment inserts a Preamble in the FCA to express a commitment to achieving net zero emissions by 2070, creating a carbon sink, increasing forest cover etc.

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What are the positive aspects of the Forest (Conservation) Amendment Act, 2023?

- **Agro-forestry:** The Amended Act **encourages private forests and agro-forestry projects** because these would not be considered forests in the traditional sense. These projects would be **exempt from the provisions of the FCA**. That would ensure that owners of these private forests can harvest their lands, for commercial or other uses, **without the need for acquiring forest clearance**. This will help increase tree cover and achieve the climate action targets.
- **Ambiguities:** Removal of uncertainties in the applicability of FCA will facilitate the decisions making process on the proposals involving non-forestry use of forest land by the authorities.
- **Forest Management:** At present, lack of enabling provisions in the FCA makes it **challenging to establish essential infrastructure in forest regions**. This impacts forestry operations, regeneration efforts, monitoring, supervision, and forest fire prevention. The inclusion of additional activities in the Act, such as creating infrastructure for frontline forest staff, will facilitate better forest management and conservation.

What are the concerns associated with the Amendment Act?

- **Restricting Supreme Court's Judgement:** The Act will impose significant limitations on the application of the landmark **Godavarman Judgment**. The amendment **narrows the Act's coverage to only legally notified forests and forests recorded in Government records**. This change could potentially impact approximately 28% of India's forest cover, covering nearly 200,000 sq. km. These forests include forests of exceptional ecological value which have not been officially recorded or designated as forests until now.
- States may now be **free to allow the destruction of Unclassed forests for construction and development**. Consequently, this amendment may have implications for ecologically significant areas, such as the large portions of the Aravalli Hills in the Delhi National Capital Region.
- **Exclusion of Fragile Ecosystems:** Many delicate ecosystems are located in border areas including the biodiversity hotspots in the Eastern Himalayas. Creating infrastructure (Act facilitates infrastructure within 100 km from the border) in this region can disrupt the fragile ecology.
- **Exemptions:** The Amended Act includes exemptions for construction projects like zoos, safari parks, and eco-tourism facilities. However, these **artificially created green areas differ significantly from natural ecosystems**, which offer various ecosystem services.
- The Act grants the Union government unrestricted powers to specify '**any desired use**' beyond the original or amended FCA's specified purposes. This raises concerns about potential exploitation of forest resources without adequate environmental scrutiny.
- **Disenfranchising Forest Dwellers:** The Act does not mention the Scheduled Tribes and Other Traditional Forest-dwellers (Recognition of Forest Rights) Act, 2006. The exclusion of certain forest areas and the **simplified diversion process** might lead to the **removal of the requirement to consult forest people's institutions** (*Gram Sabhas*). Forest dwellers play a vital role in conservation of forests. In Nepal, the local forest-dwelling communities helped improve the forest cover from 26% to 45% over the last 3 decades.

What should be the way forward?

- **Complete Ground Surveys:** Rather than restricting the scope of the Forest Conservation Act, there should be a concerted effort to **prioritize the demarcation process for unrecorded forests**. This approach would ensure that these **forests are properly recognized and safeguarded under the existing legislation**.
- **Balance Development and Conservation:** There should be a careful balance between development projects and forest conservation. Compensatory afforestation should be carried out on non-forest land or degraded forest land, rather than promoting plantations over natural forests.
- **Indigenous and Forest Community Rights:** The rights of indigenous and forest communities should be respected, and their **consent should be sought before the diversion of forest land**. Their livelihoods and dependence on forests should be considered in decision-making processes.

9. Floods and Associated Damage in Himachal Pradesh

News: Floods in Himachal Pradesh has led to large loss of life and property in Himachal Pradesh.

What are the reasons for large scale damage in Himachal Pradesh?

Himachal Pradesh has witnessed unprecedented rains and floods in Monsoon 2023 season. The floods were accompanied by widespread landslides, blockages of roads and damage to household and commercial properties. The State has recorded more than 300 deaths and loss of more than INR 10,000 crore in damage to the economy. Various reasons can be attributed to widespread loss.

- **Natural Causes - Heavy Rainfall:** According to IMD, Himachal Pradesh has received rainfall 30% in excess than the long-term normal (as of August 31, 2023). Some districts like Solan (97% above normal), Shimla (90%),

Mandi (58%), Sirmaur (54%), and Kullu (52%) received extreme spells of rains. The heavy rainfall has been attributed to climate change along with local meteorological factors

• Anthropogenic Causes - Development Model

- **Hydroelectric Projects:** Many 'run-of-the-river' projects have **diverted water through tunnels burrowed into the mountains**, and the excavated materials (muck) have often been disposed of along the riverbeds. During heavy precipitation, river water carries this muck along, **reducing channel depth** and **causing floods**. Long tunnels (some spanning 150 km) have been commissioned on the Sutlej river causing significant harm to the entire ecosystem. At present, there are 168 hydropower projects in operation in HP.
- **Tourism and Infrastructure:** To support tourism, **roads have been widened** (2-lane to 4-lane). Many projects were undertaken **bypassing essential geological studies** and **mountain engineering safeguards**. Roads have been widened by **cutting mountains vertically** instead of standard **terraced cuts** (minimize damage). **Vertical slits have weakened slopes** leading to frequent and massive landslides.
 - **Large hotels** have been constructed **without due regard to structural integrity** of buildings and slopes.
- **Cement Plants:** Establishment of massive cement plants and **extensive cutting of mountains** in districts like Bilaspur, Solan, Chamba have resulted in **significant land use changes** that **contribute to flash floods during rainfall**. The cement plants **alter the natural landscape**, and the **removal of vegetation leads to reduced capacity of land to absorb water**.
- **Cropping Pattern and Road Construction:** Many farmers have **adopted a cash crop economy** over traditional cereal farming. This shift has implications for the **transportation of these crops to markets within a short timeframe owing to their perishable nature**. Roads are being constructed hastily without considering essential gradient requirements. Although the total designated road length in the State is around 1,753 km, the total length of all roads including the link and village roads is more than 40,000 km.

What should be the approach?

- The widespread damage has made it evident that the current 'growth' led model is unsustainable. Environmental sustainability has to be the top priority in any project.
- A new architecture is required to **empower local communities over their assets**. The losses faced in the forms of culverts, village drains, small bridges, schools, other social infrastructure must be compensated.
- Climate change is a reality. Adequate changes should be made in **infrastructure planning** to avert disasters.

10. Enforcement Directorate (ED): Functioning and Challenges

News: The working of the ED has been a matter of political contestation between the Government and Opposition parties.

What is the Enforcement Directorate (ED)?

- The Enforcement Directorate (ED) is a **multi-disciplinary organization** mandated with the **investigation and prosecution** of offences related to **money laundering**, violations of **foreign exchange laws** and **economic offences**.
- It is part of the Department of Revenue, Ministry of Finance, Government Of India.
- It is considered a statutory body, under **Section 36** of the **Foreign Exchange Management Act**.
- Its statutory functions include enforcement of **The Prevention of Money Laundering Act, 2002 (PMLA)**; **The Foreign Exchange Management Act, 1999 (FEMA)**; **The Fugitive Economic Offenders Act, 2018 (FEOA)**; and

Section 36 FEMA, 1999

The Central Government shall establish a **Directorate of Enforcement** with a Director and such other officers or class of officers as it thinks fit, who shall be called Officers of Enforcement, for the purposes of this Act.

act as Sponsoring Agency under the Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 (COFEPOSA) for cases of preventive detention regarding contraventions of FEMA.

How is the ED different from other policing agencies?

- **Predicate Offence:** A predicate offence (a crime that is a component of a more serious crime) is essential to charge someone of money laundering. The investigation and prosecution of the predicate offence is done typically by the Central Bureau of Investigation (CBI) or the State Police while the ED investigates the money laundering aspects.
- **Inquiry is not Investigation:** Section 50 of the PMLA provides **powers of a civil court to the ED authorities** for summoning persons suspected of money laundering and recording statements. However, in **Vijay Madanlal Choudhary v. Union of India** (2022), the SC held that **ED authorities are not police officers** and an inquiry under the Section 50 of the PMLA is not 'investigation' in strict sense of the term for initiating prosecution. (Refer EPIC August 2022 (click) for Supreme Court's Judgment on PMLA).
- **Other Differences:** In Court, any statement given by an accused to the police is not admissible as evidence, but a **statement made to an ED authority is considered admissible**. While the accused can access a copy of the First Information Report (FIR), the **Enforcement Case Information Report (ECIR)** is rarely made available to them.

What are the criticisms of ED?

- **Wide Powers:** Some powers of the ED, not available even to the CBI or State Police Forces, are susceptible to misuse. These powers are:
 - Statement before ED is admissible in court as evidence.
 - All offences under PMLA are non-bailable.
 - The burden of proof is on the accused.
- **Transparency:** There is a lack of transparency in the functioning of ED. Critics say that it is not known how the ED chooses its cases or the basis of picking a particular case. ECIR, the equivalent of FIR, is considered an **internal document and not given to the accused**.
- **Use of PMLA for Ordinary Crimes:** There have been allegations that the PMLA has been invoked in the investigation of ordinary crimes, leading to the attachment of assets of innocent individuals by the authorities.
- **Low Conviction Rates:** Since 2005 (till January 2023), the ED has registered 5,906 cases. It has managed to file chargesheet only 1,142 cases (19.3%). Only 25 cases have been disposed (0.42% conviction rate). However the agency maintains that it has disposed of 29 cases out of 31 money laundering cases it investigated, giving conviction rate of 93.5%.
- **Political Bias:** ED is criticized for targeting leaders of opposition. It was reported that as of mid-2022, 85% of the registered cases involving politicians were against opposition leaders.

Evolution of ED



What is the way forward?

- Investigations should not be employed as a means of punishment, and efforts should be made to expedite case resolutions to achieve swift trials and convictions. The ED must demonstrate fairness and impartiality by putting more facts in the public domain to show that its actions are justified.
- The agency should be made an autonomous body to enhance its independence.

Factly

Polity

1. Parliamentary Select Committee

News: There was a controversy regarding names of MPs being proposed for a Select Committee for Delhi Services Bill without their consent.

About Parliamentary Select Committee

- The Parliament has several types of committees which discharge different functions.
- **Standing Committees** are **permanent** in nature. **Ad hoc Committees** are **set up for a specific purpose**, (like examining a Bill), and are **dissolved once the purpose is served**. A Select Committee is an ad hoc Committee.

Procedure to be followed for a Select Committee

- Under **Rule 125 of the Rajya Sabha Rules and Procedures**, any member may move an amendment that a Bill be referred to a Select Committee.
- The members of the Select Committee on a Bill are **appointed by the House** when the motion that the Bill be referred to a Select Committee is made.
- No member is appointed to a Select Committee if she is not willing to serve on the Committee. The mover has to ascertain whether the member proposed by her is willing to serve on the Committee. The rules say that a proposed member's consent has to be taken before he can serve on a Select Committee.

Number of Members in a Select Committee

- The membership of a Select Committee is not fixed and varies from Committee to Committee.
- For a Joint Committee, the **proportion of members from the Rajya Sabha and the Lok Sabha is 1:2**.
- The Chairperson of the Committee is appointed by the Chairperson of the Rajya Sabha from among the members of the Committee.
- The member or Minister in-charge of the Bill is generally included as a member of the Committee.

Functions of Select Committee

- **Detailed Examination:** The Committee carefully reviews and deliberates the Bill, going through each and every clause.
- **Ensuring Clarity:** It ensures that the Bill accurately represents the intended purpose and goals.
- **Gathering Inputs:** The Committee can request opinions from experts, individuals, and groups, either in writing or through discussions.
- **Understanding Policy:** It may ask Government officials to explain the Bill's intentions and provide necessary information.
- **Formulating Conclusions:** After thorough discussions, the Committee reaches conclusions and might make changes to the Bill's clauses.

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Working of a Select Committee

- The quorum for each sitting needs to be **1/3rd of the total members of the Committee**.
- In case of equality of votes on any matter, the Chairperson of the Committee (or any other person presiding) will have a **second or casting vote**.
- A select committee may appoint a sub-committee to examine any special points connected with the Bill.
- The report of the Committee is of a **recommendatory nature**. The Government **can choose to accept or reject its recommendations**.
- A Select Committee can also include its version of the Bill. If they do so, the Minister-in-charge of that particular Bill can move for the Committee's version of the Bill to be discussed and passed in the House.

2. Committee of Privileges (Parliament)

News: The Lok Sabha moved a motion to refer the misconduct of an MP to the Privileges Committee.

About Parliamentary Privileges

- Parliament and its Members (MPs) have certain rights and immunities that enable them to function effectively in their legislative roles. These are called Parliamentary Privileges.
- Article 105(3) provides that Parliamentary privileges would be defined by the Parliament by law. Prior to 1978, the rights and privileges were same as that of the House of Commons (UK). The reference was removed through 44th Amendment. However, no law has been enacted so far in this regard.
- At present, Parliamentary privileges are a mix of **provisions in the Constitution, statutes, House procedures and conventions** e.g., the Constitution specifies that MPs have freedom of speech and **immunity from judicial proceedings** against anything they say or votes they cast in Parliament.
- The Code of Civil Procedure **protects MPs from arrest and detention under civil cases during a Parliamentary session**, and for a specified period before it begins and after it ends.

Parliament's Action on Breach of Privilege

- Each House of Parliament is the guardian of its privileges. Lok Sabha and Rajya Sabha have the **authority to take suitable action against anyone who breaches the privileges** of its members or commits contempt of the House.
- There are two mechanisms by which Parliament takes up these matters:
 - A member can raise the issue in the House, and the House decides on it. Usually, the matter is sent to a Privileges Committee for a thorough analysis. The Committee recommends a course of action to the House which is then accepted by it.
 - MPs can bring matters of breach of privilege to the notice of the **presiding officers** of their respective Houses. The presiding officers can then decide whether or not to send the case to the Committee of Privileges.
- The Committee of Privileges has the power to recommend to the House for its consideration the issuance of admonitions, reprimands, suspension and, in rare cases, expulsion from the House.
- The convention followed by the committee of both Houses is that if the MP against whom a privilege matter is raised **gives an unqualified apology**, then the **issue is allowed to rest**, and it recommends no further action.

3. Lower the Age for Contesting Elections: Parliamentary Panel

News: The Parliamentary Standing Committee on Personnel, Public Grievance, Law, and Justice has proposed lowering the minimum age for contesting elections from 25 to 18 years.

About The Proposal

- **Global Practices:** The Committee **cited the examples from the UK, Australia, Canada**, and some European nations where the minimum age to run for any elected public office is 18 years.
- **Inadequate Representation:** In 2019, a report by PRS Legislative Research revealed that 47% of Lok Sabha MPs were over 55 years old, and

Article 84

A person shall not be qualified to be chosen to fill a seat in Parliament unless he

- (a) Citizen of India;
- (b) is, in the case of a seat in the **Council of States**, not less than **30 years of age** and, in the case of a seat in the **House of the People**, not less than **25 years of age**.
- (c) Possesses such other qualifications as may be prescribed on that behalf by a law made by Parliament.

only 2.2% of Lok Sabha MPs were under 30 years old. India's median age is only 27.9 years. The panel has raised concerns over lack of representation.

- **Bridging the Generation Gap:** The Committee stated that global surveys indicate a significant political awareness among the youth. Hence, having younger candidates could help bridge the generation gap, promote dialogue, and foster cooperation.
- The Election Commission of India (ECI) has said that **expecting 18-year-olds to have the required experience and maturity to serve as public representatives was unrealistic**. It has advised the panel not to change the constitutional provision for the age requirement to contest in the Lok Sabha, Rajya Sabha, Legislative Assemblies, and Legislative Councils, unless compelling reasons exist.

Article 326

The elections to the **House of the People** and to the **Legislative Assembly of every State** shall be on the basis of **adult suffrage**; every person who is a **citizen of India** and who is not less than **18* years of age** ... and is not otherwise disqualified ... on the ground of **non-residence, unsoundness of mind, crime or corrupt or illegal practice**, shall be **entitled to be registered as a voter at any such election**. (Reduced from 21 years by 61st Amendment Act, 1988).

4. Rule 176 and 267 of the Rules of Procedure in the Rajya Sabha

News: There was a difference between the Government and the Opposition parties regarding format of discussion in the Rajya Sabha under Rules 176 and 267 of the Rules of Procedure and Conduct of Business in the Rajya Sabha.

About the Rules

- The Government had agreed for a '**short-term**' discussion under **Rule 176**. The Opposition pressed for suspending all business under **Rule 267** and discuss the issue of violence in Manipur.
- **Rule 176** allows for a **short-duration discussion not exceeding 2.5 hours** on a **matter of urgent public importance**. Any member desirous of raising discussion on a matter of urgent public importance may give **notice in writing to the Secretary-General** specifying clearly and precisely the matter to be raised.
- The notice shall be accompanied by an explanatory note **stating reasons for raising discussion on the matter in question** and it must be supported by the signatures of at least 2 other members.
- After admission of the notice, the Chairperson fixes the date of discussion in consultation with the Leader of the Council.
- The rule says there shall be **no formal motion or voting under a short duration discussion**.
- **Rule 267** is related to Suspension of Rules. It states that a member, with the consent of the Chairperson, may move that any rule be suspended i.e., Rajya Sabha MPs can give a written notice to **suspend all listed business** and discuss an important issue.
- According to Parliament records, the previous discussion under Rule 267 happened in November 2016 on demonetization.

5. The Government of NCT Delhi (Amendment) Act, 2023 Passed by the Parliament

News: The Parliament has passed the Government of National Capital Territory of Delhi (Amendment) Act, 2023.

Salient Features of the Act

- **National Capital Civil Services Authority (NCCSA):** The Act establishes the **National Capital Civil Services Authority** to **make recommendations** to the Lieutenant Governor of Delhi (LG) on matters related to

Transfers and postings, Matters related to vigilance, Disciplinary proceedings, Prosecution sanctions of Group A of All India Services (except Indian Police Service), and DANICS.

- The Authority will consist of the **Chief Minister of Delhi as Chairperson, Principal Home Secretary** (Government of Delhi) as Member Secretary, and **Chief Secretary** of the Government of Delhi (member).
- The Central government will appoint both the Principal Home Secretary and Chief Secretary.
- All decisions of the Authority will be **based on a majority vote of the members present and voting**. The quorum for a meeting is 2 people.
- **Powers of the Lieutenant Governor:** Under the existing Act, the LG may act in his discretion on matters outside the legislative competence of the Delhi Legislative Assembly but which have been delegated to the LG, or matters where he is required by a law to act in his discretion or **exercise any judicial or quasi-judicial functions**.
 - The Amendment Act specifies that in these matters, the LG will act in his sole discretion. It **expands the discretionary role of the LG** by giving him powers to **approve the recommendations of the Authority**, or return them for reconsideration.
 - In case of a difference of opinion between the LG and the Authority, the former's decision will be final.
- **Disposal of Matters by Ministers:** Certain matters must be submitted to the LG, through the Chief Minister and the Chief Secretary, for his opinion prior to the issue of any order by a Minister. These include proposals affecting: **(a)** The peace and tranquillity of Delhi; **(b)** Relations between the Delhi Government and the Central Government, Supreme Court, or other State Governments; **(c)** Summoning, prorogation, and dissolution of the Legislative Assembly; **(d)** Matters on which LG is to give an order in his sole discretion.
- **Duties of Secretaries:** The concerned Department Secretary must bring certain matters to the notice of the LG, the Chief Minister, and the Chief Secretary. These include matters which may bring the Delhi Government into controversy with the Central or any State Government, the Supreme Court, or High Court of Delhi.

Supreme Court's Remarks in the Judgement

- "If a democratically elected government is not provided with the power to control the officers, then the **principle underlying the triple-chain of collective responsibility would become redundant**".
- "The Triple Chain of Command is:
 - Civil service officers are accountable to Ministers.
 - Ministers are accountable to Parliament/Legislature.
 - Parliament/Legislature is accountable to the electorate".
- "The Principle of Collective Responsibility extends to the responsibility of officers, who in turn report to the Ministers. If the officers stop reporting to the ministers or do not abide by their directions, **the entire principle of collective responsibility is affected**".

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The Act has been criticized for overturning the Judgment of the Supreme Court on the matter of control of services in Delhi. (Refer EPIC May 2023 (click) for Control of Administrative Services in NCT, Delhi: SC Judgment). It violates the Triple Chain of Command mentioned by the Supreme Court.

6. Parliamentary Panel's Recommendations on Judiciary

News: The Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice has recommended that SC and High Court Judges should declare their assets annually.

Recommendations Given by the Committee

- **Retirement Age:** The retirement age of the judges should be raised to address the concerns about judges seeking post-retirement jobs. Post-retirement engagements make judges susceptible to Executive's influence. The norms regarding post-retirement appointments should be reviewed.
- **Court Holidays:** The number of holidays (especially practice of long breaks, 'a colonial legacy') should be reduced. Long breaks limit access to judiciary.

- **Declaration of Assets:** Judges of the Supreme Court and High Courts should declare their assets annually. In 2009, the full bench of the Supreme Court (comprising all judges) had decided to declare their assets on a voluntary basis on the SC's website. Till date, it contains data with respect to only 55 former CJIs and Judges of the SC. The data were last updated on March 31, 2018. Only 5 High Courts share data of assets on their website and that too by only a few judges.
- **Regional Benches of the SC:** Regional benches of the SC should be established outside Delhi. Regional benches can hear appellate matters while Constitutional matters can be heard in Delhi. It will reduce burden and costs of travel and make the SC more accessible. Arguing in non-local languages is challenging for some Indians.
- **Diversity in Judiciary:** The Judiciary should address the poor representation of women and marginalized communities in the higher judiciary. Diversity is needed to maintain public legitimacy. (Refer EPIC December 2022 (click) Representation of Women in the Judiciary).
- **Annual reports:** At present, the SC is publishing its Annual Report also depicting the work done by all High Courts. Only few HCs are publishing their Annual Report. The Committee recommends that Department of Justice should approach the SC requesting them to **issue necessary directions to all the HCs to prepare and publish their Annual Reports** regularly.

The recommendations, if implemented, would bring in greater transparency and accountability in the Judiciary and make it more efficient, improving quality of justice. (Refer EPIC June 2022 for Judicial Accountability in India).

7. Status of Judicial Infrastructure

News: The CJI announced a plan to expand the SC with 27 additional courts and 51 Judges' Chambers. The judicial infrastructure in India remains poor.

About Judicial Infrastructure in India

- Judicial infrastructure includes **physical infrastructure** (Courtrooms, Lawyers' chambers, other amenities), **digital infrastructure** (internet connectivity, video-conferencing facilities etc.) and **Human resources** (Judges, Support staff).
- **Physical Infrastructure:** According to data from the National Judicial Data Grid:
 - The sanctioned strength of judges is 24,280. However, there are only 20,143 court halls available.
 - Only 2% of the lower and subordinate courts provide **tactile pathways for the visually impaired**, 20% have guide maps and 45% have help desks.
 - 68% of lower courts **do not have dedicated rooms for record-keeping**, and ~50% do not have a library.
 - According to legal think tank *Vidhi*, a majority of lower court complexes in Gujarat, Sikkim, and Tripura are **not accessible through public transport**.
 - < 50% district and subordinate courtrooms surveyed had **washrooms that were fully functioning**.
- **Digital Infrastructure:** A 2021 survey by the CJI office found that nearly 72% of lower court complexes had digital display boards, and only 41% of them had a studio-based video conferencing (VC) facility.
 - Only 38% of lower court complexes had video linkages with jails and 14% had video linkages with medical officers.
 - **The Vidhi survey** found evidence of a digital divide among the country's states e.g., all lower court complexes in Chandigarh and Delhi had websites that were more helpful to users, compared to those of court complexes in Andaman and Nicobar Islands, Arunachal Pradesh, and Nagaland.
- **Human Resources:** According to India Justice Report (IJR) 2022, India has about 20,076 judges for a population of 1.4 billion, with a vacancy of 22% among the sanctioned posts. In the HCs, there is a 30% vacancy of judges.

- Government of India has been implementing a **Centrally Sponsored Scheme (CSS) for the Development of Infrastructure Facilities** for Judiciary since 1993-94. The fund-sharing pattern stands at 60:40 (Centre: State) and 90:10 for the 8 North-eastern and 3 Himalayan States. The UTs get 100% funding. However, the funds allocated under this scheme are severely underutilized.

8. Madras HC Judgment on the Power of ED to Seek Custody

News: The Madras HC has upheld the legality of arrest of a Tamil Nadu Minister by the ED and his remand in judicial custody in a money-laundering case.

Observations of the Madras HC

- The main question before the Madras HC was **whether the ED has the power to seek custody of a person arrested.**
- The HC accepted the argument on behalf of the petitioner that **ED officials are not police officers** as per the law laid down by the Supreme Court in **Vijay Madanlal Choudhary versus Union of India (2022)**. (Refer EPIC August 2022 (click) for Supreme Court's Judgment on PMLA).
- However, the Court also held that the SC designated ED officials to not be police officers only for making a distinction regarding admissibility of statements made to ED officials as evidence in a Court. (The statements made to police in custody are not admissible in Court while statements given to the officials of the ED are admissible as evidence under the Prevention of Money Laundering Act (PMLA), 2002).
- This observation could not be stretched to the extent of denying the ED an opportunity to subject the accused to custodial interrogation for unearthing crucial facts related to the alleged crime.
- Hence, the HC ruled that the ED can subject any person accused in a case booked under the Prevention of Money Laundering Act (PMLA), 2002, to custodial interrogation.

9. Jan Vishwas (Amendment of Provisions) Act, 2023

News: The Parliament has passed the Jan Vishwas (Amendment of Provisions) Act, 2023.

About the Jan Vishwas Act, 2023

- The Jan Vishwas Act aims to **decriminalize around 180 offences** by **amending 42 laws** across sectors including environment, agriculture, media, industry and publication.
- Some of the acts which are being amended include **The Drugs and Cosmetics Act, 1940; Public Debt Act, 1944; Copyright Act, 1957; Patents Act, 1970; Environment (Protection) Act, 1986; Motor Vehicles Act, 1988** among others. The Act removes all offences under the **Post Office Act, 1898**.
- The offences will be decriminalized by either eliminating both imprisonment and/or fine; removing imprisonment while retaining or increasing fines or changing imprisonment and/or fine to penalties.

Benefits of the Act

- The Act will help in **rationalizing criminal provisions** to ensure that citizens, businesses and the Government departments **operate without fear of imprisonment for minor or technical defaults**.
- It establishes a **balance between the severity of the offence** and the **gravity of the prescribed punishment**.
- Minor offences, defaults or lapses have **burdened the justice delivery system**, delaying the adjudication of serious offences. The Act would **reduce pressure** on the justice system and **reduce the pendency of cases**.
- It will help bolster growth of businesses and will save time and cost for both the Government and Businesses.

Concerns

- The Act amends the environmental laws to substitute imprisonment with penalties.

- The penalties can be imposed by **designated officers**. The **officers may lack required technical and judicial competence** to decide on such penalties.
- It violates the **principle of separation of powers**. The officers of Executive will undertake judicial functions.
- Experts have raised concerns that the Act lets makers of **substandard drugs** (NSQ drugs) **avoid serious penalties**, even though these drugs can harm patients.

10. Sub-categorization of OBCs

News: The Rohini Commission set up to examine the sub-categorisation of Other Backward Classes (OBCs) has submitted its Report to the President.

Need for sub-categorisation of OBCs

- OBCs get 27% reservation in Central Government jobs and admissions to educational institutions.
- There are more than **2,600 entries in the Central List of OBCs** but over the years only a few affluent communities among them have benefited from the quota.
- There is an argument that 'sub-categorisation' of OBCs quotas within the 27% quota is needed in order to ensure '**equitable distribution**' of the **benefits of reservation**.

Terms of Reference of the Rohini Commission

- Examine the **extent of inequitable distribution of benefits of reservation** among the castes included in the broad category of OBCs with reference to **such classes included in the Central List**.
- Work out the mechanism, criteria, norms and parameters in a **scientific approach for sub-categorisation within such OBCs**.
- Take up the exercise of **identifying the respective castes or communities or sub-castes** in the **Central List of OBCs** and classifying them into their respective sub-categories.

Status of Access

- In 2018, the Commission analyzed the data of 1.3 lakh Central Government jobs under the OBC quota (5 years data), and OBC admissions to Central Higher Education Institutions (Universities, IITs, NITs, IIMs and AIIMS) (3 years data).
- The analysis showed **97% of all jobs and education seats have gone to 25% of OBC castes and 24.95% of these jobs and seats have gone to just 10 OBC communities**.
- As many as 983 OBC communities (~37% of the total) were found to have **zero representation in jobs and educational institutions** and **994 OBC sub-castes had a representation of only 2.68% in recruitments and admissions**.
- However, this analysis suffered from limitations due to the **absence of updated population data**.

11. Registration of Births and Deaths (Amendment) Act, 2023

News: The Registration of Births and Deaths (Amendment) Act, 2023 has been passed by the Parliament.

Significant Provisions of the Act

- The Act makes it compulsory that the Registrar General of India maintains a **national level database of births and deaths**.
- The **Chief Registrar of Births and Deaths** in **every State** is required to maintain a **State-level database** of registered births and deaths 'using the **portal approved by the Registrar General of India (RGI)**'.
- These databases will provide information to update the **National Population Register, Aadhaar database, electoral rolls, ration card, passport, driving license**, and other databases as notified.

- In the case of birth, the Amendments provide for collecting the **Aadhaar number** of the parents. Nothing is mentioned about the Aadhaar number of the deceased.
- For all deaths within medical institutions, a **cause of death certificate** must be forwarded to the **Registrar of Births and Deaths**. A copy should be provided to the closest relative.
- For deaths that transpire outside of hospitals, the medical practitioner who attended to the deceased during their recent illness is responsible for **issuing this certificate**.
- The responsibility of **managing registrations** lies with **State Governments**. The role of the **Registrar General (RGI)** is to **coordinate and unify the registration system**. The RGI will now also oversee the maintenance of the central database, alongside the existing functions.
- The Chief Registrars in the States are tasked with maintaining **efficient databases** to facilitate the issuance of **birth and death certificates**.
- It provides for the **birth certificate** to be used as a **required document** for **various purposes**: Admission to educational institutions, inclusion in voter lists, government employment, registration of marriage etc.

Registration of Births and Deaths

Civil Registration System (CRS, informally called Birth and Death Registration System) is the recording of births and deaths under the statutory provisions of **Registration of Births and Deaths (RBD) Act, 1969**.

CRS falls under the **Concurrent list** of the Constitution (Item 30, Vital Statistics).

The **Registrar General, India** (RGI) coordinates and unifies the activities of registration throughout the country. The functions of Registrar General include undertaking **Housing and Population Census**; **Civil Registration System** (CRS); **Sample Registration System** (large scale sample to determine Birth/Death rate, IMR, MMR etc.); **National Population Register** (under Citizenship Rules, 2003 for all residents) and **Mother Tongue Survey**.

Issues with the Amendment Act

- Lack of access to data resources for **economically disadvantaged sections/persons may lead to exclusion**.
- Experts have argued that denial of admission to school or to refusal to add name in voter list due to absence of birth certificate may violate rights guaranteed under the Constitution (Right to education, vote).
- Linking of Aadhaar (of Parents) with the Birth Certificates may violate the Supreme Court's Judgment on Aadhaar Case and Right to Privacy.
- The linkage of data across databases under the Bill **does not require consent from the person whose data is being linked**. The Digital Personal Data Protection Act, 2023 has mandated obtaining informed consent of individuals before processing their data. The interlinking of Databases without consent of individual may violate this provision. The **Srikrishna Committee** had suggested that **if personal data is collected for a specified purpose, it should not be processed for any other purpose**.
- There are large variations across States in registrations of births and deaths. The Central database, which will build on individual databases of States, may suffer from discrepancies due to variations.

Policy

1. Teaching in Mother Tongue

News: CBSE has allowed affiliated schools to use Indian languages as an optional medium of instruction from pre-Primary Stages to Class 12.

About Education in Mother Tongue

- The **National Education Policy (NEP) 2020** envisages the use of mother tongue or regional or Indian languages as the medium of instruction until at least Grade 5, and preferably till Grade 8 and beyond.

- Prior to Independence, most nationalist leaders argued for instructions in native languages.
 - Gandhiji believed that English as a primary medium **created a barrier between educated elites and the masses**. He felt it hindered the spread of knowledge to everyone.
 - Leaders like Rajagopalachari, Bal Gangadhar Tilak, Gopal Krishna Gokhale stressed an **education controlled by Indians, valuing the country's ethos**.
 - Annie Besant, in "Principles of Education", suggested schools teach in the local mother tongue, introducing English later.

UNESCO's Arguments for Instructions in Mother Tongue

- Since 1953, UNESCO has consistently promoted education in mother tongue through its **Global Education Monitoring Reports**.
- Being taught in a language other than one's own can have **negative effects on learning**, especially for children from poor backgrounds.
- UNESCO recommends that at least 6 years of mother tongue instruction is necessary to **reduce learning gaps** for minority language speakers.
- Research suggests that starting with the mother tongue and introducing English later makes learning English easier. **Skills acquired in the mother tongue during early years assist in mastering a second language later in life.**

Challenges in Education in Mother Tongue

- **Availability of skilled teachers** capable of teaching in multilingual settings.
- Creation of high-quality **multilingual textbooks**.
- Limited time available, especially in 2-shift government schools as multilingual education demands additional instructional time allocation. (Refer EPIC May 2022 (click) for Medical Education in Vernacular Language).

Additional Measures

- **Adapt Schools:** Address challenges in teacher recruitment, curriculum development, and teaching materials to cater to diverse linguistic backgrounds.
- **Lead by Example:** Government's **Kendriya Vidyalayas** and **Navodaya Vidyalayas** should pioneer the implementation of mother tongue instruction.
- **Value Research:** Policymakers should prioritize evidence-based benefits of mother tongue education over anecdotal arguments advocating English-only education.
- **Uphold Rights:** Recognize and ensure that education in the mother tongue for every child in India, as it nurtures learning excellence and cultural connection.

2. The State of Elementary Education in Rural India

News: The Union Government has released the report on the State of Elementary Education in Rural India.

About the Report and Key Findings

- The report is based on a survey conducted by the Development Intelligence Unit (DIU), a collaboration between Transform Rural India and Sambodhi Research and Communications.
- The survey was conducted on 6,229 parents of schoolchildren aged 6- 16 years in rural communities across 21 States.
- **Increased Access to Smartphones:** ~49.3% of students in rural India have access to smartphones. However, ~76.7% of these students **primarily use their phones for entertainment purposes**, such as playing video games and watching movies.

- ~ 34% of smartphone-accessible students use their devices for study-related downloads, while 18% access online learning through tutorials.
- **Higher Education:** At least 78% of the parents of girls and 82% of the parents of boys wanted to educate their children to the level of graduation or above.
- **Reasons for Dropout and Out-of-school Children:** Among the parents of children who dropped out of school, 36.8% mentioned that their daughters' dropout was due to the **need to contribute to the family's earnings**. For boys, the primary reason cited for dropping out was lack of interest in studies.
- **Learning Environment at Home:** The survey revealed that 40% of parents have age-appropriate reading materials available at home, beyond school books. **Only 40% of parents engage in daily conversations with their children about their school learning**, while 32% have such discussions a few days a week.
- **Parental Participation:** **~84% of parents regularly attend parent-teacher meetings**, demonstrating their active involvement in their children's education.

3. UNESCO Global Education Monitoring Report, 2023: Impact of Smartphones on Education

News: UNESCO has released Global Education Monitoring Report, 2023.

Key Insights from the Report

- The report has **endorsed the ban on smartphones in schools** and has **warned against an uncritical rush toward embrace of digital products in educational settings**.
- There is little robust evidence on digital technology's added value in education. The Report has observed that the studies indicating positive impact of smartphones on education are **funded by companies that sell digital education products**.
- **Technology integration does not improve learning.** It highlighted that mere **proximity to a mobile device was found to distract students** and have a **negative impact on learning**. But still only 1 in 4 countries have banned smartphone use in schools.
- The report cited a study of young people between the ages of 2 and 17 which showed that **higher screen time** was associated with **poorer well-being, less curiosity, self-control and emotional stability, higher anxiety and depression diagnoses**.
- The report has flagged the higher costs of delivering basic education where there is a dependence on the **setting up of digital infrastructure** and how this could **worsen the problem of unequal access** in low-income countries.
 - The cost of moving to basic digital learning in low-income countries and connecting all schools to the Internet in lower-middle-income countries would add 50% to their current financing gap for achieving national SDG 4 targets.
- Use of indiscriminate digital technology has implications for privacy. Children's private data are being exposed yet only 16% of countries explicitly guarantee data privacy in education by law.

4. Panel to Revisit Guidelines on Anti-discrimination in Higher Educational Institutions

News: The Union Ministry of Education has constituted an expert committee to revisit the guidelines on anti-discrimination on campuses.

About Anti-discrimination Guidelines in Higher Educational Institutions (HEIs)

- **University Grants Commission (UGC)** had issued the **UGC (Promotion of Equity in Higher Educational Institutes) Regulations** in 2012.
- The guidelines covered all forms of discrimination, provided for **liaison officers to check reservation fulfilment** and gave mandates for strict **grievance redressal cells to address concerns of discrimination**.

- However, these guidelines have not been fully implemented in several HEIs, including the Indian Institutes of Technology (IITs).
 - IIT-Delhi got the mandate for its **SC/ST Cell passed only in 2023**, providing for a liaison officer and anti-discrimination officers.
- In the last 6 months, at least half a dozen **students from marginalised backgrounds have died of suicide** on campuses of IIT-Madras, IIT-Bombay, and IIT-Delhi.
- The SC then asked the UGC to detail the steps it had taken to **address caste discrimination on campuses**.
- The Government has formed an expert committee to revisit the UGC regulations and schemes concerning the SC/ST/OBC/PwD and minority communities in HEIs and suggest further remedial measures if required.

UGC Guidelines to Prevent Discrimination in HEIs

- Every Higher Educational Institution (HEI) should take appropriate measures to:
 - Safeguard the interests of students without any prejudice to caste, creed, religion, language, ethnicity, gender and disability.
 - Eliminate discrimination against/harassment of any student in all forms by prohibiting it and providing for preventing and protective measures.
 - Promote equality among students of all sections of society.
- HEIs should not discriminate against SC/ST students by breaching policy of reservation, processing their applications or limiting/denying any benefit etc.
- HEIs should not discriminate against any student by announcing their caste, tribe, religion etc.; labelling students, passing derogatory remarks, earmarking separate seats, not properly evaluating their answer sheets etc.
- The guidelines provide for penalties in case of violation.

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5. Rajasthan Platform-based Gig Workers (Registration and Welfare) Act, 2023

News: The Government of Rajasthan has passed the Rajasthan Platform-based Gig Workers (Registration and Welfare) Act, 2023.

Salient Features of the Act

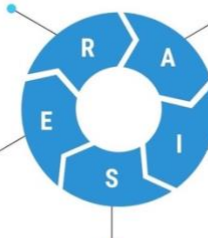
- It is the first legislation of its kind in India **outlining welfare schemes for the State's ~3 lakh gig workers**.
- **Definition of Gig Worker:** The Act defines a gig worker as:
 - A person who performs work or participates in a work arrangement and earns from such activities **outside of the traditional employer-employee relationship**;
 - Who **works on contract** that results in a given rate of payment, based on terms and conditions laid down in such contract and includes all piece-rate work.
- The Act is applicable to **“aggregators”** (digital intermediaries connecting buyers and sellers) and **“primary employers”** (individual or organizations engaging platform-based workers).
- The Act proposes a **Welfare Board**. The Minister in charge of the Labour Department will be the Chairperson of the board and at least **33% of its nominated members will be women**. It will also have 2 members each from gig workers and aggregators to be nominated by the State Government.
 - It will ensure **registration of gig workers, aggregators** in the State.
 - The Board will establish a **Social Security and Welfare Fund** for gig workers. It will comprise contributions made by individual workers, State Government aids, other sources and a ‘**welfare cess**’, a 1-2% cut from each transaction

RAISE Framework

NITI Aayog has proposed a five-pronged RAISE approach to ensure realisation of full access to social security for all gig and platform workers.

Recognise the varied nature of platform work to design equitable schemes.

Ensure benefits are readily accessible to workers.



Allow augmentation of social security through innovative financing mechanisms.

Incorporate, while designing schemes, the specific interests of platforms, factoring the impact on job creation, platform businesses and workers.

Support workers to subscribe to government schemes and welfare programmes through widespread awareness campaigns.

Source: NITI Aayog

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which the aggregator is required to pay.

- **Access to Schemes and Grievance Redressal:** It provides gig workers **access to general and specific social security schemes** and opportunity to be heard for any grievances through **grievance redressal mechanism**.
- **Aggregators Duties:** The aggregator's duties include: Depositing welfare cess on time, updating the database of gig workers and documenting any variations in numbers within 1 month of such changes. Failure of compliance will lead to fine of INR 5 Lakh (1st offence) or 50 lakhs (subsequent offences).

Concerns Associated with the Act

The Act will secure the rights of the gig workers. However, there are several concerns:

- The Act lacks information on the **specific architecture of the social security system** as well as actual implementation, leaving design and execution to bureaucracy.
- The Act **centralizes welfare contribution into a single fund**. The arrangement may end up **strengthening bureaucratic control** rather than empowering the gig workers. A more effective approach would have been to transfer funds directly into **individual gig worker welfare accounts** through separate accounts created by the welfare board. The Act could have proposed use of Fund to buy group insurance (life, term, health, and accident) for its members. (Refer EPIC July 2022 (click) for NITI Aayog Recommendations on Gig Economy in India).

6. Status of Manual Scavengers in India

News: The Ministry of Social Justice has provided data on Manual Scavenging.

Status of Manual Scavenging in India

- **District Data:** 530 out of 783 districts (March 2023) have declared themselves to be free of manual scavenging.
- **State-wise Data:** 100% of the districts in States like Bihar, Rajasthan, Tamil Nadu and a few others had declared themselves to be free of manual scavenging.

○ J&K, Manipur, Telangana, Andhra Pradesh, West Bengal and Jharkhand have

the highest number of districts yet to declare themselves free of manual scavenging.

○ Uttar Pradesh had the highest number of manual scavengers (32,473) in two surveys conducted till 2018. It has ~90% districts reporting to be free of manual scavenging.

- **Deaths:** Between 2018 and 2023; 339 people lost lives while cleaning sewers and septic tanks in India. 9 such deaths were recorded in 2023, 66 in 2022, 58 in 2021, 22 in 2020, 117 in 2019 and 67 deaths in 2018.
- **Castes:** According to data released by the Government in Parliament in 2021, over 90% of manual scavengers identified in the surveys till 2018, were from the Scheduled Caste communities.

Schemes for Manual Scavengers

- **Prohibition of Employment as Manual Scavenger and their Rehabilitation Act 2013:** It bans manual scavenging and hazardous cleaning of sewers and septic tanks.
- **Swachhta Udyami Yojana:** It was launched by Ministry of Social Justice and Empowerment in 2014.
 - Under this scheme, the **National Safai Karamcharis Finance & Development Corporation (NSKFDC)** provides concessional loans to safai karamcharis, manual scavengers and their dependents and to the Urban Local Bodies (ULBs) for complete mechanization of all cleaning operations.
- **Self Employment Scheme for Rehabilitation of Manual Scavengers (SRMS):** It is a Central Sector Scheme of the Ministry of Social Justice and Empowerment (MSJE). Its objective is to **provide assistance to the identified manual scavengers** and their dependents for their rehabilitation in alternative occupations. It provides one-time cash assistance, capital subsidies, skill development training, Health Insurance etc.
- **Workshops** are organized in municipalities with the officers, engineers, contractors, sanitation workers etc. of ULBs to sensitize them about safe and healthy cleaning practices and mechanized cleaning of sewers & septic tanks.

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7. Special Development Councils and Preservation of Tribal Culture

News: Special Development Councils (SDCs), established by the Government of Odisha, are helping in the preservation of the tribal culture.

Threats to Tribal Culture

- **Modern Culture:** Many tribal societies are adopting modern norms overshadowing tribal cultures.
- **Migration:** Out-migration from tribal areas cut ties with the native tribal region.
- **Development:** Development Programs do not account for preservation of indigenous tribal culture

Role of Special Development Councils (SDCs)

- **Languages:** Odisha has over 22 tribal languages. The SDCs promote the use and spread of these languages. 21 tribal proficiency centres have been set up to educate people about tribal culture and dialect.
- **Sacred Groves:** These are vital for tribal culture and religion. ~4,500 groves were near extinction. Now, 4,730 groves are protected in 9 districts.
- **Support to Artisans:** Recognizing tribal artisans helps in preserving their craft. 40,000 tribal artisans have received ID cards, ensuring both cultural preservation and job opportunities.
- **Tribal Resource Centres:** They ensure **knowledge transfer**. Over 50 centres have been built in the Sundargarh district, with more planned in other districts.
- **Representation:** The SDCs **involve tribes in decision-making**. The Councils have members from all tribal groups, including Particularly Vulnerable Tribal Groups (PVTGs).

By integrating development with cultural preservation, the SDCs initiative ensures that tribal culture thrives alongside progress. The Union Government can share the template of Odisha's SDCs and implement similar initiatives in other States.

8. The Cinematography (Amendment) Act, 2023

News: The Parliament has passed the Cinematography (Amendment) Act, 2023. It amends Cinematography Act, 1952 which had constituted the Central Board of Film Certification for certification of films.

Key Provisions of Amendment Act

- **Additional Certification Categories:** The 1952 Act has 4 certification categories: Without restriction ('U'); Without restriction, but subject to guidance of parents or guardians for children below 12 years of age ('UA'); Only to adults ('A'); Only to members of any profession or class of persons ('S').
 - The Amendment Act has **substituted the UA category** with the 3 categories to also **indicate age-appropriateness: UA 7+, UA 13+, and UA 16+**. The age endorsement within the UA category by the Board will inform guidance of parents or guardians, and **will not be enforceable by any other persons other than parents or guardians**.
- **Separate certificate for Television/Other media:** Films with an 'A' or 'S' certificate will **require a separate certificate for exhibition on television** or any other media prescribed by the Central Government. The Board may direct the applicant to carry **appropriate deletions** or modifications for the separate certificate.
- **Unauthorized Recording and Exhibition:** The Amendment Act prohibits the unauthorized recording of films and their exhibition.
 - An unauthorized recording means making or transmitting an **infringing copy** of a film at a **licensed place for film exhibition without the owner's authorisation**.
 - An unauthorized exhibition means the **public exhibition of an infringing copy of the film for profit**.
 - The offences will be punishable with imprisonment between 3 months and 3 years, and a fine between INR 3 lakh and **5% of the audited gross production cost**.
- **Validity of Certificates:** Under the 1952 Act, the certificate issued by the Board is valid for 10 years. The Amendment Act provides that the **certificates will be perpetually valid**.

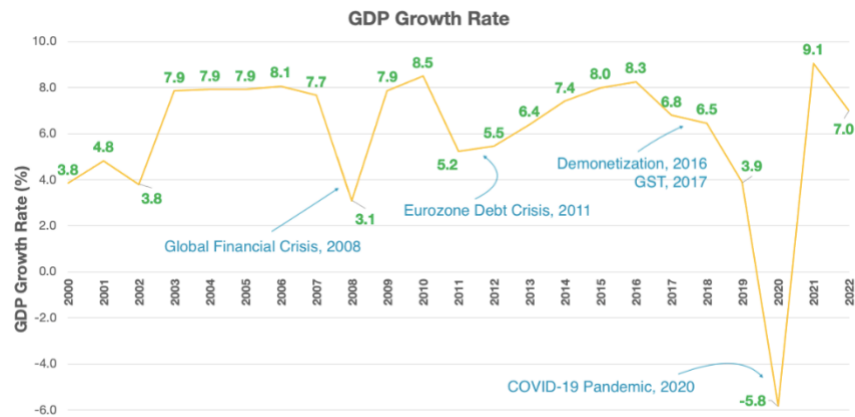
Economy

1. Roadmap for Achieving US\$ 5 Trillion Economy

News: Government has informed the Lok Sabha about steps being taken to make India US\$ 5 trillion economy.

Steps Being Taken for Economic Growth

- Government's roadmap to achieve a US\$ 5 trillion economy involves focusing on **macro-level growth** while **ensuring comprehensive welfare at the micro level**.
- The roadmap includes **promoting digital economy** and **fintech, technology-enabled development, energy transition, climate action, and relying on a virtuous cycle of investment and growth**.



An annual growth rate of 7%+ can help India achieve US\$ 5 trillion economy status in the next 4-5 years. However, the growth rate can be hampered by global events (like Financial Crisis, 2008) or external shocks (like COVID pandemic, 2020).

- **Reforms Undertaken:** The major reforms include GST, Insolvency and Bankruptcy Code (IBC), a significant reduction in the corporate tax rate, Make in India and Start-up India and Production Linked Incentive Schemes.
- **Increase in Capital Investment:** Government has focused on a **capex-led growth strategy** to support economic growth and **attract investment from the private sector** by increasing its capital investment outlay substantially during the last three years.
- Union Government's capital expenditure has increased to 2.7% of GDP in 2022-23 (2.15% in 2020-21).
- **Union Budget 2023-24:** The Government has taken steps to sustain the high growth of India's economy. These include a substantial increase in capital investment outlay for the third year in a row by 33% to INR 10 lakh crore (3.3% of GDP). Direct capital investment by the Centre is also complemented by **Grants-in-Aid to States for the creation of capital assets**.

2. Full vs Fractional Reserve Banking

News: Both Full and Fractional Reserve Banking have their benefits and costs.

About Full-reserve Banking

- It is also known as **100% reserve banking**. In this system, banks are **not allowed to lend out money deposited in demand deposits**. They can **only lend money from time deposits**.
- Under Full-reserve Banking, Banks simply act as custodians to depositors' money and may charge a fee from depositors for the service of safekeeping.
- Full-reserve Banking ensures that banks can successfully meet redemption demands from depositors, and thus **avoid a run-on-the-bank** even if all depositors demand their money back at the same time. (Refer EPIC March 2023 (click) for Silicon Valley Bank Collapse: Causes, Implications and Associated Issues).

Demand and Time Deposits

Demand deposits can be withdrawn from the bank **at any point in time without any prior notice**.

Time Deposits can be withdrawn from the bank **only after a certain period of time** agreed between the bank and its customers (e.g., tenured fixed deposits).

About Fractional Reserve Banking

- Banking system at present is based on Fractional Reserve Banking. Banks are required to **hold a portion of their deposit liabilities in liquid assets as reserve**. The rest of the amount can be lent to the borrowers.
- Bank reserves are **held as cash in the bank** or as **balances in the bank's account at the Central Bank**.
- The Central Bank determines the minimum amount that banks must hold in liquid assets, called the "Reserve Requirement" or "**Reserve Ratio**".

Comparison

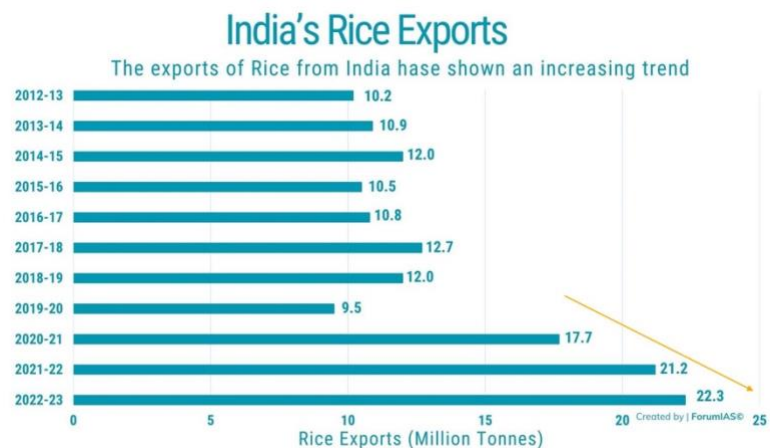
- Supporters of Fractional-reserve Banking believe that **full-reserve banking unnecessarily restricts bank lending**. They believe that allowing banks to create loans without the necessary savings to back these loans can **help spur investment and economic growth**.
- Proponents of Full-reserve Banking argue that it can prevent the various crises that affect Fractional-reserve Banking system especially bank insolvency and run-on-the-banks.
- They also argue that since banks will not be able to create money out of thin air in a Full-reserve Banking system, **their influence on the economy's money supply will become severely restricted**. This will **prevent artificial economic booms and busts** that are said to be the consequence of changes in money supply.

3. Ban on Exports of Rice

News: The Government has imposed a ban on export of non-basmati white rice and broken rice.

About India's Ban on Export of Rice

- The global rice exports were 55.6 million tonnes (MT) in 2022-23. India's share was more than 40% in global rice exports. India's ban may lead to global supply shortfall of up to 10 MT. African countries facing severe food shortage may be most adversely affected.
- The primary reason for ban is the concern regarding domestic shortage. **Considerable monsoon rainfall deficit in the rice growing States** (Monsoon 2023 deviation from normal, West Bengal: -13%, UP: -20%, Bihar: -27%, Chhattisgarh: -18%, Jharkhand: -35% as of September 05, 2023) may lead **large fall in domestic production of rice**. In States like Andhra Pradesh, Odisha etc. delayed rainfall has led to delayed planting of rice which may reduce yield.



Rice exports have witnessed a large upsurge in the last 3 years.

Criticism of Ban on Exports

- A sudden fall in the global supply due to India's ban may lead to **rise in global prices of rice**; as quantity can't be compensated by other major exporting nations like Thailand, Vietnam, Pakistan, US and Myanmar.
- It impacts India's credibility as a reliable trade partner. Hasty decisions can destabilize trade markets which take long time to establish. Experts have suggested that, to curb domestic inflation, the Government could have imposed export tariffs or set minimum export price rather than outright ban.
- The global commodity prices are already high. Ban on rice exports may lead loss of foreign exchange and deprive the farmers of the benefits of higher prices. India exported rice worth US\$ 11.1 billion in 2022-23.

- FCI has significant buffer stock of rice; ~41 MT (norm ~13.6 MT). Ban on exports seem premature.

4. Impact of Interest Rate Hike by the US Federal Reserve

News: The US Federal Reserve has raised the Federal Funds Rate to 5.25-5.5% with a 25 basis points increase.

About Federal Funds Rate (US)

- It is the rate at which **commercial banks borrow and lend their excess reserves to each other overnight**. Banks borrow from each other on short-term basis to **meet their liquidity requirements**.
- It is set by the **Federal Open Market Committee (FOMC)** under the US Federal Reserve System.
- The Federal Funds Rate plays a crucial role in the economy as it determines lending rates among banks.
- The current range of the rate (5.25-5.5%) is the **highest level since 2001**. The Rate was **reduced sharply** with the **onset of financial crisis in 2008**, rate stayed near zero level until 2015.
- Since March 2022, the US Fed has raised the rate to **check inflation**.

Impact on India

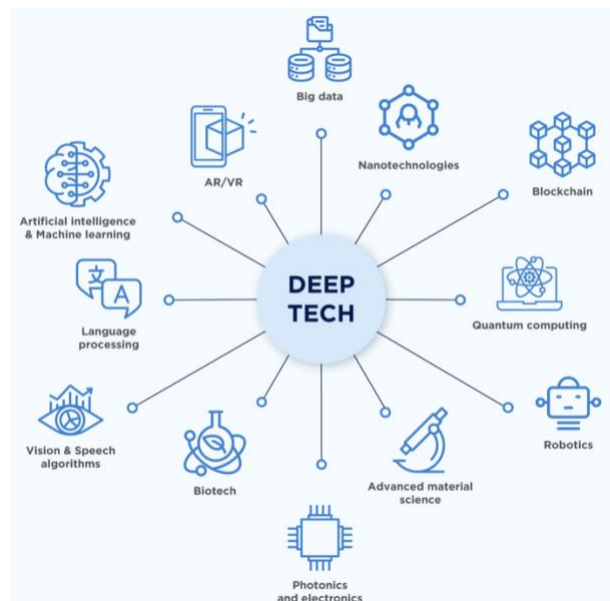
- **Foreign capital:** When the Fed raises rates, **foreign investors pull money away** from emerging markets. Higher rates give a boost to US\$, reducing the attractiveness of riskier equities (shares) in emerging markets.
- **Rupee Depreciation:** Investors (FPIs) sell their stake and pull money out of securities market (sell rupee, buy dollar). As a result, Rupee depreciates (and dollar appreciates).
- **Cost of Overseas Borrowing:** Rise in rates means **higher cost of funds**, and fund mobilization in overseas markets will be costly. It can increase cost of capital expenditure and strain profit margins of companies. Depreciation of Rupee increase interest pay-out of companies which have borrowed in US\$. It can reduce capital investment in India.
- **Inflation:** Domestic inflation may rise. **Depreciation of the rupee will increase the rupee cost of imported goods** such as crude oil, chemicals and fertilizers, active pharmaceutical ingredients and electronics.

5. Draft National Deep Technology Start-up Policy

News: The National Consortium and Working Group set up by the PM's Science, Technology, and Innovation Advisory Council has released the Draft National Deep Tech Startup Policy for public consultation.

About Deep Technology (Deep Tech)

- It refers to innovations founded on **advanced scientific and technological breakthroughs**.
- Deep Tech is distinguished from 'Shallow Tech' by its **disruptive impact**. Shallow tech is a **relatively simple technological advancement** that is easy to replicate e.g., moving a business from a non-digital to a digital business model. Online aggregators based on digital technologies are Shallow Tech.
- Deep Tech involves much advanced technologies like Artificial Intelligence, Machine Learning, Virtual Reality (VR), Blockchain, Quantum Computing etc. e.g., using AI to predict natural disasters or molecular imaging technologies that can identify a disease or predisposition to a disease much earlier than conventional medical testing.



- Deep Tech is also being used to refer to start-ups working in the Deep Technology sector.

About the Draft National Deep Tech Startup Policy (NDTSP)

- The Policy has been formulated to **stimulate innovation, spur economic growth and promote societal development** through the effective utilization of Deep Tech research-driven innovations.
- It aims to **address the challenges confronting Deep tech Start-ups** through definitive policy interventions to **create a conducive eco-system**
- The policy suggests necessary changes in **9 policy areas**.

Policy Focus Areas Under The Policy

- Nurturing Research, Development & Innovation.
- Strengthening the Intellectual Property Regime.
- Facilitating Access to Funding.
- Enabling Shared Infrastructure and Resource Sharing.
- Creating Conducive Regulations, Standards, and Certifications.
- Attracting Human Resources & Initiating Capacity Building.
- Promoting Procurement & Adoption.
- Ensuring Policy & Program Interlinkages.
- Sustaining Deep Tech Startups.

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- The policy calls for a **multi-pronged approach to protect Indian interests**. There is a need of coordinated, comprehensive push to optimally **engage with international partners** and multilateral institutions to push the Indian Deep Tech Ecosystem.
- The policy suggests **resource-intensive policy approaches** to attract global talent, such as offering networking opportunities to international Deep Tech Start-ups and experts interested in **relocating and contributing to the local ecosystem**.
- It complements and **adds value to the existing Start-up India policies** and programmes by fostering a conducive ecosystem for Deep Tech Startups to thrive and address their unique, complex challenges.

India's Start-up Ecosystem

- India's Start-up movement was led by **consumer Internet and e-commerce**.
- It has now expanded to **deep technology domains** like space and remote sensing, artificial intelligence, robotics, biotechnology, defense, telecommunications, semiconductors e.g., **IIT Madras's Research Park**, has incubated over **200 deep tech companies** valued at more than INR 50,000 crore.
- The industry has shown a clear inclination towards investing in **deep-tech startups** and acquiring well-established scaled technologies e.g., the Tata Group has acquired Saankhya and Tejas Networks.
- Going ahead, Government should support the 2nd-phase of entrepreneurship, a **Startup India 2.0**.
- Funding to Start-ups (Risk Capital) should be made available through close collaboration with the industry. There is a need for **widespread adoption of domestically developed technologies** through mass procurement. Government can guide both options.

6. Real-time Settlement of Trades in Securities

News: The Chairperson of SEBI has said that SEBI is working on real-time settlement of securities transactions in the stock exchanges.

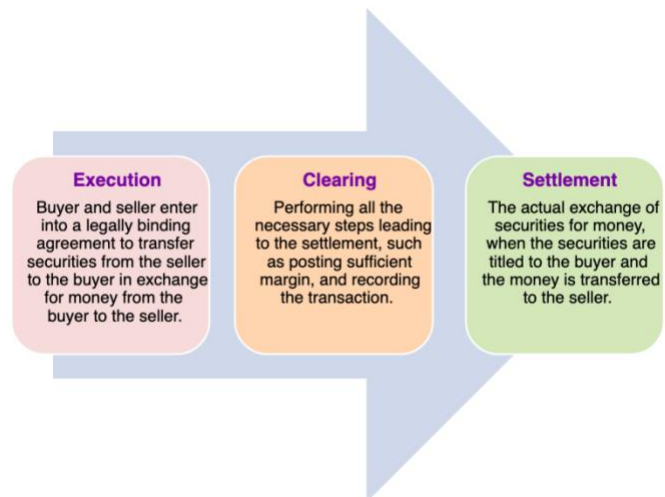
About Trade Settlement

- 'Settlement' is a **2-way process** that involves the **transfer of funds and securities** on the date of settlement. A trade settlement is said to be complete once the **purchased securities** (of a listed company) **are delivered to the buyer and the seller gets the money**.
- At present, the date of settlement is different from the date of trade e.g., the trade may be executed on 3rd of May ('T'); but the money is paid and security is transferred on 4th of May ('T+1').

- This is called '**T+1 Settlement System** i.e., **trade-related settlements happen within a day** (24 hours) **of the actual transaction**. The migration to the T+1 cycle came into effect in January 2023. India became the 2nd country to start the T+1 settlement cycle in top listed securities after China.

- SEBI is working on a plan for '**instantaneous settlement of trades** in the securities market i.e., same-day settlement ('T+0'). This will be possible with the **use of real-time payment systems**: Unified Payments Interface (UPI), online depositories, and technology stack.

- This means that the investor's money will not get stuck with brokers or stock exchanges. This is **expected to boost trades on the stock markets** as both funds and shares will be available faster.



Source: Investopedia. Simplified process of transactions in Stock Exchange (securities market).

7. Good Manufacturing Practices (GMPs) for Pharmaceutical Industry

News: The Government has set a deadline for mandatory implementation of Good Manufacturing Practices (GMPs) for pharmaceutical manufacturing firms.

About Good Manufacturing Practices (GMP)

- GMPs are the **aspect of quality assurance** that ensures that medicinal products are consistently produced according to the **quality standards appropriate to their intended use** and as **required by the product specification**.
- In India, GMPs were revised in 2018, bringing them on par with World Health Organisation (WHO) standards.

Government Order on GMPs

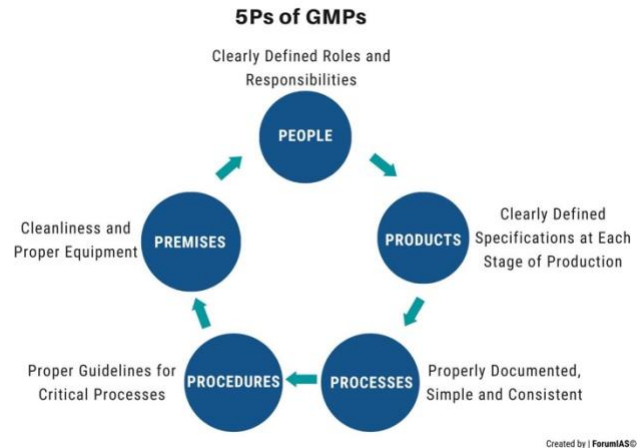
- Companies with a turnover of over INR 250 crore will have to implement the revised GMP within 6 months. Medium and Small-scale enterprises (turnover of < INR 250 crore) will have to implement it within 1 year.
- The companies will have to introduce a **GMP-related computerized system**. These programmes will be designed to **automatically record all the steps followed and checks done**, which will ensure all the processes are followed.
- Those who do not comply with these directions will **face suspension of license and/or penalty**.

Good Manufacturing Practices (GMPs)

- According to the WHO, Good Manufacturing Practice (GMP) is a **system for ensuring that products are consistently produced and controlled according to quality standards**. It is designed to **minimize the risks** involved in any pharmaceutical production that cannot be eliminated through testing the final product.
- **Risks:** The main risks are:
 - Unexpected contamination of products, causing damage to health or death;
 - Incorrect labels on containers, which could mean that patients receive the wrong medicine;
 - Insufficient or too much active ingredient, resulting in ineffective treatment or adverse effects.
- **Scope:** GMP covers all aspects of production; from the starting materials, premises and equipment to the training and personal hygiene of staff.
- **Impacts:** GMPs ensure several benefits
 - Prevent unintended therapeutic effects.
 - Poor quality medicines are health hazards. GMPs avoid these hazards and save money.
 - Boost exports as most countries accept import and sale of only those medicines that have been manufactured to internationally recognized GMPs.

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- At present, only 2,000 of the 10,500 manufacturing units (<20%) have been found to be compliant with the global WHO-GMP standards. With the order, all pharma units will have to implement the revised GMP, ensuring quality medicines for the domestic and foreign markets.
- The order has come at a time when the Indian pharma industry is facing a credibility crisis. In 2022, the WHO had said that the deaths of dozens of children in **Gambia** and **Uzbekistan** were due to **contaminated cough syrups** manufactured by Indian drugmakers. In February 2023, blindness, severe eye infections and a death in the US were linked to India-made eye drops.
- Making GMP mandatory would **help restore India's image as the pharmacy of the world**. (Refer EPIC June 2023 (click) for Issues with the Drug Regulatory System in India and EPIC August 2022 (click) for The Draft Drugs, Medical Devices and Cosmetics Bill, 2022).



8. National Waterways in India

News: The Union Minister for Ports, Shipping and Waterways informed the Lok Sabha about the initiatives taken for developing National Waterways in India.

About the National Waterways

Sl.	NW	Details of Waterways	Length (Km)	STATES	Status
1	NW 1	Ganga-Bhagirathi-Hooghly River System (Haldia - Allahabad)	1620	Uttar Pradesh, Bihar, Jharkhand & West Bengal	Development taken up through Jal Marg Vikas Project
2	NW 2	Brahmaputra River (Dhubri - Sadiya)	891	Assam	Development taken up as per approved SFC for FY 2020-21 to 2024-25
3	NW 16	Barak River (Lakhimpur - Tukur Gram)	121	Assam	
4	NW 3	West Coast Canal (Kottapuram - Kollam), Champakara and Udyogmandal Canals	205	Kerala	
5	NW 4	Krishna River (Vijayawada - Muktyala)	82	Andhra Pradesh	
6	NW 5	Dhamra-Paradip via Mangalagadi to Pankopal	233	Odisha	
7	NW 8	Alappuzha- Changanassery Canal	29	Kerala	
8	NW 9	Alappuzha - Kottayam - Athirampuzha Canal	40	Kerala (Alternate route: 11.5km)	
9	NW 27	Cumberjua River (Cortalim-Ferry to Sao MartiasVidhanParisad)	17	Goa	
10	NW 68	Mandovi River (Usgoan bridge to Arabian Sea)	41	Goa	
11	NW 111	Zuari River (Sanvorden bridge to Marmugao Port)	50	Goa	
12	NW 86	Rupnarayan River (PratapPur to Geonkhali)	72	West Bengal	
13	NW 97	Sunderbans Waterway (Namkhana to AtharaBankiKhal)	172	West Bengal	Mostly Operational Waterways and development and maintenance work taken up.
14	NW 40	Ghagra River (Faizabad to ManjhiGhat)	345	Bihar & U.P.	
15	NW 52	Kali River (Kodasalli Dam to Sadashivgad Bridge, Arabian Sea)	53	Karnataka	
16	NW 44	Ichamati River (Bridge at Gobra to Bansjhari near Bangladesh Border)	63	West Bengal	
17	NW 57	Kopili River (BanthaiGaonTinali Bus Stop to Chandrapur No.2 confluence with Brahmaputra)	50	Assam	
18	NW 31	Dhansiri River (Morongi T.E. village Bridge to Numaligarh)	110	Assam	
19	NW 10	Amra River (Arabian Sea, Dharamtaar Creek to Nagothane ST Stand)	45	Maharashtra	
20	NW 28	Dabhol Creek Vasisti River (Arabian Sea at Dabhol to Bridge at Pedhe)	45	Maharashtra	
21	NW 25	Chapora River (Bridge near Maneri village to Morjim, Arabian Sea)	25	Goa	
22	NW 37	Gandak River (Bhaisalotal Barrage to Hazipur)	296	Bihar & U.P.	Mostly Operational Waterways for development by 2030.
23	NW 73	Narmada River (Pandharia to Gulf of Khambhat)	226	Maharashtra & Gujarat	
24	NW 85	Revadanda Creek - Kundalika River System (Arabian Sea at Revadanda to Bridge near Roha Nagar)	31	Maharashtra	
25	NW 94	Sone River (Sone Barrage, Dehri to Confluence with the Ganga)	141	Bihar	
26	NW 100	Tapi River (Hatnur Dam to Gulf of Khambhat)	436	Maharashtra & Gujarat	

Source: PIB

- For development of Inland Water Transport (IWT), **111 waterways** (5 existing and 106 new) spread over 24 States have been declared **National Waterways** (NWs).
- The National Waterways have been declared under the **National Waterways Act, 2016**.

- On the basis of outcome of **techno-economic feasibility study** and **Detailed Project Report (DPR)** of these NWs, action plan has been formulated for 26 NWs found viable for cargo and passenger movement.
- At present, development initiatives have been taken up in the 20 NWs. (Refer EPIC December 2021 for Inland Waterways in India).

9. The Mines and Minerals (Amendment) Act, 2023

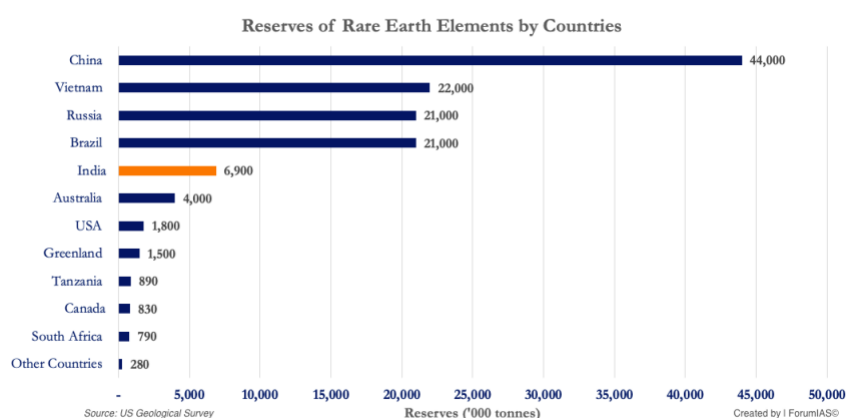
News: The Parliament has passed the Mines and Minerals (Development and Regulation Amendment) Act, 2023.

About the Amendment Act

- It amends the Mines and Minerals (Development and Regulation) Act, 1957 which regulates the mining sector. The Amendment has sought larger participation of the private sector in mineral exploration and production.
- **Critical and Strategic Minerals:** The Amendment Act proposes to bring 8 of 12 atomic minerals, including lithium, titanium and zirconium, beach sand minerals, rare earth group containing uranium and thorium, into a new category: **Critical and Strategic minerals**.
- The Union Government will have the power to **give concessions for these minerals** to both public and private mining companies.
- **Auctioning of High Value Minerals:** The Amendment Act empowers the Union Government to exclusively auction mining leases and composite exploration licenses for certain critical high value minerals such as gold, silver, platinum, copper. (Refer EPIC July 2023 (click) for Critical Minerals).
- **Forest clearances:** It dispenses with forest clearances for mine reconnaissance and prospecting operations, making it easier for private firms to participate in exploration of the country's mineral resources.
- **Composite General License:** The Amendment Act empowers State Governments to grant composite mineral license without having to get approval from the Union Government. This is expected to enable State Governments to put up blocks for auction at a faster pace.

Expected Impact of the Amendments

- India has rich mineral wealth. Yet, minerals discoveries have been limited due to poor participation of the private sector.
- Mineral exploration is a **specialized, time- and financially-intensive activity**. Less than 1% of examined projects ultimately progress into **economically viable mines**.



- The Mines and Minerals Act, 1957 has been amended in 1994, 2015 and 2020. However, the participation of the private sector has remained poor.
- Several provisions in the Amendment Act, 2023 are **expected to facilitate participation of the private sector**, improve India's domestic production and **reduce dependence on imports**, especially for critical minerals. (Refer EPIC July 2022 (click) for Rare Earth Elements: Strategic Importance and Reducing Import Dependence).

International Relations

1. STAR-C Initiative

News: India is considering expanding its STAR-C initiative to Pacific Island Countries.

About the STAR-C Initiative

- The STAR-C Initiative is being led by the **International Solar Alliance (ISA)** and the **United Nations Industrial Development Organization (UNIDO)** with funding from the Government of France.
- Its aim is to create a **strong network of institutional capacities** within ISA Member States to enhance quality infrastructure (QI) for the uptake of solar energy product and service markets. It is focused particularly in Least Developed Countries (LDCs) and Small Island Developing States (SIDS).
- It also aims to **boost solar power ecosystems** in the poorest countries.
- Activities under the initiative include Building solar workforces, standardizing products, setting up infrastructure and raising awareness among policymakers in developing countries.
- STAR-C projects will initially focus on the **Economic Community of West African States (ECOWAS)**, the **East African Community (EAC)** and the **Pacific Community (SPC)/Pacific Island Forum (PIF)**.
- India's expansion of the STAR-C initiative in Pacific Island countries **demonstrates its commitment to promoting solar power ecosystems and addressing climate change in the region.**

International Solar Alliance

- The ISA was conceived as a **joint effort by India and France** to mobilize **efforts against climate change through deployment of solar energy solutions**. It was jointly launched by the Prime Minister of India and the President of France in 2015 at UNFCCC CoP 21 Paris, France.
- It is a **treaty-based inter-governmental organization**. ISA was initially targeted towards **sunshine countries** (which lie completely or partially between the Tropics). After amendment to the **Framework Agreement** (of ISA) in 2020, **all members of the UN are eligible** to join the ISA. 116 countries have signed the ISA Framework Agreement.
- Its primary objective is to work for the **efficient consumption of solar energy to reduce dependence on fossil fuels**. The ISA strives to **develop and deploy cost-effective and transformational energy solutions powered by the sun** to help member countries **develop low-carbon growth trajectories**.
- The ISA is guided by 'Towards 1000' strategy which aims to mobilise **US\$ 1,000 billion of investments** in solar energy solutions by 2030; **delivering energy access to 1,000 million people** using clean energy solutions through **installation of 1,000 GW of solar energy capacity**.

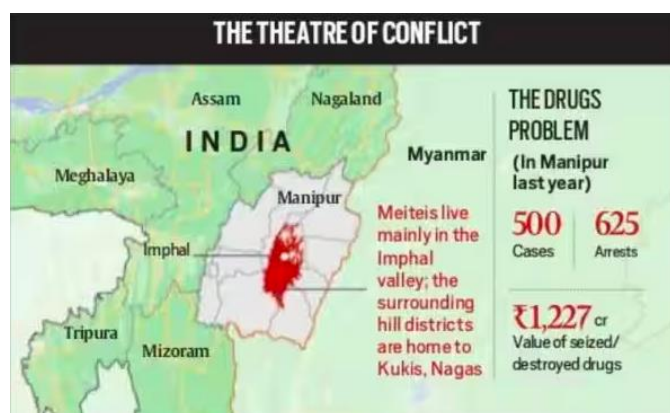
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2. Free Movement Regime on India-Myanmar Border

News: The unrest in Manipur is being attributed to migration from Myanmar into India.

About the Free Movement Regime (FMR)

- The border between India and Myanmar is 1,643 km long. It passes through 4 States: Mizoram, Manipur, Nagaland, and Arunachal Pradesh.
- The FMR is a **mutually agreed arrangement** between the India and Myanmar that allows tribes living along either side of the border to **travel up to 16 km inside the other country without a visa**.
- The FMR was **implemented in 2018** as part of the Government of India's **Act East policy**.
- **India suspended the FMR in September 2022** after the crisis in Myanmar following the military coup.



Source: Indian Express. Free Movement Regime has given rise to illegal migration, drugs and arms trafficking.

Rationale for FMR

- The border between India and Myanmar was demarcated by the British in 1826, without seeking the opinion of the people living in the region. The border effectively **divided people of the same ethnicity and culture into two nations without their consent**.
- The FMR **facilitates people-to-people contact**. It was also supposed to provide impetus to local trade and business.

Criticism of FMR

- FMR has been criticized for **unintentionally aiding illegal immigration, drugs and arms trafficking**.
- The Indo-Myanmar border runs through **forested and undulating terrain**, is **almost entirely unfenced**, and **difficult to monitor**. In Manipur, less than 6 km of the border is fenced.
- Since the military coup in Myanmar in 2021, the ruling military has launched a campaign of **persecution against the Kuki-Chin peoples**. This **has pushed large numbers of tribals from Myanmar into India**, especially into Manipur and Mizoram where they have sought shelter. It has given rise to ethnic tensions resulting into conflict. (Refer EPIC May 2023 (click) for Unrest in Manipur: Implications for Regional Security).

3. Issue of Stapled Visa

News: India withdrew its wushu team from participating in the Summer World University Games in China after 3 members of the team belonging to Arunachal Pradesh were issued stapled visa.

About Stapled Visa

- It is an **unstamped piece of paper** that is **attached by a pin or staples** to a page of the passport. It can be **torn off or detached at will**.
- This is different from a regular visa that is **affixed to the passport** by the issuing authority and stamped.
- The Chinese Government began issuing 'stapled visas' to Indian citizens from Arunachal Pradesh in 2009. China says the visas are valid documents but the Government of India has consistently refused to accept this position.
- Passports and visas reinforce the concept of a Nation-state's sovereignty. It ensures that its citizens can travel with legal protection across borders. A stapled visa violates this principle as it **does not leave a permanent trace on the passport** (paper can be torn off). It **violates sovereignty** as the issuing country does not consider the residents of a territory to be citizens of the country (e.g., China not treating residents of Arunachal Pradesh as citizens of India and thus not requiring stamped visa).
- China disputes India's unequivocal and internationally accepted **sovereignty over Arunachal Pradesh**. It challenges the legal status of the **McMahon Line**, the boundary between Tibet and British India that was agreed at the Convention Between Great Britain, China, and Tibet at the **Simla Convention of 1914**.
- In this context, China makes periodic efforts to **assert its unilateral claim over Indian territory** and undermine the sovereignty of India over its territory by taking steps such as issuing stapled visas. (Refer EPIC June 2023 (click) India-China Border Dispute and EPIC April 2023 (click) for China Renames 11 Locations in Arunachal Pradesh).



Source: Times of India. Stapled visa issued to an Indian player. Paper with visa details is stapled on the passport instead of permanently stamping the visa.

4. Chinese Warship in Sri Lanka

News: A Chinese military warship Hai Yang 24 Hao docked at Colombo Port in Sri Lanka.

India's Concerns

- A Chinese military/surveillance ship in Sri Lanka means that several ports in Kerala, Tamil Nadu, and Andhra Pradesh could be on China's radar. Reports have claimed that several vital installations in South India could be under threat of surveillance.
- Security Experts have also expressed concerns that the Chinese surveillance ships may be undertaking detailed **mapping of the bottom of Indian Ocean** to facilitate operations of Chinese submarines in the Indian Ocean.
- Chinese ship in the Colombo Port is part of China's '**string of pearls**' strategy to surround India in the Indian Ocean through increasing land and maritime footprint.
- India had expressed similar concerns when Chinese ship Yuan Wang-5 docked in Sri Lanka in August 2022. The ship made multiple re-entries in the Indian Ocean region that **coincided with India's missile tests along the east coast**.

China's Response

- Sri Lanka is a **transportation hub** in the Indian Ocean. Scientific research vessels from various countries including China have made port calls in Sri Lanka for replenishment.
- Sri Lanka is a sovereign country. It has the right to develop relations with other countries based on its development interests. To have normal cooperation is the independent choice made by our two countries. It serves the shared interests of both sides and does not target any third party.

5. Northern Sea Route (NSR)

News: India's engagement with Russia's Arctic region is rising. Russia's Murmansk port handled 8 millions tonnes of cargo between January-July 2023, of which 35% was shipped to India.

About Northern Sea Route

- The Northern Sea Route (NSR) connects the **eastern and western parts of the Arctic Ocean**.
- It is the shortest shipping route connecting the **western part of Eurasia** and the **Asia-Pacific region**.
- The alternate route between Europe and Asia through the Suez Canal has a distance of 21,000 km. The NSR has a distance of 13,000 km, **reducing the sailing time from 1 month to less than 2 weeks between Europe and Asia**.
- However, there are challenges in navigating the NSR. The route includes the seas of the Arctic Ocean [Kara, Laptev, East Siberian and Chukchi] which **remain icebound during most parts of the year**.



About Murmansk Port

- Murmansk port is one of the **largest ice-free ports in Russia**. It is located on the **Kola Peninsula** at the coast of **Barents Sea**. It is a **large transshipment hub**.

- The port ranks 4th in Russia in terms of processed goods and is the 2nd-largest port in northwest Russia (after the port of St. Petersburg).

About Kola Peninsula

- Kola Peninsula is a peninsula in the extreme northwest of Russia and one of **the largest peninsulas of Europe**.
- The peninsula lies almost completely **inside the Arctic Circle** and is bordered by the **Barents Sea** to the north and by the **White Sea** to the east and southeast.



About Barents Sea

- Barents Sea is a **marginal sea of the Arctic Ocean**. It is located off the **northern coasts of Norway and Russia** and divided between Norwegian and Russian territorial waters.

6. Sulina Channel

News: Sulina Channel has provided an alternative passage to Ukraine for transportation and passage of grains after Russia withdrew from the Black Sea Grain deal.

About Danube River

- Danube is the **2nd-longest river in Europe**, after the **Volga in Russia**.
- It flows through much of Central and South-eastern Europe, from the Black Forest into the Black Sea.
- Near Romania, the river begins to spread out into its delta which has three major channels: Chilia, Sulina and St George.

About Sulina Channel

- Sulina Channel is a **63 km long distributary of the Danube**. It lies completely **within the territory of Romania**.
- Of the 3 major channels of the Danube river, the Sulina Channel is the only one **deep and wide enough for freight transport**.
- It is a sort of a **riverine 'expressway'**, crucial for transport of goods from inland to the Black Sea.
- Sulina Channel connects major Ukrainian ports on the river to the Black Sea. Grain from Ukrainian ports are being transferred through Sulina Channel onto Romania's biggest seaport Constanta.
- The cargo is then transferred to bigger ships that carry it out of the Black Sea into the Mediterranean through the Bosphorus straits. This route is under constant surveillance and protection of NATO. (Refer EPIC November 2022 (click) for Black Sea Grain Initiative).



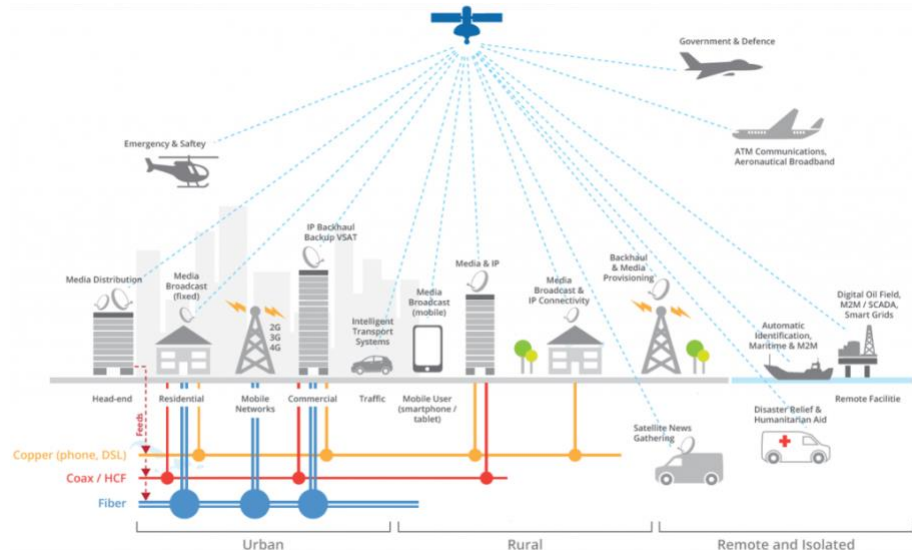
Science and Technology

1. Satellite Internet Services and Starlink

News: Concerns have been raised regarding use of internet services provided by Starlink to control drones used for attacks in the Russia-Ukraine war.

About Starlink

- Starlink is a **satellite internet constellation** operated by US-based aerospace company **SpaceX**.
- Satellite internet refers to **internet services** provided through **satellites** used for **communications**.
- Satellite internet has remained a challenging proposition due to **prohibitively high costs** and **poor connectivity**.



Source: Starlink. Satellite Internet through Starlink has a wide range of applications which were not possible earlier as it does not require elaborate ground infrastructure.

- Starlink has made **satellite internet more viable** through **use of better satellites**, placed closer to the earth in **Low-Earth Orbit (LEO)** with a **large constellation of interconnected satellites**. This has made the satellite internet more commercially viable, **affordable** while **providing better connectivity**.
- As of August 2023, Starlink consists of 5,000 small satellites in LEO which communicate with designated ground transceivers. 12,000 satellites are planned to be deployed with possible extension to 42,000.
- Unlike earlier satellite internet systems, **Starlink doesn't require large ground infrastructure**. A small receiver (dish) is enough to access the internet.
- Starlink has reached 1.5 million subscribers as of May 2023.
- Starlink Internet has wide range of uses including **civilian satellite internet and cellular services** (including in remote areas) and **military uses**.

About Starlink's Role in Russia-Ukraine War

- Starlink has emerged as a **crucial communication tool** for Ukraine's armed forces because their own mediums of communication were compromised by Russian hackers e.g., Ukraine forces have used Starlink to share information, images regarding potential targets.
- Starlink has **made drone warfare much easier**. Small satellite internet dishes installed over drones enable them to be **controlled remotely**. A report has suggested that Ukraine used the internet service to successfully attack Sevastopol, the Crimean headquarters of Russia's Black Sea Fleet.

Concerns Related to Starlink/Satellite Internet

- It is difficult to **jam the satellite internet**. Hence, it poses security challenges.
- Experts have raised concerns regarding possible monopoly of Starlink (a private corporation) over provision of satellite internet services.

2. Space Debris

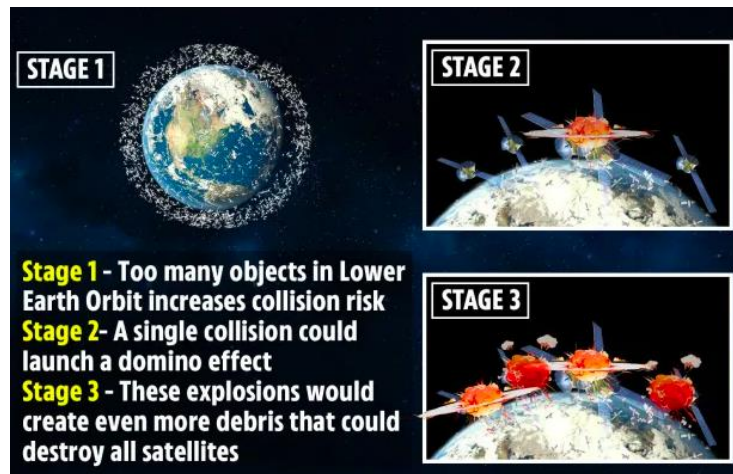
News: A large object was found on the shores of Western Australia, which was later confirmed to be the debris of a rocket launched by the ISRO.

About ISRO's Statement on the Object

- According to ISRO, the object was most likely an **unburnt part of the PSLV rocket** that launched a navigation satellite for the IRNSS constellation 2 months ago.
- A part of the rocket may not have burnt completely while dropping back into the atmosphere, and fell into the ocean. Later on, It could have been swept towards the Australian shore.
- Space junk falling onto earth is a common occurrence. Most objects are **small enough to be completely burnt by air friction through the atmosphere**. However, very large objects can survive the fall e.g., in November 2022, large fragments of China's Long March 5B rocket fell uncontrolled into the Pacific Ocean.

Threats of Space Objects

- Falling space junk **poses a significant threat to life and property**. Landing in the oceans (more likely), can **harm marine life** and **cause marine pollution**.
- There has been no recorded incident, so far, of any significant damage to life and property in inhabited areas. However, **lack of controlled systems to ensure a designated landing remains a big concern**.
- Space Junk also poses a big challenge to satellites in orbit as even a small object (few mm in size) can destroy a satellite.



Source: the-sun.com. Kessler Syndrome: Collisions between objects in orbit could cause a cascade in which each collision generates space debris that increases the likelihood of further collisions, which has potential to cause large-scale damage to satellites in orbit.

Convention on International Liability for Damage Caused by Space Objects

- It is one of the several international agreements that complement the **Outer Space Treaty**. The Outer Space Treaty is the overarching framework guiding the behaviour of countries in space.
- The Convention deals with **damage caused by space objects to other space assets**, as well as the **damage caused by falling objects on earth**.
- It makes the launching country "**absolutely liable**" to **pay compensation for any damage** caused by its space object on the earth or to a flight in air. The country where the junk falls can stake a claim for compensation if it has been damaged by the falling object. Under the treaty, **only the State can seek damages** from another State and not an individual.
- So far, there has been only instance of compensation being paid under the treaty. Canada sought damages from the then USSR for a **satellite with radioactive substance** that fell into an uninhabited region in its northern territory in 1978. The USSR is reported to have paid 3 million Canadian dollars.

3. Superconductivity

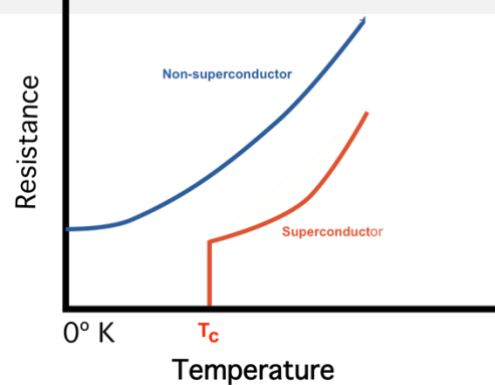
News: Scientists from South Korea had claimed to have developed a room-temperature superconducting material, LK-99. However, the scientific community has refuted the claims.

About Superconductors

- It is a material that achieves superconductivity. Superconductivity refers to the phenomena where a **material shows no electrical resistance** and **does not allow magnetic fields to penetrate** inside. An electric current in a superconductor can persist indefinitely.
- Electric Resistance of most materials falls with a decrease in temperature. Superconductors have a **critical temperature** below which the electrical resistance abruptly drops to zero.
- Critical temperatures are extremely low:** Gallium (-272.05°C), Aluminium (-271.95°C), Tin (-269.45°C) etc.
- Room-temperature superconductors can have potentially revolutionizing uses e.g. **super-efficient electricity grids** (virtually eliminate transmission losses), **ultra-fast and super-efficient computer chips**, powerful magnets for **magnetic levitation trains** and **controlled fusion reactors** among others.
- They can be very useful in **developing quantum computers**. (Refer EPIC May 2023 (click) for Quantum Technologies: Uses, Challenges and India's Initiatives).
- The biggest challenge is to maintain extremely low temperatures to achieve superconductivity. Some materials have displayed superconductivity at room temperature, but **require extremely high pressure rendering them impractical** e.g., Lanthanum Decahydride (LaH_{10}) displays superconductivity at -23°C but requires pressure of ~ 2 million atmospheres.

LK-99

Researchers from South Korea claimed to have developed a superconductor LK-99, that works at **room temperature** (up to 120°C) and **ambient pressure**. It is a mix of powdered compounds of **lead, oxygen, copper** and **phosphorus** with chemical formula $\text{CuO}_{25}\text{P}_6\text{Pb}_9$. However, other scientists have refuted the claim, providing proof that the observed 'superconductivity' phenomena was due to **presence of impurities**.



Source: Wikimedia Commons. The resistance of a material to flow of electric current decreases with temperature. For superconductors, the resistance suddenly falls to zero below the Critical Temperature (T_c).

4. Maya OS

News: The Ministry of Defence has decided to replace the Microsoft Operating System (OS) in all computers connected to the internet with the Maya OS.

About Maya Operating System

- Maya OS is an operating system **based on Ubuntu**, a popular Linux distribution that uses **free and open-source software**.
- It has been developed by the Ministry of Defence with the help of **DRDO, Centre for Development of Advanced Computing (C-DAC)**, and the **National Informatics Centre (NIC)**.
- The Maya OS has a **similar interface and functionality as the Windows OS**, making it easy for users to adopt.
- It offers a number of features such as **cloud storage integration, full disk encryption, digital signature, biometric authentication** etc.

Open Source Software

The **Open Source Initiative (OSI)** provides a commonly accepted definition of what constitutes Open Source:

- A work has to **allow free redistribution**.
- The source code needs to be **made available to all**.
- It must be **possible to create further works** based on it.
- There must be **no limitations** of who may use the work or for what purpose (so conditions like 'no commercial use' won't classify as Open Source).
- The work must **not require an additional license** on top of the one it comes with.
- The license must not depend on a specific distribution format, technology or presence of other works.



- It also has a feature called **Chakravyuh** which is an end-point anti-malware and antivirus software that creates a virtual layer between the user and the internet, **blocking hackers from accessing sensitive data**.

Significance of Maya OS

- India's critical infrastructure has witnessed numerous cyberattacks and security breaches recently.
 - Some incidents include: Cyberattack on Kudankulam Nuclear Power Plant (KKNPP) in 2019, ransomware attacks on Oil India Limited and Spice Jet servers in 2022, and the Goa Flood Monitoring System hack.
- Using an indigenous operating system could be a step towards **securing India's vital computer systems from malicious attacks**. It will **reduce reliance on foreign software** and enhance cyber resilience. (Read more about Cybersecurity and Cyberattacks in India).

Ubuntu

Ubuntu is a popular **Linux-based operating system** known for its **strong security features**. It's considered more secure than Windows because it has **fewer vulnerabilities** and **malware issues**.

It is also distributed as **free and open-source software**, which means that anyone can **inspect, modify, and improve its code**. This allows Ubuntu to benefit from the **collective efforts of thousands of developers** and users who contribute to its development and security. It also has **built-in security features** like a **firewall, strict user permissions, and regular updates** to guard against threats.

5. Parliamentary Committee Report on Cybersecurity

News: The Parliamentary Standing Committee on Finance has given several recommendations on cybersecurity and related issues.

About Issues Highlighted by the Committee

- According to Computer Emergency Response Team (CERT-In), more than 13 million cybersecurity incidents were tracked in 2022.
- According to Union Ministry of Home Affairs, the volume of financial crimes reported increased from 2.62 lakhs in the 2020-21 to 6.94 lakhs in 2022-23.
- According to Indian Cyber Crime Coordination Centre, out of 6.9 lakhs complaints related to financial frauds in 2022, an **FIR was issued only in 2.6% of the cases**.
- There is a major **disparity in the cyber-resilience** of commercial banks, cooperative banks and non-banking financial institutions. While all commercial banks have completed cyber security related audits, only a small percentage of cooperative banks, (~ 11%: 206 out of 1886 entities) have undertaken such audits.

Recommendations of the Standing Committee

- Establish a centralized and empowered **Cyber Protection Authority (CPA)** similar to the Directorate General of Civil Aviation (DGCA) to tackle the rising instances of **white-collar crimes in cyberspace**. The CPA should create and maintain a **Central Negative Registry**, with information on fraudsters' accounts.
- The Union Government should mandate Apple and Google to share '**exhaustive**' metadata, **developer identities, and ownership and origin of apps** they host on their respective app

RECOMMENDATIONS	
<ul style="list-style-type: none"> ■ Establish a centralised 'Cyber Protection Authority' 	<ul style="list-style-type: none"> ■ Regulate third-party service providers, including Big Tech and telecom companies
<ul style="list-style-type: none"> ■ Whitelisting framework for digital lending agencies 	<ul style="list-style-type: none"> ■ Collaborate with financial institutions to improve service uptime and address recurring downtime issues
<ul style="list-style-type: none"> ■ Adopt proactive approach to global security regulations 	

stores to curb financial fraud. Sharing such information with the Government will **empower regulators** to **conduct in-depth analysis**, identify potential security vulnerabilities and institute appropriate measures to fortify the digital landscape.

- The Government should create a **whitelisting framework** for **Digital Lending Agencies** (DLAs) and other financial intermediaries. This measure is intended to **combat fraudulent activities** and promote a **standardized code of conduct** within the digital lending industry, thus fostering a more secure and trustworthy environment for consumers.

6. FMR-FIR Technology: Combating Fraud in Aadhaar-enabled Payment System (AePS)

News: UIDAI is using AI-based system, Finger Minutiae Record – Finger Image Record (FMR-FIR) to address frauds in the Aadhaar-enabled Payment System (AePS).

About the FMR-FIR Technology

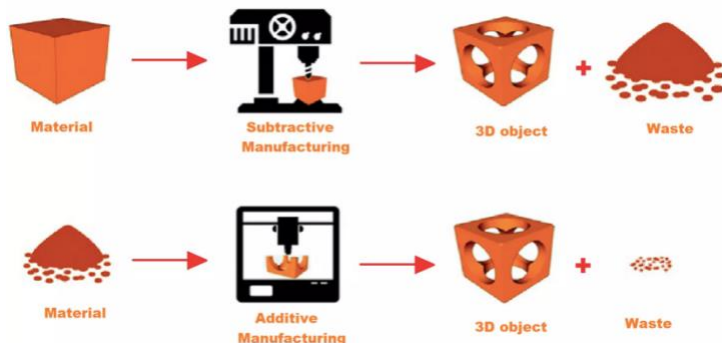
- Finger Minutiae Record – Finger Image Record (FMR-FIR) is an Artificial Intelligence/Machine Learning (AI/ML) technology used by UIDAI to **prevent fraud in Aadhaar-enabled Payment System** (AePS).
- This technology is able to **check the liveness of a fingerprint to detect the use of a cloned fingerprint** during the authentication process.
- It uses a combination of both **finger minutiae and finger image** to verify if a fingerprint is from a real or cloned finger.
- This step was taken due to cases of fraudulent **silicone-based fake fingerprints** which were **used to steal money**, especially affecting the rural AePS user base.
- However, the technology has limitations e.g., it has not been able to prevent certain AePS-related frauds where business correspondents (BCs) in the payment supply chain are involved.
 - Some BCs manipulate the transaction amounts by entering higher values in their system. This often goes unnoticed by unsuspecting individuals, particularly in rural areas, who may not ask for receipts that the BC is supposed to generate after each transaction.

7. 3D-Printing

News: India's 1st 3D-printed post office has been inaugurated in Bengaluru.

About 3D Printing

- 3D printing is also known as **additive manufacturing**. It is a process that uses computer-created design to **make three-dimensional objects layer by layer**.
- It is an **additive process**, in which layers of a material like plastic, composites or bio-materials are built up to construct objects that range in shape, size, rigidity and colour.
- It is in contrast to conventional manufacturing processes like machining, cutting, milling, drilling etc. that **remove material** (subtractive manufacturing) **to achieve the desired shape**.
- Since, material is not removed, 3D printing methods lead to much less wastage of materials.



Source: built.in. Additive method of manufacturing leads to much less wastage of materials.

Process of 3D Printing

- A detailed 3D model of the object is prepared through **CAD** (Computer-aided Design) **tools**.
- The 3D model is used by the **3D printer** to build the object. The 3D printers are controlled by computers that precisely control the 'printing' or manufacturing process.
- The 3D printers use the '**layering method**' i.e., the desired shape is created by **depositing thin layers of material one over the other**.
- 3D printers can be used to **create simple objects** like a ball or spoon, to objects with **very complex shapes** like door hinges, wheels etc.
- 3D printing is being used in multiple industries like **healthcare, automobile and aerospace** etc.
 - In May 2023, aerospace manufacturing company Relativity Space launched a test rocket made entirely from 3D-printed parts, measuring 100 feet tall and 7.5 feet wide.
 - At the peak of the COVID-19 pandemic in 2020, the healthcare industry used **3D printers to make medical equipment**, like swabs, face shields, and masks etc.



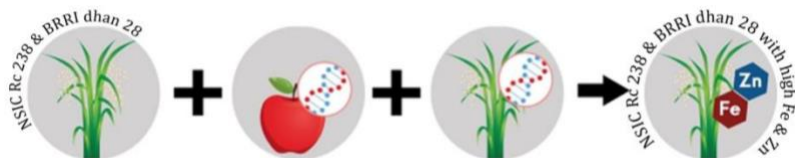
Source: built.in. Layering of material to build the object.

8. Biofortification

News: According to a report, the global market of biofortification is projected to reach US\$ 217.21 million by 2030 from US\$ 100.84 million in 2022.

About Biofortification

- Biofortification is the process of **improving the nutritional quality of food crops**.
- Biofortification can be achieved through **agronomic practices, conventional breeding or biotechnology based approaches** like **genetic engineering** and **genome editing**.
- **Biofortification of staple crops** such as rice is intended as a sustainable, cost-effective and food-based means of **delivering target micronutrients to populations** who do not have access to or cannot afford diverse diets and other existing interventions such as fortified foods and supplementation.
- Biofortification has been identified by the **Copenhagen Consensus** as one of the **highest value-for-money interventions** for micronutrient deficiency: gaining US\$ 17 worth of benefits for every US\$ 1 spent.



Source: IRRI. Biofortification of rice to improve micronutrients iron and zinc through genetic modification with genes from apple. Iron is essential for hemoglobin in the blood (to transport oxygen) and zinc is essential for immune system, cell division, growth, and wound healing.

Steps Taken to Promote Biofortified Foods

- On World Food Day (October 16, founding day of FAO) in 2020, the Prime Minister dedicated **17 biofortified seed varieties of 8 local and traditional crops**, including wheat and paddy rice to the nation. These varieties have been developed by utilizing the **local landraces** and **farmer's varieties**.
- To encourage biofortification amongst farming communities, Indian Council for Agricultural Research (ICAR) has started the **Nutri-Sensitive Agricultural Resources and Innovations (NARI)** programme for promoting family farming linking agriculture to nutrition.

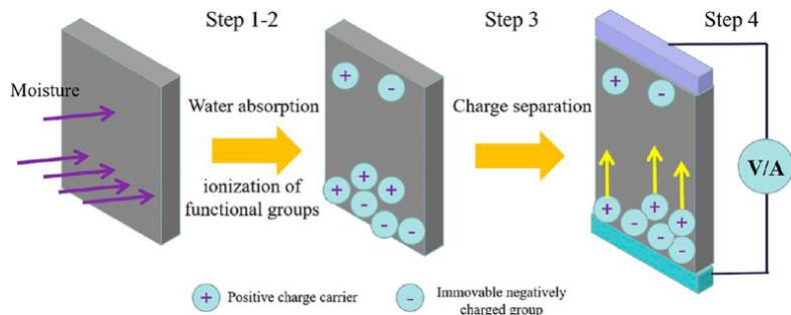
- ICAR (and its various research institutes) has released several biofortified crop varieties rich in micronutrients such as iron, zinc, and beta-carotene e.g., **zinc and iron-rich rice varieties** (DRR Dhan 45, CR Dhan 310), **vitamin A-rich sweet potatoes** (Bhu Sona), and **high-zinc wheat** (WB 02).
- Government is seeking the private sector's help to **popularize the biofortified foods**. The private industry wants separate branding of biofortified foods, similar to what has been done for “organic” products.

9. Hygroelectricity

News: Researchers at the University of Massachusetts (US) have successfully developed a technology to utilize moisture present in the air to produce electricity.

About Hygroelectricity

- Hydroelectricity refers to **electricity generated from moisture present in the humid air**. This was first proposed by physicist Nikola Tesla.
- Electricity from moist air can be generated by using tiny device **comprising two electrodes** and a **thin layer of material filled with nanopores**. These nanopores, each less than 100 nanometres (nm) in diameter, allow water molecules from the air to pass through the device.
- As these molecules move from an upper chamber to a lower chamber, they interact with the edges of the nanopores, leading to a **build-up of electric charge imbalances between the chambers**.
- This process effectively **transforms the device into a miniature battery**, generating continuous electricity.



Advantages of Hygroelectricity

- Unlike other renewable energy sources such as solar and wind, **humid air is continuously available** making it a sustainable reservoir of energy.
- This technology can be applied to a **wide range of materials** including **wood** and **silicon**, as long as they **possess the required nanopores**. This breakthrough dramatically increases its **potential for broad deployment and scalability**.

Challenges to Hygroelectricity

- Nanopore devices, currently being developed by scientists, can **only produce electricity equivalent to a fraction of a volt**.
- A large number of such devices would be required to do simple tasks like charging of phone battery. Scaling up the technology to meet practical energy demands is a significant hurdle.

Environment

1. Study on Climate Change

News: The Ministry of Earth Sciences has published a study ‘Assessment of Climate Change over Indian Region’.

About the Study and Key Highlights

- The report contains a comprehensive assessment of the impact of climate change upon the Indian subcontinent.

- India's **average temperature** has **risen by ~0.7°C during 1901-2018**.
- Frequency of daily precipitation extremes (rainfall intensities > 150 mm per day) increased by about 75% during 1950-2015.
- **Sea-level rise** in the North Indian Ocean occurred at a rate of **3.3 mm per year** in the last two and half decades (1993-2017).
- Frequency of **Severe Cyclonic Storms** over Arabian sea has increased during the post monsoon seasons of 1998-2018.
- The frequency and spatial extent of droughts over India has increased significantly during 1951-2015.

Evidence of Global Climate Change

- The UN Secretary-General recently remarked that the Earth has passed from a 'warming phase' to an '**era of global boiling**'.
- July is set to be the hottest month in the last 12,000 years. According to the Scientists from the WMO, the conditions in July were "**rather remarkable and unprecedented**". Average July temperature has been 16.95° Celsius. It is **0.2°C warmer than in July 2019**.
- **Ocean temperatures** are increasing and the **Central Equatorial Pacific Ocean** is transitioning from **La Niña to El Niño conditions**. It was widely anticipated that temperatures would be warmer than in the last three years. But the 0.2°C rise within 3 years is unexpected.
- It has resulted in extreme weather events e.g., **northwest China** has experienced extremely high temperatures of 52°C, and extreme wildfires in Greece.
- The **unusually heavy rains in north and western India** were influenced by the warm air increasing the atmosphere's capacity to hold moisture. This led to intense, short torrential bursts of rain, floods and significant devastation.

Fighting Challenges Posed by Global Warming

- **Advanced Warning:** IMD issues forecasts and warnings related to **severe weather events** including heat waves, in different spatial and temporal scales (seasonal, monthly and daily). IMD shares the forecasts with the public as well as disaster management authorities so as to initiate required mitigation measures.
- **Heat Index:** IMD has launched an experimental Heat Index to provide general guidance for the regions where the apparent temperature/'feel like' temperature (accounting for the impact of Humidity along with the temperature) are on a higher side causing discomfort for the human beings. (Refer EPIC May 2023 (click) for Heat Index for Measuring Stress Due to Heat Waves).
- **Heat Action Plan:** IMD in collaboration with NDMA and local health departments have started Heat Action Plan in many parts of the country. The Heat Action Plan is a **comprehensive early warning system and preparedness plan for extreme heat events**. It has been operational since 2013. It presents immediate as well as longer-term actions to increase preparedness, information-sharing, and response coordination to reduce the health impacts of extreme heat on vulnerable populations. (Refer EPIC April 2023 (click) for Review of Heat Action Plans).

2. Differences Within the G20 Regarding Climate Action

News: G20 negotiators are finding it hard to reach consensus over climate change issues.

About the Differences Between G20 Nations

- There is division between developed and developing countries regarding climate goals and climate finance.
- **Fossil Fuels:** A major point of contention is the wording related to 'phasing out' versus 'phasing down' of fossil fuels.

- **Climate Targets:** The disagreement is regarding peaking of emissions by 2025 and achieving a 60% reduction in emissions (compared to 2019 level) by 2035. Developing countries demand more time.
- **Climate Finance:** Developing countries are demanding greater funding and transfer of technology. Developed countries have not fulfilled promise of US\$ 100 billion funding annually.

3. Rising Methane Levels and Climate Terminations

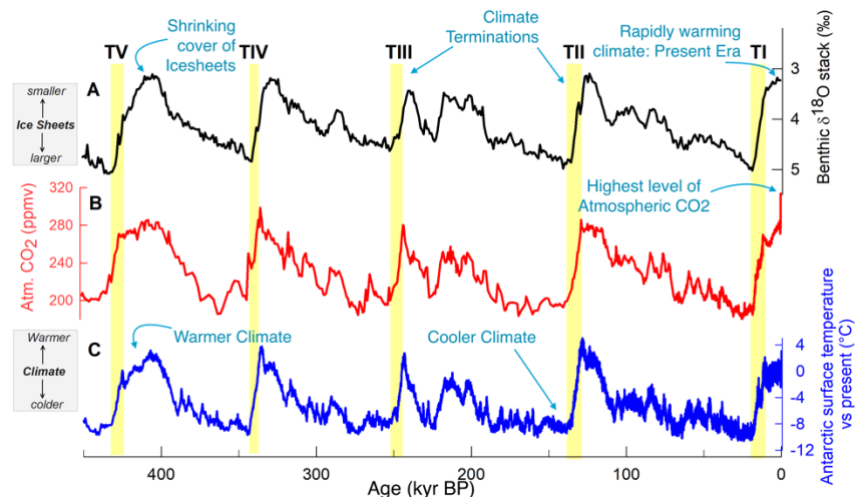
News: Level of Methane in the Earth's atmosphere has risen rapidly since 2006. The rise has been more due to biological changes, indicating a significant shift in the Earth's climate.

About the Rise in Level of Methane

- Methane is a much more potent greenhouse gas than CO₂ but it lasts slightly less than a decade in the atmosphere compared with centuries for CO₂. (Refer EPIC June 2023 (click) for Methane Policies). The rate of Methane's increase in the atmosphere has risen recently.
- Methane had risen fast in the 19th and 20th centuries but **plateaued by the end of the 1990s**. This rise was driven by **fossil fuel emissions**, especially from **gas fields** and **coal mines**.
- The rate has risen again since 2006, faster even than during the peak of gas industry leaks in the 1980s.
- The present growth seems to be driven by **new emissions from wetlands**, especially near the equator.
- This is a **result of climate change** (rather than anthropogenic): **Increasing rainfall** has made **wetlands wetter and bigger** while rising temperatures have **boosted plant growth**, providing **more decomposing matter** and so more methane.

About Climate Terminations

- Climate Terminations refer to **periods of significant and often rapid climate change** that mark the transition between **glacial** (cold) and **interglacial** (warmer) periods in Earth's history.
- These transitions involve **substantial shifts in temperature, ice sheet extent, sea level**, and other climate-related factors.
 - During glacial periods, large ice sheets cover extensive areas of the Earth's surface, and **global temperatures are lower**.
 - Interglacial periods are characterized by **warmer conditions**, with **reduced ice coverage** and **higher sea levels**.
- Past climate terminations have been identified and numbered using Roman numerals (e.g., Termination I, Termination II), with higher numbers indicating more ancient events (i.e., Termination I is more recent).
- Rising level of methane in the atmosphere due to natural factors that a period of rapid warming may be underway.



Source: Nature.com. The above image shows the variation of **coverage of ice sheets** (black), **Atmospheric CO₂** (red) and **Antarctic Surface Temperature** (blue) with time ('000 years before present). Climate Terminations (TI, TII in yellow strips) indicate periods of rapid heating. The last termination TI lasted between 18,000 to 11,000 years before present. **Atmospheric CO₂** has reached its highest level till date.

Steps Taken to Reduce Methane Emissions

- **National Mission on Sustainable Agriculture (NMSA)**: It involves **climate resilient practices** including **methane reduction practices** in rice cultivation.
- The Indian Council of Agricultural Research (ICAR) under the **National Innovations in Climate Resilient Agriculture (NICRA)** project has developed several technologies for mitigation of methane emissions:
 - **System for Rice Intensification (SRI)**: This technique has potential to enhance rice yield from 36-49% with about 22-35% less water than conventional transplanted rice;
 - **Direct Seeded Rice**: This system reduces methane emissions as it does not involve raising nurseries, puddling and transplanting. Maintaining standing water pool is not necessary.
 - **Crop Diversification Programme**: Methane emissions are avoided due to diversion of paddy to alternate crops like pulses, oilseeds, maize, cotton and agro forestry.
- **Capacity building programmes** are conducted through Krishi Vigyan Kendras across the country for creating awareness on climate resilient practices.
- **The Department of Animal Husbandry and Dairying (DAHD) is implementing the National Livestock Mission** which includes Breed Improvement and Balanced Rationing. Feeding livestock with a superior quality balanced ration is helping to reduce methane emissions from the livestock.
- **Government of India is promoting green fodder production**, silage making, chaff cutting, and total mixed ration under National Livestock Mission with a view to reduce methane emissions from livestock.
- **Cattle waste utilization** is being incentivised through initiatives like The GOBDARdhan (Galvanizing Organic Bio-Agro Resources) scheme and New National Biogas and Organic Manure Programme.

4. Possible Collapse of Gulf Stream

News: According to a study, the Gulf Stream system could collapse as early as 2025.

About Gulf Stream

- The Gulf Stream is an ocean current that brings warm water from the Gulf of Mexico into the Atlantic Ocean. It extends all the way up the eastern coast of the United States and Canada.
- The warm waters go further up to west coast of Europe, where it is called **North Atlantic Drift**.
- It is part of the '**thermohaline circulation**' or '**Atlantic Meridional Overturning Circulation**'.
- Gulf Stream (warm water) influences the climate of the east coast of Florida, keeping temperatures warmer in the winter and cooler in the summer than the other South-eastern States of the US. Similarly, North Atlantic Drift, warms the western European countries as well.

About the Study

- The **Atlantic Meridional Overturning Circulation (AMOC)**, which includes the Gulf Stream governs the climate by bringing warm, tropical waters north and cold water south.
- The Study estimates a **timescale for the collapse of AMOC between 2025 and 2095** with a central estimate of 2050, if global carbon emissions are not reduced.



- The last time **AMOC stopped and restarted** was during the **Ice Ages about 115,000 to 12,000 years ago**.
- A collapse of AMOC would have disastrous consequences around the world, severely **disrupting the rains** that billions of people depend on for food in India, South America and west Africa.
- It would also **increase storms** and **drop temperatures in Europe**, and **lead to a rising sea level** on the **eastern coast of North America**. It would also further **endanger the Amazon rainforest** and **Antarctic ice sheets**.
- However, a recent assessment by the IPCC concluded that Atlantic Meridional Overturning Circulation (AMOC) would not collapse as quickly as the study has suggested. (Refer EPIC January 2023 (click) for Impact of Tectonics on Ocean Circulation).

5. The Biological Diversity (Amendment) Act, 2023

News: The Parliament has passed the Biological Diversity (Amendment) Act, 2023.

About the Amendment Act

- It has amended the **Biological Diversity Act, 2002** to simplify compliance requirements for domestic companies.
- The amendment **exempts registered AYUSH medical practitioners** and people accessing codified traditional knowledge among others **from giving prior intimation to State Biodiversity Boards** to access biological resources for certain purposes.
- Users of codified traditional knowledge and AYUSH practitioners will be **exempted from sharing benefits with local communities**.
- The Amendment Act removes **research and bio-survey activities from the purview of benefit sharing requirements**. Benefit sharing will be based on terms agreed between the user and the local management committee represented by the National Authority.
- It **decriminalizes a range of offences** under the Act and substitutes them with monetary penalties.

Significant shift

The Biological Diversity (Amendment) Bill, 2021 seeks to exempt registered AYUSH medical practitioners from intimating biodiversity boards before accessing biological resources



Traditional knowledge: A tribal harvesting *Arogyapacha* leaves from a forest in Kerala. S. MAHINSHA

■ It also aims at easing compliance burden, boosting investment and simplifying patent application processes

■ Environmental organisations have raised concerns about potential for "bio piracy"; they say amendments favour industry and there is lack of clarity on benefit sharing with local communities

Concerns Associated with the Amendment Act

- The term codified traditional knowledge has not been defined. A broad interpretation might exempt all local traditional knowledge from benefit sharing requirements.
- Environmental organizations such as Legal Initiative for Forests and Environment (LIFE) have said that the **amendments have been made to benefit the AYUSH** (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy) **firms** and would pave the way for **"bio piracy"**.
- The Amendment decriminalizes offences under the Act and instead provides for wider penalties. Government officials have been empowered to hold inquiries and determine penalties. **Discretionary powers to officials may be susceptible to abuse**.

Issues Associated with Working of the Biological diversity Act, 2002

- According to the Center for Science and Environment, many States **lack data on the funds received** from companies and traders for **access and benefit sharing**. In cases where money was collected, it has not been shared with the local communities.
- There are multiple instances of companies not taking prior permission from the Biodiversity Boards.

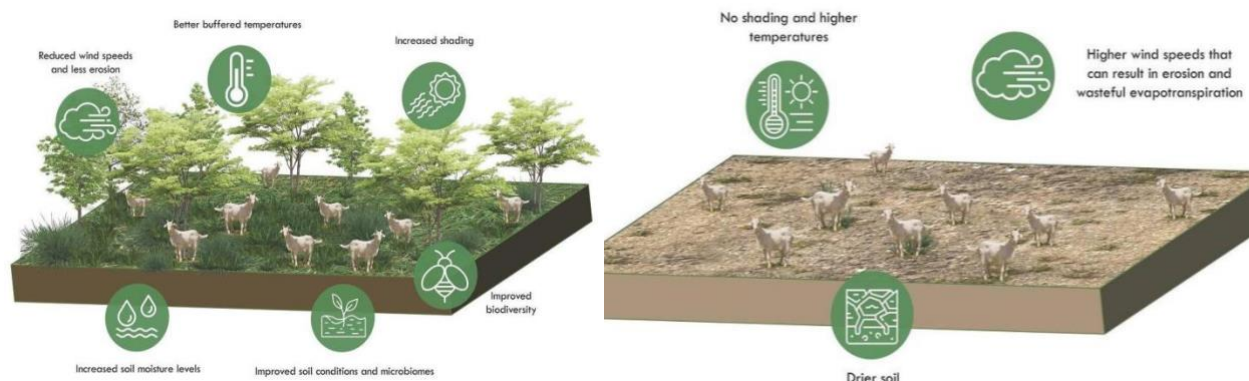
- Biotechnology Industry has expressed dissatisfaction with the regulations under the Act. Some firms have sought exemption or postponement of provision of access and benefit sharing. However, the Government has denied any relaxation.
- Stakeholders from the Indian system of medicine, seed, industry, and research sectors, have expressed concerns about the need to **simplify, streamline, and reduce compliance burden**.
- Amendments in the Act are expected to address the concerns of the industry.

6. Silvopasture Systems

News: Silvopasture Systems offer a sustainable solution to address the deforestation and global deterioration of natural resources and forests.

About Silvopasture

- Silvopasture is an ancient and proven practice that **harmoniously integrates trees, forage** (material eaten by livestock like pasture plants, crop residues etc.) and **livestock on the same land**.
- Silvopasture systems employ **agronomic principles**, typically including introduced or native **pasture grasses, fertilization and nitrogen-fixing legumes**, and **rotational grazing systems** that employ **short grazing periods**. This maximize vegetative plant growth and harvest.
- The income from grazing provides cash for maintenance of trees and grasses.
- Silvopasture practices currently cover a vast expanse of **550 million hectares worldwide**.



Source: Down to Earth. Silvopasture (left) versus Open Pasture (right)

Advantages of Silvopasture

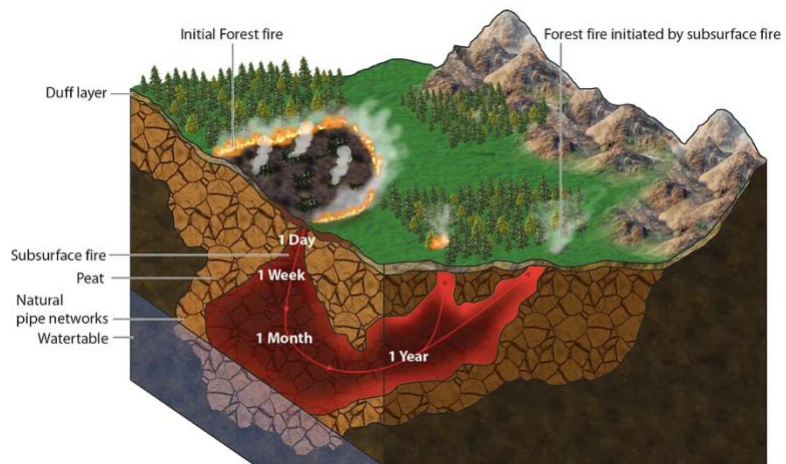
- **Deforestation:** Silvopasture can help reverse the negative trend of deforestation for pasture land.
- **Carbon Sinks:** The trees on silvopasture lands act as **natural carbon sinks**, sequestering 5-to-10 times more carbon than pastures without trees.
- **Regulate Local Climate:** Silvopasture systems also **regulate local climatic conditions**, buffering against temperature and wind extremes, providing a favorable living environment for livestock.
- **Nutrition Cycle:** The extensive root systems of trees within silvopasture plots contribute to **nutrient cycling, improved soil stability** and quality while effectively combating erosion.
- **Soil Infiltration Rates:** Soil infiltration rates in silvopasture systems surpass those of open pastures, enhancing water storage potential.
- **Livestock:** The cattle can utilize the silvopasture landscape more evenly as there is more shading throughout the plot, **reducing heat stress** during the warm-weather conditions of the year.

7. Zombie Fires

News: Due to rise in global temperatures, fires are spreading farther north and into the Arctic, leading to a rise in 'zombie fires'.

About Zombie Fires

- Zombie fires are fires that seem to come back from the dead. After a wildfire has been extinguished on the surface, some of it **can still burn belowground in secret, fuelled by peat and methane.**
- These fires can continue to burn all through winter, hidden under a layer of snow, and in spring as the temperature rises, the snow melts and the soil dries out, the **wildfires can re-ignite and spread once again.**



Source: Rein and Burns. A holdover fire sustaining underground and initiating a new wildfire at a distant location.

Zombie Fires in the Arctic Region

- Wildfires have been a natural part of northern forest and tundra ecosystems. However, the severity, frequency and types of wildfires in northern and Arctic regions have changed in recent decades.
- This has been attributed to the rising temperature: The **Arctic is warming nearly four times faster than the rest of the world (Arctic amplification).**
- This rise in temperature brings with it a number of changes to the environment that make the forest and tundra more susceptible to burning for longer. (Refer EPIC September 2022 (click) Arctic Amplification).

Challenges Associated with Zombie Fires

- As the organic-rich Arctic soils dry up because of changing climate conditions, they can burn slowly and release vast amounts of smoke into the atmosphere.
- Fires that spread underground are **harder for firefighters to control and extinguish**, thus demanding more resources for longer periods of time.
- The **zombie fires don't die easily**. Recent research finds that Arctic fires can smoulder through the winter and reignite during early spring when temperatures rise.

8. Wastewater Surveillance

News: A recently published study in The Lancet Global Health has reiterated the effectiveness of using wastewater for public health surveillance.

About Wastewater Surveillance

- It is the process of **monitoring wastewater for contaminants.**
- It was originally proposed to **monitor the spread of poliovirus** and played a role in confirming India's victory over poliovirus. Now, it has been identified as an approach for tracking the spread of SARS-CoV-2.
- Wastewater surveillance is **effective in detecting known or emerging health threats**. It is a **cost-effective approach** that **does not rely on invasive samples** from individuals with clinical symptoms.

- Despite the improvements made in public health surveillance system in India, it still faces many implementation challenges. According to the NITI Aayog, the public health surveillance system suffers from **uneven coverage** and **fragmented disease-specific efforts**.

Implementing of Wastewater Surveillance

- Wastewater surveillance involves analysis of samples from varied sources such as **wastewater ponds in rural areas** and **centralised sewage systems in urban localities**.
- These samples then undergo **testing in laboratories** to **identify disease-causing agents** such as genetic fragments of bacteria or viruses.
- The data is then **integrated with other health data sources** to **provide real-time insights** into community-level disease patterns, sometimes even earlier than clinical data.
- The integration of wastewater surveillance into existing surveillance mechanisms has the potential to enhance India's epidemiological capabilities.
- Strengthening public health laboratory could **strengthen the capacity to detect diseases at an early stage**, particularly in areas with limited access to healthcare facilities and diagnostic testing.
- The success of wastewater surveillance relies on effective data sharing, domestically as well as internationally.

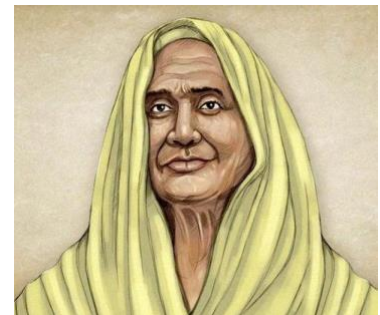
History, Art and Culture

1. Women Freedom Fighters: Matangini Hazra and Kanaklata Barua

News: In her speech on the Independence Day, the President of India honoured two women freedom fighters: Matangini Hazra and Kanaklata Barua.

About Matangini Hazra

- She was born in 1869 in village Hogla, near Tamluk, **West Bengal**. She was the daughter of a poor farmer.
- She got married at the age of 12 and became a divorcee at the age of 18. She did not have any children.
- She followed the path of Mahatma Gandhi and came to be known as **Gandhiburi** (the old Gandhian woman).
- She was arrested at the age of 61 for **joining the Civil Disobedience Movement in 1930** and **Salt March**. During this period, she became an active member of the Indian National Congress and began spinning khadi, following Gandhi's footsteps.
- She became more deeply engaged in the freedom movement during **Quit India Movement**. In September 1942, at the age of 73 years, she led 6,000 mainly women protestors to take over Tamluk police station from the British. She clashed with the police, got shot 3 times, and fell, chanting '**Vande Mataram**'.
- In 1977, the first statue in the Kolkata Maidan was dedicated to her. Several schools and streets in West Bengal have been named after her.



About Kanaklata Barua

- She belonged to Assam. She was **one of the youngest martyrs of the Quit India Movement**.
- At the age of 17, she became the leader of a group of freedom fighters known as the '**Mrityu Bahini**'. She guided the group to hoist the Tricolour at Gohpur police station on September 20, 1942. This led to clashes



between the protestors and the police. The police firing took her life. Despite being shot, she held onto the flag to prevent it from touching the ground.

- In 2020, the Coast Guard honoured her memory by naming a **Fast Patrol Vessel** (FPV) after her, known as the **ICGS Kanaklata Barua**.

Miscellaneous

1. WHO Report on Tobacco Control

News: The WHO has released a report on tobacco control measures.

Key Findings of the Report

- **MPOWER:** In the 15 years since the MPOWER measures were first introduced, 5.6 billion people in the world (or 71% of the entire population) remain protected by at least one of the measures. This has increased from just 5% of the population in 2008.
- **Countries Implementing MPOWER Measures:** The number of countries implementing at least one MPOWER measure has increased from 44 countries in 2008 to 151 in 2022.
 - However, there are at least 44 countries in the world that still do not implement any MPOWER measure.
- **Harmful Effects of e-cigarettes:** E-cigarettes are harmful to both the people using them and those around them, especially when used indoors. The **tobacco industry is aggressively promoting e-cigarettes** as a safer alternative to cigarettes. This is **undermining the progress made on tobacco control**.
- **Controlling Second-hand Smoking:** The report focuses on controlling second-hand smoking (being in the presence of someone who is smoking). It talks of **creating smoke-free public areas** and also de-normalising the act of smoking in the society.
 - Of the estimated **8.7 million tobacco-related deaths each year, 1.3 million (~15%) are of non-smokers exposed to second-hand smoke**. Severe asthma, respiratory tract infections, and sudden infant death syndrome are more common among children exposed to second-hand smoke.

MPOWER Measures

In line with the **WHO Framework Convention on Tobacco Control** (WHO FCTC), WHO had introduced the **MPOWER measures in 2008**.

MPOWER are a set of **6 cost-effective and high impact measures** that help countries **reduce demand for tobacco**.

These measures include:

- Monitoring tobacco use and prevention policies;
- Protecting people from tobacco smoke;
- Offering help to quit tobacco use;
- Warning about the dangers of tobacco;
- Enforcing bans on tobacco advertising, promotion and sponsorship;
- Raising taxes on tobacco.

Findings About India

- India has the highest level of achievement in terms of **putting health warning labels** on tobacco products and providing tobacco dependence treatment.
- India figures among top 10 countries in terms of size of health warnings (85% of cigarette packs). The cigarette packets in the country also carry a **toll-free number for a quit-line**.
- India has also **banned the sale of e-cigarettes**, and **banned smoking in healthcare facilities and educational institutions**.
- India is also **implementing warnings on OTT platform content** when actors are seen using tobacco products. This would make India the first country in the world to do so.

Pointly

1. Kerch Bridge

The Kerch Bridge (**Crimean Bridge**) was built by Russia after it invaded and de-facto annexed the peninsula of Crimea from Ukraine in 2014. The bridge links the **Russian mainland to the Crimean Peninsula** in the Black Sea.

The bridge is a **vital supply route** for goods heading to the Crimean Peninsula from Russia. The Kerch Bridge was recently attacked by Ukraine, damaging its certain sections.



2. Kerch Strait

Kerch Strait connects the **Black Sea** and the **Sea of Azov**, separating the **Kerch Peninsula of Crimea** in the west from the **Taman Peninsula** of Russia's Krasnodar Krai in the east. The name of the Strait comes from the city Kerch. It was formerly known as **Cimmerian Bosphorus** and **Strait of Yenikale**.

3. Floodwatch App

The App has been launched by the **Central Water Commission**. Its purpose is to forecast the chances of floods in advance. It provides a **7-day advisory on the chances of floods** at various stations in the country where the CWC maintains its measurement gauges. The App uses advanced technologies such as **satellite data analysis**, **mathematical modelling** and **real-time monitoring** to **deliver accurate** and **timely flood forecasts**. The App provides easy to understand visualisations through 'green' (normal), 'yellow' (above normal), 'orange' (severe) and 'red' (extreme) circles to indicate the status.

4. Heat Index

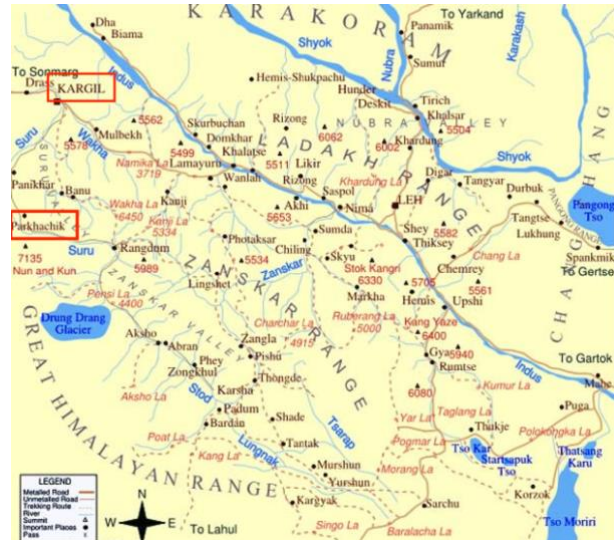
The IMD has launched the Heat Index on experimental basis. Heat Index is also known as the **apparent temperature**. It is the temperature humans feel when **relative humidity is combined with the air temperature**. High humidity level may cause the body to feel 'hot' even though the temperature may not be very high (low evaporation due to high humidity). Blowing of wind results in a feeling of 'cooler' weather (higher evaporation of body sweat causing cooling). Heat Index thus measures the 'feel-like' temperature. IMD's Heat Index provides colour codes for easy understanding: **Green** (Index < 35°C), **Yellow** (36°C-45°C), **Orange** (46°C-55°C) and **Red** (> 55°C). (Refer EPIC May 2023 (click) for Heat Index for Measuring Stress Due to Heat Waves).

5. Cocos Islands

Cocos Islands (Keeling Islands) are an external territory of Australia in the Indian Ocean. The islands comprise a small archipelago of two atolls made up of **27 coral islands**, of which only 2 are inhabited. They are located approximately **midway between Australia and Sri Lanka** and relatively close to the **Indonesian island of Sumatra**. The islands were discovered in 1609 by the British sea captain William Keeling. Cocos can be an **important base for refuelling and operational turnaround for the Indian military**. In 2021, Australia had agreed to support India's *Gaganyaan* mission by providing tracking services through its ground station facility in Cocos Islands.

6. Parkachik Glacier

Parkachik Glacier is a mountain glacier located in Ladakh. It is one of the largest glaciers in the **Suru River valley**, covering an area of 53 sq. km and is 14 km long. The Suru River valley is a part of the **southern Zaskar Ranges** in the western Himalayas. It is undergoing rapid melting due to global warming. Rapid melting increases threat of glacial lake outbursts and create scarcity of water in the long run. (See Map for location of Parkachik glacier near Kargil (red box)).



7. Exercise Malabar

Malabar 2023 Naval exercise was held off the coast of Sydney, Australia. Exercise Malabar **begin in 1992** as a **bilateral exercise** featuring the **maritime forces of the US and India**. Japan entered in 2014 and the Royal Australian Navy joined in 2020, making it a quadrilateral exercise (Australia, India, Japan, US). The 2023 exercise was the 27th edition. The 2023 Exercise had two components: Harbour and Sea Phase. During the Harbour Phase, there were activities like visits, exchanges, and sports. The Sea Phase involved intense **exercises covering warfare** areas like surface, air, and submarine combat.

8. Neerakshi

India has launched an **Autonomous Underwater Vehicle** called 'Neerakshi' for **detecting underwater mines**. It has been developed by Garden Reach Shipbuilders and Engineers (GRSE) Ltd in collaboration with the Aerospace Engineering Private Ltd (AEPL). It can be used for **mine detection, mine disposal** and **underwater survey**. It has an endurance of nearly 4 hours, and is capable of operating up to a depth of 300m.



9. Samudrayaan

Samudrayaan is **India's first manned ocean mission**. It is a part of the **Deep Ocean Mission**. It is designed to **study deep-sea resources** and conduct **biodiversity assessments**. The mission aims to send 3 people to a depth of 6,000 meters in the sea in a **manned submersible vehicle** called **MATSYA 6000**. The submersible will allow scientific personnel to **observe and understand unexplored deep sea areas** by direct interventions. The **National Institute of Ocean Technology (NIOT)** in Chennai is designing and developing the Samudrayaan project and it is likely to be ready by 2026.



10. Swathi Mk2 Radar and Swathi Mountains

Swathi Mountains is an indigenously developed **Weapon Locating Radar (WLR)**. It is an advanced **electronically scanned phased array radar**, specifically designed for operations in mountainous and high-altitude areas. It has been developed by **Bharat Electronics Limited (BEL)**. It can **quickly move and set up**. It can also scan different places without needing to move physically.



11. Weapon Locating Radar (WLR)

WLR uses **advanced signal processing techniques** to **autonomously detect** and **track hostile artillery, mortars, and rocket launchers**. It even tracks friendly fire trajectories, enabling precise calculations for **more accurate artillery strikes**. The radar can spot small flying objects in different conditions and predict where they will land. WLRs can **predict the trajectory** and **impact point of incoming objects**.

12. Interpol Global Academy Network

The **Central Bureau of Investigation (CBI) Academy** has joined the Interpol Global Academy Network. It is a network (established in 2019) of trusted law enforcement **national or regional education institutions** providing a **global approach to law enforcement training**. The members of the network help INTERPOL by providing **specialized training, ongoing education**, creating new programs and **collaborating on research**. This **boosts skill development for law enforcement globally**.

13. CBI Academy

It was established in 1996 by CBI. It is a **premier training institution** in the fields of **crime investigation, prosecution** and **vigilance functioning**. It is located in Ghaziabad, UP. It has 3 Regional Training Centres (RTCs) at Kolkata, Chennai, and Mumbai to expand its training infrastructure and outreach.

14. Einstein Cross

Astronomers have discovered a rare example of an 'Einstein cross'. Scientists have discovered an elliptical galaxy located about **6 billion light-years away from Earth**. This galaxy (in the foreground), has **warped and quadrised** (divide into 4 parts) a **bright beam of light** from a background galaxy approximately 11 billion light-years away. The resulting pattern of light is visible as 4 smudges of blue light around the orange colour of the foreground galaxy. The galaxy in the background contains a **quasar** which emits enough radiation to **shine more than a trillion times more brightly than the brightest stars**. The pattern has been formed due to **Gravitational Lensing**, and was first predicted by Einstein in 1915. (Refer EPIC May 2022 (click) for Gravitational Lensing).

15. IMS-1 Satellite Bus

IMS-1 is a **small satellite platform** designed to **enable low-cost access to space**. It can serve as a **dedicated vehicle for many different payloads**, facilitating Earth imaging, ocean and atmospheric studies, microwave remote sensing and space science missions. The bus weighs about 100 kilograms and can carry a 30-kilogram payload. The solar arrays onboard generate 330 watts of power. It was used in previous ISRO missions like IMS-1, Yuthsat and Microsat-2D. ISRO will transfer the Satellite Bus technology to Alpha Design Technologies, a Bengaluru-based private company.

16. Luna-25

Luna-25 was a Russian mission to moon. The lunar lander aboard Luna-25 failed to make a soft landing and crash-landed on the surface of moon. The aim of the mission was to execute a pinpoint landing near the Moon's south pole. Luna-25 mission followed the Luna-24 mission of 1976, which had landed and returned with samples from the moon. Geological Samples collected by Luna-25 would have allowed the scientists to study the unexplored region of the Moon.

17. Dhala Crater

A team of scientists have found that the Dhala crater formed when an extraordinarily rare and ancient meteorite called **Ureilite** crashed into India. Ureilites are a scarce class of primitive meteorites and comprise of mostly olivine and pyroxene silicate rocks. Ureilites contain less than 10% of carbon (either in the form of diamond or graphite), metal sulphides and a few fine-grained silicates. The ureilite that landed in Dhala was **~1 km in diameter** and crashed into Earth's atmosphere at an extraordinary speed of 15 km/s about **2,500 to 1,700 million years ago**.

Dhala crater is located in **Madhya Pradesh**. It has a diameter of 11 kms. It is **Asia's largest** and world's 7th-largest **impact crater**. In India, there are 3 meteor impact craters: **Ramgarh in Rajasthan; Lonar in Maharashtra** and **Dhala in MP**.

18. Markarian 421 and Supermassive Black Holes

Markarian 421 is a **supermassive black hole**. It is about 400 million light-years away from the earth, located in the Ursa Major constellation.

Supermassive black holes are **extremely large and incredibly dense regions** in the centers of most galaxies, including our own Milky Way galaxy. They are characterized by their **immense gravitational pull** that not even light, can escape from them once it crosses a point called the event horizon. These black holes have masses that range from **hundreds of thousands to billions of times that of Sun**. They are thought to have formed and grown through a combination of processes, including accretion of gas and the **merging of smaller black holes over billions of years**. They are associated with powerful phenomena, such as **active galactic nuclei (AGNs)** and **quasars**, where **vast amounts of energy are released as material falls into the black hole and emits intense radiation**. Studying supermassive black holes helps astronomers better understand the evolution of galaxies, and the fundamental nature of gravity and space-time in extreme conditions.

19. Betelgeuse

Betelgeuse is a **red supergiant star** with a distinctive orange-red hue. The star is ~640 light years away from the earth. It is in the last stages of its life-cycle. It is undergoing **periodic expansion and contraction**, causing variations in its brightness. It is expected to **undergo a massive a supernova explosion** as the next stage in its lifecycle. Astronomers from Japan have claimed that Betelgeuse can undergo the Supernova explosion within 'next few decades'. When Betelgeuse undergoes supernova explosion, it will be as bright as full moon and will be visible in the daylight.

20. Spintronics

Spintronics is one of the emerging fields for the **next-generation nano-electronic devices** to **reduce their power consumption** and to **increase their memory and processing capabilities**. Such devices take advantage of **electron spin**, a quantum property of electrons, to achieve higher performance. Some examples of spintronic devices are spin transistors, spin diodes, and spin filters.

21. SSL Certificates

SSL certificates are used to **encrypt websites** and to make sure that **browsers know** that a website is not being **modified or impersonated by attackers**. Browsers trust these certificates if they are issued by a **certifying authority** that is in turn trusted by a '**root certifying authority**'. **India does not have a root certifying authority** trusted by major browsers such as Google Chrome, Mozilla Firefox and Microsoft Edge. The Government operates a root certifying authority that is legally valid under Indian law: the **Root Certifying Authority of India**, set up in 2000 under the CCA; but the certificates issued under its purview are **largely not recognised by Web browsers**. Due to this, Indian government and private websites **need to purchase SSL certificates from foreign certifying authorities**.

22. National Supercomputing Mission

It was launched in 2015. Its aim is to **connect research and academic institutions to a Supercomputing grid** all over the country. The grid consists of more than 70 high-performance computing facilities. It will **increase the research capacities and capabilities in the country**. These supercomputers will also be networked on the **National Supercomputing grid** over the **National Knowledge Network (NKN)**. The NKN connects academic institutions and R&D labs over a high-speed network.

The Mission is being implemented by the **Department of Science and Technology** and **Department of Electronics and Information Technology** (DeitY) through the **Centre for Development of Advanced Computing (C-DAC)** and **Indian Institute of Science (IISc)**, Bengaluru.

India's fastest supercomputers include AIRAWAT, PARAM Siddhi, Pratyush and Mihir. (Refer EPIC June 2023 (click) for AIRAWAT Supercomputer).

23. Worldcoin Project

Worldcoin is an **iris biometric cryptocurrency project** developed by **Tools for Humanity (TfH)**. TfH was founded in 2019 by **Open AI** (which developed ChatGPT) **Chief Executive Sam Altman**. It is an initiative to create a **digital network in which everyone can claim some kind of stake, and join the digital economy**. Worldcoin volunteers known as "**Orb operators**" **scan a person's iris pattern** with a device called "**Orb**"; collect their biometric data and issue them with a **World ID** through the World app. With the World app, the members can claim the **World Coin crypto**, which they **may use for transactions** or **hold it as an asset in the hope that its price might rise**.

Worldcoin explained that it wanted to include everyone in its network and that **using biometric information to avoid duplication was a valid method**.

It claimed that it ensures privacy of users through **zero-knowledge proofs (ZKPs)** and claims full compliance with the EU's **General Data Protection Regulation (GDPR)**.

24. Akira Ransomware

The Computer Emergency Response Team has issued an alert for ransomware 'Akira'. It is found to target both Windows and Linux devices. It encrypts files (making them inaccessible to the users) on the computer and appends them with '.akira' extension. It deletes **Windows Shadow Volume** copies. These files are necessary to ensure that organizations can **back up data** used in their applications. It then steals the sensitive data. The attackers demand a ransom, threatening to publish the data on their dark web blog if the demands are not met.

25. Ransomware

Ransomware is a **malware designed to deny a user or organization access to files on their computer**. Cyber-attackers encrypt the files and demand a ransom payment for the decryption key. Often paying

the ransom is the easiest option for a person. Ransomware typically spreads through **spear phishing emails** that contain **malicious attachments** in the form of archived content (zip/rar) files. Other methods used to infect devices include **drive-by-download**, a cyber-attack that unintentionally **downloads malicious code onto a device** and **specially crafted web links in emails**, clicking on which downloads malicious code.

26. Zero-day Attacks

A Zero-day attack takes place when hackers **exploit a flaw** (in a code or design) before the **developers have a chance to address it**. These flaws or security vulnerabilities are only recently discovered that can be used by hackers (who discover it before the developers). A **zero-day vulnerability** is a software vulnerability **discovered by attackers before the developer has become aware of it**. Zero-day attacks can be devastating, since only the hacker knows about them and can **sell this valuable information on the darknet**, or 'simply wait to strike at an opportune moment'.

27. Vulnerability of 5G Networks to Zero-day Attacks

Traditional telecom networks were built using hardware components such as switches. However, **~90% of the 5G technology is implemented into software** by integrating several latest technologies (NFV, SDN etc.). It enables easy testing of the technology. But this has increased the attack surface area multi-fold and is impossible to manage manually. Hence **5G technology is much more vulnerable to Zero-day Attacks**.

Automating the whole testing process and **continuous monitoring** is the only sustainable solution. IIT Madras has developed a new indigenous software technology solution to **proactively detect and prevent zero-day vulnerability attacks** in the 5G networks thereby **reducing the network downtime**.

28. Combating Fraudulent SIMs

The Department of Telecommunications (DoT) has announced several steps to combat the issue of fraudulent SIM cards. First, there would be **mandatory registration of SIM card dealers**, Point-of-Sale (PoS) agents and distributors (eliminate rogue PoS agents). Second, the **facility to provide SIM connections in bulk to companies** ('corporate plans' of telecom providers) **is being discontinued**. A "new business" system is being put in place where **each corporate subscriber has to undertake KYC** ('Know Your Customer') when a SIM is being issued to them.

29. Pibot

Pibot is the world's **first humanoid pilot**. It can fly an aero plane just like a human pilot by manipulating all the controls in the cockpit, which are designed for humans. It uses **artificial intelligence and robotics to understand flight manuals and control the plane** in real-time. Pibot's arms and fingers can control flight instruments even during turbulence. It has cameras to monitor the aircraft and manage controls. It remembers global flight charts for accurate navigation and **can handle emergencies**. Pibot communicates with air traffic controllers and humans using **voice synthesis**. It has been developed by the Korea Advanced Institute of Science & Technology.

30. Nanoflakes

Nanoflakes are nanomaterials that consist of **thin, two-dimensional (2D) flakes** with nanoscale dimensions (10^{-9} m). These flakes typically have a **high aspect ratio** (length is much greater than their thickness). Nanoflakes can be **made from a variety of materials**, including metals, metal oxides, semiconductors, and other types of nanomaterials. Nanoflakes have attracted significant attention in

various fields such as **nanoelectronics, photonics, catalysis, energy storage, and sensing applications**. Their **large surface area-to-volume ratio** and unique electronic properties make them promising candidates for **enhancing the performance of many devices and technologies**.

31. Graphene Aurora Programme

The Ministry of Electronics & Information Technology has launched the 'Graphene-Aurora program' at **Maker Village**, Kochi, Kerala. The program will be implemented by Digital University Kerala with joint funding from MeitY and Government of Kerala and Industry partners.

India Graphene Engineering and Innovation Centre will be established in Kerala, to fill the gap between R&D and commercialization by providing a complete facility to start-up and industry. It shall also **nurture the deep/emerging Graphene technology** and **innovation ecosystem** that can guide, develop, implement and **support SMEs and start-ups to commercialize developed graphene technologies for scale adoption**. (Refer EPIC June 2023 (click) for Importance of Graphene).

32. Maker Village

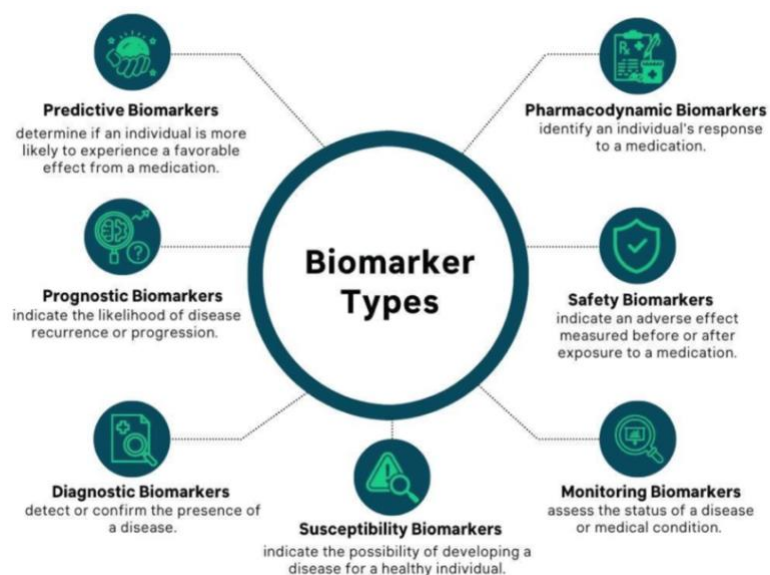
Maker Village (in Ernakulam, Kerala) is **India's largest electronic hardware incubator** and **Electronics System Design & Manufacturing (ESDM) facility**, under the aegis of the Ministry of Electronics and Information Technology, Government of India. It has ~60,000 sq.ft facility (the largest Integrated Startup Complex in India), with around **80 hardware start-ups** engaged in **deep tech and advanced areas** such as **Automation, AI/ML, Robotics, Drones, IoT, Autonomous Vehicles, AR/VR, Biomedical Instrumentation, Additive Manufacturing, Energy & Utilities**, et al.

33. Microplastics in Human Body

Scientists in China have found microplastics in the **heart tissues of patients** who had heart surgery. They also found **Polyethylene terephthalate**, (used in **clothing and food containers**) and polyvinyl chloride (PVC, commonly used in window frames, drainage pipes, paint, and other applications) inside the body. (Refer EPIC July 2023 (click) for Impact of Nanoplastics). Microplastics have been suggested to have an **indirect role** in conditions such as **obesity, diabetes, and chronic liver disease** by affecting the **gastrointestinal tract**.

34. Biomarker

A biomarker is used as an **indicator of a particular disease state** or some other physiological state of an organism. In medicine, a biomarker is a measurable indicator of the **severity or presence of some disease state**. It can be a substance that is introduced into an organism as a **means to examine organ function** or other aspects of health.



35. Cell-free DNA (cfDNA)

Most of the DNA in a genome is packed inside cells with the help of specific proteins, protecting it from being degraded. However, **some fragments of DNA are 'released' from their 'containers'** and are **present outside the cell**, in **body fluids**. These small fragments of nucleic acids are called **cell-free DNA (cfDNA)**. It can be produced and released from a cell in various situations, like during cell death when nucleic acids degrade.

One of the most **widely used applications of cfDNA** has been in **screening fetuses for specific chromosomal abnormalities** (non-invasive prenatal testing). It is also used in the **early detection, diagnosis and treatment of cancers** and **understanding why a body is rejecting a transplanted organ**. cfDNA could be used as **a biomarker for neurological disorders** like Alzheimer's disease, neuronal tumours, stroke, traumatic brain injury.

36. Placenta-on-a-Chip Device

Placenta is an organ that **develops in the uterus during pregnancy**. It performs duties for most of the foetus's organs while they are still forming, such as **providing oxygen** (while the lungs develop) and **nutrition** (while the gut is forming). **Placenta shields the baby from harmful drugs and chemicals**. But some can still cross this barrier and cause harm to the baby in the womb. Thus, **pregnant women are not given many medications** as there is a lack of information if the medicine can impact the foetus. Consequently, pregnant women have to suffer.

Researchers have developed a device called Placenta-on-a-Chip (POC). It **imitates different stages of pregnancy** such as blood flow and cell interactions. This can help in studying **various stages of pregnancy which in turn can help in drug discovery**, study of toxicity of chemicals like caffeine and understanding the effects of conditions like diabetes during pregnancy. (Refer EPIC June 2023 (click) *Gender Discrimination in the Field of Medicine and Medical Research*).

37. Bedaquiline

Bedaquiline is a medication used to treat **multidrug-resistant tuberculosis (MDR-TB)** along with other medications for tuberculosis. It was developed by Janssen Pharmaceutical (a subsidiary of Johnson & Johnson, J&J) around 2002. Its patent has expired recently but J&J has filed for **secondary patents** over bedaquiline till 2027, which were **granted in 66 low-and middle-income countries**. Extension of patents (evergreening) is expected to hamper equitable and affordable access to treatment of TB. However, the **Indian Patent Office has rejected J&J's application for secondary patent**. Indian manufacturers will now be able to provide generic versions of Bedaquiline, making the treatment more affordable. (Refer EPIC September 2022 (click) for TB-Mukt Bharat: Making India TB-Free by 2025).

38. Promoting Generic Medicines

Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) is being implemented by the **Pharmaceuticals & Medical Devices Bureau of India (PMBI)**, to provide **affordable** (50-90% cheaper than branded medicines) and **high-quality generic medicines**. It has established around 9,512 dedicated outlets called **Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJKs)**.

Janaushadhi Sugam mobile application provides information about the location of *kendras*, helps search *Janaushadhi* medicines and compare the prices of generic and branded medicines.

Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002 prescribe every physician should **prescribe drugs with generic names legibly**.

Directorate General of Health Services has directed all Central Government hospitals to **prescribe generic medicines only**.

Under the **free drug initiative of National Health Mission (NHM)**, support is provided for provision of essential generic drugs free of cost in public health facilities.

39. Gandhinagar Declaration on TB

The Gandhinagar Declaration has been adopted by the **WHO South-East Asia Region member countries** at the meeting held to follow up on the progress made to end Tuberculosis in the region. It calls for the establishment of **high-level multisectoral commissions in each country** to **coordinate efforts** and monitor progress toward ending TB and other diseases. These commissions can also **strengthen health systems** and **universal health coverage**. It also emphasizes the **use of science and technology** to **provide equitable TB services accessible to everyone**.

40. Polypills

The WHO has included 3 fixed dose combinations (FDCs) of cardiovascular medicines or **Polypills** on its revised **Model Lists of Essential Medicines 2023** for use in cardiovascular diseases.

A polypill is a drug combination consisting of a single product in pill form and **combines multiple medications**. Polypills are a **safe and effective strategy** to **reduce the risk of heart attacks and strokes**. A research (2000) had shown that a polypill had reduced the risk of future heart attacks and strokes by ~40%-50%.

41. Inclusive Conservation Initiative (ICI)

The Inclusive Conservation Initiative (ICI) was endorsed by the Global Environment Facility (GEF) in 2022. Its aim is to **enhance Indigenous Peoples' and Local Communities' (IPs and LCs)** efforts to protect land, waters and natural resources to deliver global environmental benefits. It is being supervised by the IUCN.

Indigenous Peoples and local communities make up just 5% of the world's population. But **they steward 25% of land and 40% of intact ecosystems on Earth**. Yet, they **have lacked financial support** (< 1% funds given to Ips/LCs) to improve and scale their sustainable management of these territories. ICI will provide financial support to the **Indigenous and locally-led initiatives**.

42. Belem Declaration

The Belem Declaration was adopted at the Amazon Summit. The declaration **recognises Indigenous knowledge as a condition for biodiversity conservation** and calls for **ensuring full and effective participation of Indigenous Peoples in decision-making and public policy formulation processes**. The declaration created an **alliance for combatting forest destruction**, with countries left to pursue their individual deforestation goals. It also created a science body for **annual reports on Amazon rainforest**.

43. e-Fast India

e-Fast (electric Freight Accelerator for Sustainable Transport – India) was launched in September 2022. It is India's first electric freight platform. Its aim is to **galvanize the transition towards cleaner and greener freight transportation**. The platform will help **strengthen partnerships** and identify and support innovative freight solutions, promote freight electrification etc.

44. India Climate and Energy Dashboard (ICED)

It has been launched by the NITI Aayog. It is a **one-stop platform** for near **real-time data on the energy sector, climate and related economic datasets** based on government published sources. It will facilitate **insights and enhance understanding about the energy and climate sectors** while identifying the key

challenges. It will be useful in monitoring the **progress of India's clean energy transition journey**. (<https://iced.niti.gov.in/>).

45. Rejuvenation of River Devika

Devika river originates from the hilly *Suddha Mahadev* temple in the **Udhampur district** of J&K and flows down towards western Punjab (now in Pakistan) where it **merges with the Ravi river**. It is revered as the **sister of river Ganga**. Project Devika aims to rejuvenate Devika River. It is North India's first river rejuvenation project. It was launched in 2019 under the **National River Conservation Plan (NRCP)**. Bathing 'ghats' on the banks of the Devika River will be developed, encroachments will be removed, natural water bodies will be restored and catchment areas will be developed along with cremation ground. It also includes the construction of 3 sewage treatment plants, protection fencing and landscaping, small hydropower plants and 3 solar power plants.

46. Meri LiFE, Mera Swachh Shehar Campaign

The campaign has been launched by the **Ministry of Housing and Urban Affairs (MoHUA)** in collaboration with the **Ministry of Environment, Forest and Climate Change (MoEFCC)**. Its aim is to **spread awareness regarding Mission LiFE** and to **nudge behaviour change of citizens to minimize waste generation, promote resource conservation** and contribute to a cleaner and greener environment by adopting 'Reduce, Reuse, Recycle' (RRR) in their everyday life. The campaign is not a scheme but a **public outreach and mass engagement campaign**.

47. Pedicularis Revealiana

Scientists from the Botanical Survey of India have discovered a new plant species in Sikkim named *Pedicularis Revealiana*. It belongs to the *Pedicularis* species group. It is commonly known as a perennial herb. It grows largely in remote forests, which remain snow-covered for most of the year. It is a hemi-parasitic species meaning it is partially parasitic. It produces its own food and also demonstrates the remarkable ability to **draw nutrients from the roots of neighboring trees and plants**. Sikkim alone accounts for **45% of the total plant diversity in the Indian Himalayan region**.



48. Ludwigia Peruviana

Invasive aquatic weed '*Ludwigia peruviana*' is **threatening elephant habitats in Tamil Nadu** and reviving the risk of human-elephant conflicts in the region. It is an aquatic weed **native to some countries in Central and South America**. It is usually found in wetlands, swamps, marshes and along the edges of lagoons and slow-moving waterways. It is among the **22 priority invasive plants in Tamil Nadu**. It was probably **introduced as an ornamental plant** for its tiny yellow flowers. It has **limited the growth of grass and native plants** that is a source of food for elephants and other animals including gaur. This has revived the risk of human-elephant conflicts in the region.



49. Desiccation-Tolerant Vascular Plant Species

They are able to **withstand extreme dehydration**. They can lose up to 95% of their water content and can revive themselves once water is available again. This allows them to **survive in harsh, arid environments**. They have both flowering and non-flowering species. The global population of these species ranges between 300 and 1,500. Indian desiccation tolerant plants are **primarily found in forest rock outcrops** and partially shaded tree trunks. A study has recently found 62 desiccation-tolerant vascular plant species in Western Ghats. Desiccation-resistant vascular plant genes can be used to **develop a high temperature tolerant crop variety to boost climate resilience**.

50. 75 Endemic Birds of India

Zoological Survey of India (ZSI) has released a publication '**75 Endemic Birds of India**'. India is home to 1,353 bird species, which represents approximately 12.40% of global bird diversity. Out of these bird species, 78 (5%) are endemic to the country. The highest number of endemic species have been recorded in the Western Ghats (28 species). These include the **Malabar Grey Hornbill, Malabar Parakeet, Ashambu Laughing Thrush** and **White-bellied Sholakili**.

Of the 78 species, 3 have not been recorded in the last few decades: **Manipur Bush Quail** (Endangered, last seen in 1907), **Himalayan Quail** (Critically Endangered, last seen 1876) and **Jerdon's Courser** (Critically Endangered, last seen 2009).

Of the 78 endemic species, 3 have been listed as 'Critically Endangered', 25 as 'Threatened', 5 as 'Endangered', 17 as 'Vulnerable' and 11 as 'Near Threatened' by the IUCN Red List.

51. Himalayan Vulture

Researchers have undertaken the first instance of **captive breeding of the Himalayan vulture** (*Gyps himalayensis*) in India at the **Assam State Zoo**, Guwahati. **Himalayan Griffon Vulture** inhabits the **higher regions of the Himalayas** and the **Tibetan Plateau**. The species is distributed from western China, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Afghanistan and Pakistan, the Himalayan mountain range in India, Nepal and Bhutan, and Mongolia. They can fly at an **elevation of up to 5,500 metre** with help of their wide and powerful wings. They generally **feed on dead carcasses** and would sometimes wait for a few days before eating the dead animal. Their IUCN status is Near Threatened.



52. Captive Breeding and Vulture Conservation Breeding Centres (VCBCs)

Captive breeding is the process of breeding animals **outside of their natural environment** in **restricted conditions** in **farms, zoos or other closed facilities**. The choice of individual animals that are part of a captive breeding population, and the mating partners within that population, are **controlled by humans**. **Vulture Conservation Breeding Centres** have been established by **Bombay Natural History Society** (BNHS) at **Pinjore** in Haryana, **Bhopal** in Madhya Pradesh, **Rani** in Assam and **Rajabhatkhawa** in West Bengal. These centres are involved in **conservation breeding** of the **white-rumped vulture** (*Gyps bengalensis*), **slender-billed vulture** (*Gyps tenuirostris*), and the **Indian vulture** (*Gyps indicus*).

53. Ketoprofen and Aceclofenac

Ketoprofen and Aceclofenac are both **non-steroidal anti-inflammatory drugs** (NSAIDs) commonly used to **relieve pain, reduce inflammation** and **manage various conditions**. Ketoprofen and Aceclofenac have been **banned** as they are **harmful to cattle** and can **kill vultures too** if they eat the carcasses of the animals that were administered with these two drugs.

54. Tharosaurus Indicus

Tharosaurus indicus is the name given to the **fossil remains of a long-necked, plant-eating dicraeosaurid dinosaur** found in **Jaisalmer, Rajasthan** found by scientists from IIT Roorkee and Geological Survey of India. It has been named 'Tharosaurus indicus' as reference to Thar desert and India (Indicus). The dicraeosaurid dinosaurs have been found previously in North and South Americas, Africa and China. This is the first time it has been discovered in India. The rocks in which the fossils of Tharosaurus indicus were found are dated to be **~167 million years old**, making it the **oldest known dicraeosaurid dinosaur**.

55. Gnanamuyarchi

Palm manuscripts from the 18th-century titled **Gnanamuyarchi** have been found in an Armenian monastery in Northern Italy. The manuscript could be a copy of the **first Tamil translation of Spiritual Exercise**, written by **St. Ignatius of Loyola** in the 16th century. The translation was mostly done by **Michele Bertoldi**, known in Tamil as **Gnanaprakasasamy**. The manuscript was initially misclassified as 'Indian Papyrus Lamulic Language-XIII Century'. The monastery authorities think the manuscripts might have been brought to Italy by Armenians in Chennai.

56. GI Tag for Matti Banana

Matti banana is native to **Kanniyakumari district in Tamil Nadu**. It is also known as '**Baby Banana**' owing to its nipple-like appearance. It has a sweet fragrance and **honey-like taste**. Its mixture with **payasam** is served in local marriage feasts. These bananas have low total soluble solids content (TSSC) which makes it **suitable for a baby food**. The **corm extract** from the fruit is also used to **cure jaundice**. (Corm is the short underground growth of particular plants from which the new stem grows each year). Its varieties include Nal, Theyn, Kal, Nei and Sundari.



57. GI Tag to Mushkbudji Rice

Mushkbudji Rice is short, bold **aromatic rice** grown in the **higher reaches of Kashmir valley**. The cooked rice is unique and possesses a harmonious blend of taste, aroma and rich organoleptic properties (impacting the senses like taste, sight, smell and touch etc.). Its consumption in Kashmir has now been limited to special occasions, marriages, and festivals. This variety had fallen out of cultivation in the 1970s due to blast disease. In 2007, the Government had announced a revival program of the Mushkbudji rice variety in Sagam village of Kokernag.



58. GI Tag for Jaderi Namakatti

These are clay sticks that are white in colour. They are usually available in **finger-like shape** with a smooth texture. They are used to **adorn the foreheads of idols, humans and temple elephants**. The **namakatti** is made up of the rich deposit of **hydrous silicate**

minerals that form fine grain particles of clay. The production of *namakatti* depends on the climatic condition as it needs a lot of sunlight to dry. Jaderi village falls in Tiruvannamalai district in northern Tamil Nadu.

59. GI Tag for *Chedibutta Saree*

It is a **handloom saree** which depicts the *Chedibutta* design in art **silk and cotton mix fabric**. The name '*Chedibutta*' is a combination of two Tamil words: '*Chedi*' (plant) and '*Butta*' (repeated motif or design). The iconic 'plant and flower' motif is woven on the border and pallu (edge of the saree). The **Sourashtra** community are the primary weavers. The weavers belong to the **Veeravanallur town** in the **Tirunelveli**, Tamil Nadu.



60. *Cumin/Jeera*

Cumin seeds (*jeera*), are widely used to **temper food** and **enhance its flavor** in a variety of preparations. Cumin seeds have numerous health benefits like fighting off stomach woes, soothe the digestive tract, relieve nausea, bloating and constipation. Cumin seeds are also used as an **adjuvant therapy** along with oral medication in people with **Type 2 diabetes**. India accounts for some 70% of global production. Other producers include Syria, Turkey, UAE and Iran. Jeera is an **extremely weather-sensitive crop**. It requires a **moderately cool** and **dry climate** sans any humidity. In India, jeera grows in Saurashtra, Kutch and the northern parts of Gujarat and adjoining districts of western Rajasthan.

61. *Meri Maati Mera Desh Campaign*

The '**Azadi Ka Amrit Mahotsav**' (celebrating 75 years of Indian Independence) culminated with the Meri Maati Mera Desh campaign. Memorials called '**Shilaphalakam**' have been built in every village or panchayat across the country to pay tribute to the freedom fighters and the defence personnel who lost their lives in service of the nation. **Vasudha Vandhan** envisages every gram panchayat or village renewing 'Mother Earth' by **planting 75 saplings of indigenous species**. Soil collected from each panchayats or village will be used to develop a unique garden called **Amrit Vatika** in Delhi.

62. *Listing of Shares at IFSC, Gujarat*

The Union Finance Minister has said that **Indian companies can now directly list their shares on foreign exchanges operating at the International Financial Services Centre (IFSC)** in Gujarat's GIFT City. This move is aimed at enabling Indian companies to **access global capital at better valuations**. (Read More about GIFT City).

63. *Niveshak Sarathi*

The **Investor Education and Protection Fund Authority (IEPFA)** and Common Service Centre (CSC) have jointly launched '**Niveshak Sarathi**' Vans in **Delhi-NCR**. *Niveshak Sarathi* initiative aims to **enhance financial literacy** and **awareness about fraudulent schemes**. The vans are equipped with a TV screen showcasing investor awareness movies, a public address system, and informative brochures.

64. *UDGAM Portal*

The RBI has launched the UDGAM portal. UDGAM stands for Unclaimed Deposits – Gateway to Access information. Its purpose is to **aid users to identify their unclaimed deposits/accounts** and enable them to either claim the deposit amount or make their deposit accounts operative at their respective

banks. It has been developed by **Reserve Bank Information Technology Pvt. Ltd. (ReBIT)**, **Indian Financial Technology & Allied Services (IFTAS)** and participating banks.

65. Revamped Distribution Sector Scheme (RDSS)

The Government of India has launched the Revamped Distribution Sector Scheme (RDSS) for the duration of 5 years i.e. from (FY 2021-22 to FY 2025-26). Its aim is to reduce the **Aggregate Technical & Commercial (AT&C) losses** to pan-India levels of 12-15% and **Average Cost of Supply (ACS)-Average Revenue Realized (ARR)** gap to zero by 2024-25. Under the scheme, Financial assistance to DISCOMs is provided for **upgradation of the Distribution Infrastructure** and for **Prepaid Smart Consumer Metering**. The smart meters are meant to **facilitate the reduction of distribution losses** and **enable automatic measuring of energy consumption**.

66. Urea Gold

Urea Gold is a new variety of Urea fertilizer that is **coated with sulphur**. It is being introduced to address the **Sulphur deficiency in soil** and **reduce input costs for farmers**.

- Urea Gold facilitates a **gradual release of nitrogen**, thereby enhancing its availability and **uptake by crops**. The inclusion of humic acid in Urea Gold further extends its lifespan as a fertilizer.
- It is **more economical** and efficient than neem-coated urea.
- Urea Gold **reduces overall fertilizer usage**. (15 kg of Urea Gold provides comparable benefits to 20 kg of conventional urea i.e., 25% reduction in consumption).
- It will **save input costs for the farmers** and also **raise incomes for farmers** with enhanced production and productivity.

67. Number of Jan Dhan Accounts cross 50 Crore

National Mission on Financial Inclusion popularly known as **Pradhan Mantri Jan Dhan Yojana (PMJDY)** was launched in 2014. It offers multiple advantages to account holders such as a bank account **without requirement of minimum balance**, free of cost **RuPay debit cards** with inbuilt **accident insurance** of INR 2 lakh and **overdraft facility** of up to INR 10,000.

The total number of Jan Dhan accounts has crossed 50 crore as on 9th August 2023. Out of these accounts **56% accounts belong to women** and **67% accounts have been opened in Rural/Semi-urban areas**.

The deposits in these accounts are above **INR 2.03 lakh crore** and about **34 crore RuPay cards** have been issued in these accounts **free of cost**.

The average balance in PMJDY accounts is INR 4,076 and more than **5.5 crore PMJDY accounts are receiving DBT benefits**.

68. PM Vishwakarma Scheme

It is a Central Sector Scheme. Its aims to strengthen and nurture the **Guru-Shishya parampara** or **family-based practice of traditional skills** by artisans and craftspeople. It will help **improve the quality**, as well as the **reach of products and services of artisans** and craftspeople and to ensure that the Vishwakarmas are **integrated with the domestic and global value chains**. The Scheme will cover **18 traditional trades** like carpenter, blacksmith, locksmith, goldsmith, potter, sculptor, washerman, tailor and fishing net maker etc. The scheme has a provision of credit support of INR 1 lakh (first tranche) and INR 2 lakh (second tranche) with a concessional interest rate of 5%. It also has a provision to **provide skill upgradation**, incentive for toolkit as well as digital transactions and marketing support. Beneficiaries will also receive up to INR 15,000 to buy modern tools.

69. Lakhpati Didi Scheme

The Government is planning **skill development training for 2 crore women** under the 'Lakhpati Didi' scheme. It aims to provide skill development training to women to **encourage them to establish micro-enterprises** so that they can earn at least INR 1 lakh annually. The women would be trained in skills like plumbing, LED bulb making and operating and repairing drones among others. Initially women in around 15,000 self-help groups (SHGs) would be trained to fly and repair drones, thus equipping them cutting-edge skills.

70. PM e-Bus Sewa

The Union Cabinet has approved PM-eBus Sewa to improve **urban mobility and decarbonise public transport in cities**. The scheme will **cover cities of 3 lakh and above population** as per census 2011. In the 1st segment, 10,000 e-buses will be deployed in 169 cities under PPP model. Infrastructure will also be developed or upgraded to support the new e-buses. In the 2nd segment, infrastructure will be upgraded in 181 cities. States or cities will be responsible for running the bus services and making payments to the bus operators. ~45,000 to 55,000 direct jobs are expected to be generated via the scheme. It will also help **reduce noise and air pollution** in cities and also **curb carbon emissions**.

71. AYUSH Visa

The Ministry of Home Affairs has notified the creation of a new category of **AYUSH (AY) visa for foreign nationals** for **treatment under AYUSH systems/Indian systems of medicine**. This move is part of the **Heal in India initiative** aimed at **promoting India as a medical value travel destination**. The Ministry of AYUSH and the Ministry of Health & Family Welfare are working together to develop a one-stop Heal in India portal for promoting India as a world-class medical tourism destination. (Refer EPIC April 2023 (click) for National Strategy and Roadmap for Medical and Wellness Tourism).

72. Tele-MANAS

Tele Mental Health Assistance and Networking Across States (Tele-MANAS) initiative was launched by the **Ministry of Health & Family Welfare** in October 2022. Its aim is to provide **free tele-mental health services** all over India **round the clock**, particularly catering to people in remote or under-served areas. The initiative **maintains anonymity of the callers**, thereby **reducing the stigma generally surrounding mental health issues**. The initiative includes a network of **23 tele-mental health Centers of Excellence**, with **National Institute of Mental Health and Neurosciences (NIMHANS)** being the **nodal center**. (Read more about Issues with Mental Health and Mental Healthcare in India).

73. SAMUDRA App

Indian National Centre for Ocean Information Services has launched a new mobile application named 'SAMUDRA'. It stands for Smart Access to Marine Users for Ocean Data Resources and Advisories. The app empowers users with **real-time updates** and **critical alerts on oceanic disasters** such as tsunamis, storm surges, high waves, and swell surge alerts, for the individuals and communities to stay informed and take necessary precautions towards the protection of lives and property. It will also disseminate **Potential Fishing Zone (PFZ)** advisories which will guide them to the **probable fish aggregation locations**.

74. Study in India (SII) Portal

The Government has launched the SII Portal. It is one-stop platform to simplify academic journey of international students in India. It will provide information about Higher Education Institutions (HEIs) in

India as well courses in **Indian Knowledge System (IKS)** such as Yoga, Ayurveda, classical arts and more. The portal will also be a one-stop spot for **student registration, visa application process, choosing the desired courses** and **receiving offer letters** from the institute.

75. Study in India (SII) Programme

It has been launched by the Ministry of Education. It aims to **increase the number of international students in India** and **promote India as the preferred study destination**, providing affordable and quality education as per global standards. The programme involves partnership with educational institutes fulfilling one of the following criteria: National Institutional Ranking Framework (NIRF) ranking (≤ 100); National Assessment and Accreditation Council (NAAC) accreditation score (≥ 3.01); or Institutes of National Importance (INI). The programme seeks to showcase India's academic excellence.

76. Panel of Vice-Chairpersons for Rajya Sabha

Rajya Sabha Chairman has reconstituted the panel of vice chairpersons. 4 women Parliamentarians have been nominated in the panel, giving women equal representation in the panel for the first time. One nominated woman is S. Phangnon Konyak (1st woman Rajya Sabha member from Nagaland). Under the Rules of Rajya Sabha, any one of the members of the Panel of Vice-Chairpersons can preside over the House in the **absence of the Chairperson or the Deputy Chairperson**. She has the same powers as the Chairperson when so presiding. She holds office until a new panel of Vice-chairpersons is nominated. **A member of the panel of Vice-chairpersons cannot preside over the House when the office of the Chairperson or the Deputy Chairperson is vacant.** In such situation, the duties of Chairperson are performed by such member of the House as the President may appoint.

NOTE: With effect from 1st February 2022, the monthly ForumIAS Epic Magazine, for the month will provide wholistic coverage for the said month up to 20th of the month. This ensures that issues / stories that occur after 21st of the month are allowed to fully develop and are covered wholistically in the next month.