

# INDEX

## EDITOR'S CUT.....(3 - 31)

- India: World's Most Populous Nation
- Domestic Systemically Important Banks
- Draft Online Gaming Rules
- The Demonetization Verdict
- Right to Strike
- Governor's Speech
- China - Bhutan Border Dispute
- India, Egypt Declare 'Strategic Partnership'
- India Sends Notice To Pakistan To Amend IWT
- Village Defence Committees
- Women in Armed Forces
- Chinese Commercial Companies & India's Internal Security
- Rare Earth Elements (REE)

## MAPS: PLACES IN NEWS.....(32 - 37)

## SOCIAL ISSUES.....(38 - 47)

- Rural Health Statistics Report 2021-22
- ASER 2022
- Aspirational Block Programme (ABP)
- Board of Examinations in Medical Sciences
- Cancer in India
- Census To Be Delayed Again
- Criteria For Scheduling Of Tribes
- Draft Norms Announced By UGC For Foreign Universities
- Integrating Transgender Concerns in Schooling Processes

## ECONOMY AND INFRASTRUCTURE.....(48 - 62)

- BIND Scheme
- Utkarsh 2.0
- Financial Stability Report
- Business Confidence Index
- Ken-Betwa Link Project
- Hakku Patra
- Additional Tier 1 Bonds
- Ganga Vilas
- First Advance Estimates
- Open Market Sale Scheme
- India adopts T+1 settlement system
- Short selling
- Global Economic Prospects
- Trademark Infringement
- Quality Control Orders
- National Financial Reporting Authority
- Pension Eligibility For Adopted Child

## POLITY AND GOVERNANCE.....(63 - 71)

- Remote Voting Facility for Migrant Workers
- Triple Test Formula for OBC Quota
- Centre vs Delhi Government on Control over Services
- Stalemate Between Telangana And Andhra Pradesh
- Chargesheets Are Not Public Documents
- Journalists Not Exempted from Disclosing Sources

## INTERNATIONAL RELATIONS.....(72 - 77)

- Croatia Becomes Fully Integrated EU Member
- Facebook Fined €390 Mn For Breaching EU Privacy Law
- U.S. House Speaker
- Notice to Air Missions (NOTAM)
- Pravasi Bharatiya Divas 2023
- India-China Trade Relationship

## SUMMITS AND ORGANISATION.....(78 - 80)

- Voice of Global South Summit
- Global Partnership for Financial Inclusion
- 'G20 Digital Innovation Alliance' and 'Stay Safe Online' campaign
- First Movers Coalition

## DEFENCE AND SECURITY.....(81 - 82)

- Largest Women Contingent Of Peacekeepers At A UN Mission
- Abdul Rehman Makki Listed as Global Terrorist
- First IAF Woman Fighter Pilot To Participate In Aerial Wargames Abroad
- First Woman Officer Deployed At Siachen

## GEOGRAPHY AND ENVIRONMENT..(83 - 95)

- Microplastics
- Siyom River
- South Asian Black Carbon Aerosols
- Viologen-unit grafted organic-framework (iVOFm)
- Cold Wave
- Environment Impact Assessment (EIA)
- Gandak River
- New Plateau Type Discovered From Maharashtra
- Project RE-HAB
- Cloud Forest
- Eravikulam National Park
- SAFAR System
- Kelp Forests

# INDEX

- Lachin Corridor
- Global overturning circulation
- Sustainable Aquaculture In Mangrove Ecosystem (SAIME) initiative
- Green Urban Oases Programme
- Dobsun Unit (DU)
- Nalabana bird sanctuary
- Fenthion
- Fugitive dust
- St. Petersburg Declaration
- Species in news

## SCIENCE AND TECHNOLOGY.....(96 - 107)

- Yo-Yo Test and Dexa Scan
- Virovore
- 108th Indian Science Congress
- Dieback Disease
- Unexploded Ordnance (UXO)
- Elimination of Kala Azar
- Generative Artificial Intelligence (AI)
- American Foulbrood (AFB)
- C/2022 E3 (ZTF) Comet
- New Technique of Corrosion-resistant Nickel Alloy Coatings
- Coronary Stent
- TOI 700 e
- Local Bubble
- LHS 475 b

- Gonorrhoea
- Giant Metrewave Radio Telescope (GMRT)
- Planet Parade
- Air Independent Propulsion (AIP) System
- BharOS
- Molecular clouds
- M1 Abrams
- Lucy Mission
- Geospatial technology
- Platinum Drugs
- African animal Trypanosomosis (AAT)
- DNA mitochondrial profiling
- Electrochemical ammonia synthesis
- Viscose Fibre
- iKnife
- Doppler Weather Radar Network
- Halteria
- Lymphatic Filariasis (LF)

## CULTURE.....(108 - 113)

- Amrit Udyan
- SPIC MACAY
- Ramcharitmanas
- Savitribai Phule
- Sagol Kangjei
- Ottanthullal
- VIRAASAT
- Swami Vivekananda

# India: World's Most Populous Nation

China's National Bureau of Statistics reported that China's population fell last year for the first time in six decades. This is being termed as a historic turn that may mark the start of a long period of decline with profound implications for its economy and the world.



## Reasons for Decline In Population

- **One-Child Policy** imposed between 1980 and 2015.
  - This policy became a matter of concern as the proportion of working-age population began to reduce.
  - So, from 2016, all married couples were allowed to have a second child. Again, in 2021, China allowed couples to have three children.
- **High cost of living & High education costs** have put many people off having children, even as a number of incentives have been announced by the government.
- **Zero-Covid policies:** China's stringent zero-Covid policies, that were in place for three years, have caused further damage to the country's demographic outlook.

## Implication Of Falling Population Of China

- **China Will Get Old Before It Gets Rich**
  - The recent trend shows that China's population is shrinking faster than expected. So, demographers contend that China will get old before it gets rich.
  - This event will affect the economy due to drop in revenues and increase in government debt due to soaring health and welfare costs.
- **China Will Have To Readjust Its Posture**
  - Based on recent demographic trends, China will have to adjust its social, economic, defence and foreign policies.
  - Shrinking labour force and downturn in manufacturing capacity will affect China's image as an economic powerhouse and the world's factory floor.
- **India No. 1**
  - China's sinking population has already made India the world's most populous nation as per the World Population Review, according to which India's population stand at 1.417 billion by the end of 2022.

## If India's TFR Is Already Below-Replacement, Why Is Its Population Still Increasing?

- TFR is the average number of births by women aged 15-49 based on surveys for a particular period/year.
- Populations can keep growing even with TFRs falling. De-growth requires TFRs to remain below replacement levels for **extended periods**.
- Hence, the effects of declining TFRs may reflect only after a couple of generations.
  - China's TFR dipped below replacement first in 1991 and its population peaked in 2021 (2022 saw the decline in China's population).
  - It took over 30 years for below-replacement fertility rates to translate into negative population growth.

### Mortality and Fertility In India

- Crude death rate (CDR) — number of persons dying per year per 1,000 population — has fallen down to 7.3-7.4 for India in 2020.
- Total fertility rate (TFR) — number of babies an average woman bears over her lifetime — came down to 2 during 2019-21.
  - A TFR of 2.1 is considered as replacement-level fertility.
  - E.g., a woman having two children replaces herself and her partner with two new lives.
  - Since all infants may not survive, the replacement TFR is taken at slightly above two.

## How Much Time Does India Have To Reap Its Demographic Dividend?

- India has just begun seeing fertility rates fall to replacement levels, including in rural areas.
- But even with fertility rate declines, India's population is projected to expand and de-grow only after touching 1.7 billion about 40 years from now.
- More importantly, the share of working-age population in the overall population crossed 50% only in 2007, and will peak at 57% towards the mid-2030s.
- Hence, experts believe India has a window of opportunity well into the 2040s for reaping its demographic dividend, like China did from the late 1980s until up to 2015.
  - Demographic dividend refers to the growth in an economy that is the result of a change in the age structure of a country's population.
- However, this is entirely contingent upon the creation of meaningful employment opportunities for a young population.



# Domestic Systemically Important Banks

The Reserve Bank of India (RBI) recently announced that State Bank of India (SBI), ICICI Bank, and HDFC Bank will **continue** to be identified as domestic systemically important banks (D-SIBs) or what is commonly called as lenders that are **too-big-to-fail**.

## Background

- During the 2008 global financial crisis, it was observed that problems faced by certain large and highly interconnected financial institutions negatively impacted the economy. Thus, government intervention was considered necessary to ensure financial stability.
- In 2010, the **Financial Stability Board (FSB)** recommended that all member countries should have a framework to reduce risks related to Systemically Important Financial Institutions (SIFIs) in their jurisdictions.
- The **Basel Committee on Banking Supervision (BCBS)** developed a framework in 2011 for identifying the Global Systemically Important Banks (G-SIBs) and the amount of additional capital required to absorb losses in G-SIBs. The BCBS further required all member countries to have a regulatory framework for D-SIBs.

### Financial Stability Board (FSB)

- ▲ Headquartered in Basel, Switzerland, the FSB is an international body that monitors and makes recommendations about the global financial system.
- ▲ It was established after the G20 London summit in 2009 as a successor to the Financial Stability Forum (FSF).
- ▲ The Board includes all G20 major economies, FSF members, and the European Commission.

### Basel Committee on Banking Supervision (BCBS)

- ▲ BCBS is a committee of banking supervisory authorities established in 1974. It provides a forum for regular cooperation on banking supervisory matters.
- ▲ Its objective is to enhance understanding of key supervisory issues and improve the quality of banking supervision worldwide.
- ▲ At present, the BCBS has 45 members from 28 jurisdictions, consisting of Central Banks and authorities with responsibility of banking regulation.
- ▲ The Committee's **Secretariat** is located at the Bank for International Settlements (BIS) in Basel, Switzerland.

## Global Systemically Important Banks (G-SIB)

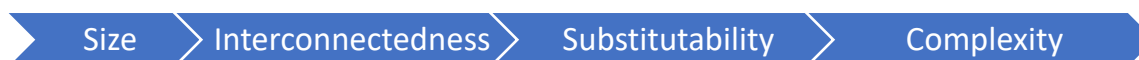
- G-SIB status is determined using **five main criteria**:



- The methodology is also used to rank a G-SIB's level of systemic importance (importance in the overall system) relative to other G-SIBs.
- **Since 2011**, the FSB has published a list of G-SIBs.
- The list of G-SIBs is reviewed annually, and banks can move in or out of G-SIB classification or be re-classified at a different level of systemic importance.

## Domestic Systemically Important Banks (D-SIB)

- In India, RBI had issued the framework for dealing with D-SIBs in **2014**. The assessment methodology adopted by RBI is primarily based on the BCBS methodology for identifying the G-SIBs with suitable modifications to capture domestic importance of a bank.
- The **indicators** used for assessment of D-SIBs are:



- Based on the sample of banks chosen, a **Systemic Importance Score (SIS)** of the banks is calculated. RBI determines a cut-off score beyond which banks are considered as D-SIBs.
- These banks are then placed in five different buckets (categories) depending upon their **Systemic Importance Scores (SISs)**. Based on the bucket in which a D-SIB is placed, an additional common equity requirement has to be applied to it.

➤ The **additional Common Equity Tier 1 (CET1)** requirement for D-SIBs was phased-in from April 1, 2016 and became fully effective from April 1, 2019.

➤ Additional CET1 requirements range from 0.20% to 0.80% of risk weighted assets (RWA).

- A foreign bank having branch presence in India is a G-SIB. It has to maintain additional CET1 capital surcharge in the country, proportionate to its Risk Weighted Assets (RWAs).

Common Equity Tier1 (CET1)	<ul style="list-style-type: none"> <li>■ <b>Common Equity Tier 1 (CET1)</b> capital includes the core capital that a bank holds in its capital structure. <ul style="list-style-type: none"> <li>□ The <b>core capital</b> of a bank includes equity capital and disclosed reserves such as retained earnings.</li> <li>□ <b>Equity Capital</b> refers to that portion of the organization's capital, which is raised in exchange for the share of ownership in the company.</li> </ul> </li> <li>■ <b>CET1 ratio</b> compares a bank's capital against its Risk-Weighted Assets (RWAs) to determine its ability to prevent financial distress.</li> <li>■ SBI is placed in the <b>third bucket</b>, and is therefore required to maintain <b>Additional CET1 at 0.60% of its RWAs.</b></li> <li>■ ICICI Bank and HDFC Bank are placed in the <b>first bucket</b>, and are required to maintain <b>Additional CET1 at 0.20% of their RWAs.</b></li> </ul>
Risk Weighted Assets	<ul style="list-style-type: none"> <li>■ RWAs are used to determine the minimum amount of capital that must be held by banks and other financial institutions in order to reduce the risk of insolvency (bankruptcy).</li> <li>■ The capital requirement is based on a risk assessment for each type of bank asset.</li> <li>■ The assets are assigned a weight according to their level of credit risk. For example, cash in hand would have a weight of 0%, while a loan can carry different weights of 20%, 50%, or 100%, depending on how risky it is.</li> </ul>

- The framework requires RBI to annually disclose the names of banks designated as D-SIBs starting from 2015.

### Significance

- According to RBI if a D-SIB fails, there would be significant disruption to the essential services they provide to the banking system and the overall economy.
- The too-big-to-fail tag also indicates that in case of distress, the government is expected to support these banks. Due to this perception, these banks are given certain advantages in funding.
- It also means that these banks have a different set of policy measures regarding systemic risks and moral hazard issues.
  - In economics, moral hazard occurs when an entity has an incentive to increase its exposure to risk because it does not bear the full costs of that risk.
- D-SIBs are subjected to higher levels of supervision to prevent disruption in financial services in case of any failure.

### Extra Mile

#### Global Systemically Important Insurers (G-SIIs)

- G-SIIs: The FSB, in consultation with the International Association of Insurance Supervisors (IAIS) and national authorities, began identifying G-SIIs in 2013.
- IAIS, established in 1994, is a voluntary membership organization of insurance supervisors and regulators from more than 200 jurisdictions, constituting 97% of the world's insurance premiums.
- Insurance Regulatory and Development Authority of India (IRDAI) and the International Financial Services Centres Authority (IFSCRA) are its members.

#### Domestic Systemically Important Insurers (D-SIIs)

- **Life Insurance Corporation of India (LIC), General Insurance Corporation of India and New India Assurance Co** have been identified as D-SIIs for 2020-21 by IRDAI.

- D-SIIs refer to insurers of such size, market importance and domestic and global interconnectedness whose distress or failure would cause a significant dislocation in the domestic financial system.
- IRDAI had endeavored to identify such companies in the insurance business in March **2019**, in the aftermath of the **collapse of IL&FS** which triggered a massive liquidity crisis.



## Draft Online Gaming Rules

The Ministry of Electronics and Information Technology (MeitY) has released a **draft** of amendments to the **IT (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021** related to online gaming. MeitY is the nodal ministry regulating online gaming.

### Objectives

- To ensure that the online games are offered in conformity with Indian laws.
- Regulate the content & ensure transparency.
- Expand its innovative ecosystem while keeping it safe and trusted by users.
- **Revenue Generation**
  - In December 2022, Union Ministry of Finance announced that the online gaming would attract flat 28% GST. The rate will be chargeable on 'gross revenue' basis, that is, on the total stake value and **not** on the platform fee paid by the user.
  - Previously **games of skills** attract a comparatively lower tax rate (18% GST) as they charge usually small platform fee for participating in the game where as **games of chance** attract higher GST rate (28%) on the total bet value.

### Types of Online Gaming

- e-Sports (video games played online)
  - Fantasy sports (like Dream11),
  - Online casual games (includes a **game of chance**, which may be considered as gambling if players bet money or anything of monetary value).
- E- sports comes under Ministry of Sports and Youth Affairs

### Key Amendments

<b>Online Gaming Definition</b>	Defined as a game offered on the Internet and accessible by a user through a computer resource if he makes a deposit with the expectation of earning winnings.
<b>Online Gaming Intermediary</b>	Defined as an operator of a gaming company.
<b>Self-Regulatory Body (SRB)</b>	<ul style="list-style-type: none"> <li>• Online games will have to register with a self-regulatory body, and only games cleared by the body will be allowed to legally operate in India.</li> <li>• There could be more than one SRB.</li> <li>• It will have a board of directors consisting of five members: <ul style="list-style-type: none"> <li>i) eminent person from the field of online gaming, sports or entertainment, or relevant field.</li> <li>ii) an individual representing online game players.</li> <li>iii) an individual from the field of psychology, medicine or consumer education, or relevant field.</li> <li>iv) an individual nominated by the Central Government with practical experience in the field of public policy, public administration, law enforcement or public finance.</li> <li>v) an individual from the field of information communication technology.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• All SRBs will have to inform the Centre about the games registered by them along with a report based on following criteria: <ul style="list-style-type: none"> <li>i) It does not contain anything against the interest of sovereignty and integrity of India, defense of India, security of the State, friendly relations with foreign States or public order, etc.</li> <li>ii) It is in conformity with Indian laws including any such laws that relates to gambling or betting or the age at which an individual is competent to enter a contract.</li> </ul> </li> </ul>
<b>Additional Due Diligence</b>	<p>To ensure users interest, online gaming companies must:</p> <ul style="list-style-type: none"> <li>i) Display a <u>demonstrable and visible mark of registration</u> on all online games registered by the SRB.</li> <li>ii) Inform the user about: <ul style="list-style-type: none"> <li>• All the online games being offered.</li> <li>• Its policy related to withdrawal or refund of the deposit made, manner of determination and distribution of winnings, and the fees and other charges payable by the user for such games.</li> <li>• Associated risk of financial loss and addiction.</li> <li>• Know-Your-Customer (KYC) procedure followed for user registration.</li> <li>• Measures taken for protecting user deposit.</li> </ul> </li> <li>iii) Publish on its website or mobile application or both, a <u>random number generation certificate</u> and a <u>no bot certificate</u> from a reputed certifying body for each online game offered by it. <ul style="list-style-type: none"> <li>• Random Number Generation Certificate is used by platforms that offer card games to ensure that game outputs are statistically random and unpredictable.</li> </ul> </li> </ul>
<b>Compliance Officer</b>	An Indian citizen to be appointed to ensure that offshore gaming entities abide by the rules.
<b>Nodal Officer</b>	An Indian citizen to be appointed for 24x7 coordination with law enforcement agencies and officers to ensure compliance with their orders.
<b>Grievance Officer</b>	To resolve user complaints.
<b>Restrictions</b>	Online gaming companies will <b>not be allowed</b> to engage in betting on the outcome of games.

### Need For Amendments

- **Growing Gaming Industry:** The revenue of the Indian mobile gaming industry is expected to reach \$5 billion in 2025. It grew at a compound annual growth rate (CAGR) of 38% in India between 2017-2020, as opposed to 8% in China and 10% in the US and is expected to grow at a CAGR of 15% to reach Rs 153 billion in revenue by 2024.
- **Ensuring Safe Gaming Ecosystem:** Around 40 to 45% of the gamers in India are women, and therefore it is important to keep the gaming ecosystem safe.
- **Regulate Content:** To ensure that the games do not have violent, addictive or sexual content.
  - Some people are losing money and falling into a debt trap. Some of the victims took their own lives.
- **Reduce State Wise Regulatory Framework:** Online gaming was under the purview of the States. Different states had different regulatory frameworks. State governments in Assam, Meghalaya, Nagaland and Tamil Nadu, among others, were active in regulating gaming. A stable policy framework will render clarity on what is permissible and will bring uniformity across the country.



- **Loss of Revenue:** Shifting of users to grey/illegal offshore online gaming apps not only results in loss of tax revenue for the State and job opportunities for locals, but results in users being unable to avail remedies for any unfair behavior or refusal to pay out winnings.

### Benefits

- Curb the menace of anti-national and illegal offshore gambling platforms.
- Establish a regulated and sustainable industry while promoting responsible gaming.
- Boost the legitimate domestic online gaming industry.
- Ensuring greater transparency, consumer protection, and investor confidence.
- Create employment opportunities.

### Issues Still Unaddressed

- **Lack of Clarity:** The draft rules do not distinguish between **skill-based (gaming) and chance-based games** (Gambling) and fail to provide the much-needed regulatory clarity that the industry had been seeking.

#### Betting and Gambling

- **Public Gambling Act, 1867:** Chance based games (Gambling) is a non-cognisable and bailable offence in India. Now, the Public Gambling Act only allows exceptions if the game being bet on is a "game of skill" and not a game left purely up to chance.
- Betting and gambling can be found in **Entry 34 of List II of 7<sup>th</sup> Schedule**. It means that the state government can exercise full control & formulate their state-specific laws over betting and gambling practices in their state.

- **Burden Companies:** The rules bucket all gaming intermediaries into a broad category irrespective of size or risk and require similar compliance, including the need to have India-based officers. This can disproportionately burden young startups and make it difficult for global players to start offering their services in India.
- **Wagering on Outcome:** The biggest issue is who determines whether a game involves wagering on the outcome or not. If industry-led **self-regulatory bodies (SRBs)** are allowed to make this assessment driven by financial motives, they are likely to take an expansive view on the issue and permit as many games as possible as non-wager-based games.
- Protection of data and intellectual property rights, and prohibiting misleading advertisements.

These decisions are in line with the government's initiative to push for the growth of the animation, visual effects, gaming and comics (AVGC) sector and making India a global hub for online gaming.

#### EXTRA MILE

##### Comments Invited on Draft Amendment to Remove Content Flagged as Fake by PIB

The MeitY has invited comments from stakeholders and public on amendments proposed to IT Rules, 2021 with respect to **obligations** of social media and other intermediaries regarding sharing of patently false & untrue information. The new draft, which included regulations for online gaming platforms, was dramatically expanded to include removing fake news from online intermediaries.

**Objective:** To ensure an Open, Safe and Trusted and Accountable Internet for citizens.

##### Key Points

- As per the new draft amendments, social media and other intermediaries shall observe **due diligence to not** host, display, upload, modify, publish, transmit, store, update or share information which is patently false and untrue or misleading in nature.
- The **Fact Check Unit** of the Press Information Bureau (PIB) (<https://factcheck.pib.gov.in>) and Twitter handle (@PIBFactcheck) will be responsible for identifying fake news.

- PIB takes cognizance of fake information both **Suo motu and by way of queries** sent by citizens on its portal or through e-mail and WhatsApp and responds with correct information when the same pertains to the Government.
- Other agencies may also be included in list of authorized agencies for fact-checking in future by the Govt.

### Concerns Raised

- **Hurt News Reporting and Free Speech** as PIB may be influenced by political concerns in its tagging of “fake news”. In the past, it has put “fake news” stamp on accurate articles that were critical of govt.
- **Assigns Arbitrary and Discretionary Power to Government** to determine whether the context is ‘fake’ without prescribing any procedures or recourse therefrom.
- **Bypass Natural Justice Principles:** The Proposed Amendments authorizes PIB to bypass natural justice principles and order takedowns of the information through the intermediaries.
- **Unclear Rules:** There is no information about what qualifies as “fake news”, how this amendment will be implemented, how fake news will be taken down, the factors that will be considered to make the assessment, and how a person could challenge information being flagged as fake news.

### About Fake News

It is any piece of misleading maliciously false information circulating through print media, electronic media or social media.

Reasons for its Spread	Impact
<ul style="list-style-type: none"> <li>• To influence user views on a matter.</li> <li>• Push some political agenda.</li> <li>• Cause confusion among users.</li> <li>• Make business profitable.</li> <li>• Earn TRP.</li> <li>• For defaming someone.</li> </ul>	<ul style="list-style-type: none"> <li>• It gives rise to communal hatred if it's related to some religion.</li> <li>• It can intensify a social conflict.</li> <li>• During elections it can impact the election outcome.</li> <li>• It can affect an individual's security. For example, the case of a Muslim man being killed on suspicion of cow smuggling.</li> <li>• Weakened trust in news and social media.</li> </ul>

### Challenges In Curbing It

- **Large Number of Internet Users**
- **Difficult to Track**
- **Lack of Effective Laws:** Thus, there is need for a very strict Fake News law as soon as possible. Currently most of the cases related to fake news are registered under the Epidemic Diseases Act 1897, Information Technology (IT) Act, 2008, Disaster Management Act, 2005 and some sections of IPC. Without any strict laws, it is difficult to curb fake news.

### Government Use Its 'Emergency Powers' For Online Content

- Recently, the Ministry of Information and Broadcasting (MIB) **directed** YouTube and Twitter to take down links sharing the BBC documentary titled ‘India: The Modi Question.’
- The order was passed under the emergency provisions of **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021.**

### What Are Emergency Provisions

- Under the IT Rules 2021, the MIB has powers to issue content takedown notices to social media intermediaries like YouTube, Twitter and Facebook in emergency situations **for which no delay is acceptable.**

- These emergency notices can be issued **if the MIB believes that the content can impact the sovereignty, integrity, defence** or security of India, friendly relations with foreign states or public order, or to prevent incitement to any cognisable offence.
- Since 2021, **the MIB has used the emergency provisions at least 7 times** (known because the Ministry communicated in press releases)
- However, in the case of the BBC documentary, the Ministry has not yet issued any release through its official channel - the PIB.

#### What Actions Can Users Take If Their Content Has Been Impacted?

- Although the IT Rules 2021 outline *user recourse options*, these are **only applicable to actions taken by social media companies**.
- For instance, if a platform has on its own taken down some content, **the user can approach the grievance officer of the platform to raise a dispute**, which they are to redress within 15 days.
- However, if a platform has taken down content on the basis of the **emergency provisions** in the Rules, **the legislation does not offer any direct recourse**.
- The only option users have in this case is **to approach courts**. However, by their very nature, the blocking orders are **confidential**, which means that **users do not know the provisions under which their content was flagged**.



## The Demonetization Verdict

- The Supreme Court upheld the government's decision to demonetize currency notes of Rs 500 and Rs 1,000 by a **4:1 majority**.
- Prime Minister Narendra Modi in a televised address to the nation on November 8, 2016, announced that the two banknotes of Rs. 500 and Rs. 1000 will be "just worthless piece of paper" with immediate effect and went on to introduce new notes of Rs 2,000 and Rs 500 for public circulation.
- It was challenged through various petitions in the Supreme Court.

Earlier, Demonetisation has been implemented twice:

- In 1946, RBI demonetized 1000- and 10000-rupee notes.
- In 1978, the government demonetized 1000, 5000, and 10000 rupee notes in order to curb the menace of black money.

#### Key Issues Dealt by Court

<p>Whether the power available to the Central Government under Section <b>26(2) of the RBI Act, 1934</b>, can <i>be restricted to mean that it can be exercised only for "one" or "some" series of bank notes and not "all" series</i> in view of the word "any" appearing before the word "series"?</p>	<ul style="list-style-type: none"> <li>✓ <b>Section 26(2) of the RBI Act</b>- It states that the Central Government, may on <b>recommendation of RBI</b>, cease the legal tender of "<b>any series</b>" of bank notes of any denomination from the date of <i>notification in the Gazette of India</i>.</li> <li>✓ The majority disagreed with this argument and held that the term "<b>any series</b>" must be given a purposive interpretation and any other meaning would lead to absurdity.</li> </ul>
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<p>If Section 26(2) is held to permit demonetization, does it suffer from <b>excessive delegation</b> of legislative power?</p>	<ul style="list-style-type: none"> <li>✓ Demonetisation in 1946 and 1978 were implemented through separate Acts debated in Parliament. In 2016, it was done through a mere notification issued under provisions of the RBI Act, 1934.</li> <li>✓ <b>Delegated Legislation: Parliament</b> routinely delegates certain functions to authorities established by law since every aspect cannot be dealt with directly by the lawmakers themselves. This delegation of powers is noted in statutes and is commonly referred to as <b>delegated legislation</b>. It gives power to those executing the details.</li> <li>✓ Regulations and by-laws under legislations are its classic examples.</li> <li>✓ <b>Parliament, which enacted the RBI Act, is <i>essentially delegating the power to alter the nature of legal tender</i> to the central government (after the consultation with the Central Board) which exercised it.</b></li> <li>✓ The majority verdict held that since the delegation of power is to the Centre, it cannot be struck down.</li> </ul>
<p>Is demonetization liable to be struck down on the grounds that the <b>decision-making process is flawed in law as the proposal should have been emanated from RBI Board</b>, not from the Centre.</p>	<ul style="list-style-type: none"> <li>✓ The court held that the central government’s decision was <b>after RBI board’s approval</b> which shows in-built safeguard against centre’s powers. <ul style="list-style-type: none"> <li>➤ The Centre is required to take the action <b>after the consultation with the Central Board</b> and there is an inbuilt safeguard.</li> <li>➤ Decision-making process cannot be faulted merely because the proposal emanated from the centre.</li> </ul> </li> </ul>
<p><b>Effectiveness of economic policy</b></p>	<ul style="list-style-type: none"> <li>✓ The majority stated that the court cannot determine the effectiveness of economic policy and agreed with the Centre’s contention that the decision had to be made in <b>secrecy and in haste</b> for it to be effective.</li> </ul>
<p>Is demonetization liable to be struck down by applying the <b>test of proportionality</b>?</p>	<ul style="list-style-type: none"> <li>✓ The SC used <b>four points</b> for the test of proportionality: i) <u>legitimate purpose</u> (ii) <u>rational connection with the purpose</u> (iii) <u>necessity</u> (iv) <u>whether the action taken is proportional or balanced</u>.</li> <li>✓ It stated that curbing fake currency, black money and terror funding were legitimate interests of the state and had a rational nexus with demonetization and there were no alternative measures that could have achieved a similar purpose with less harm for citizens.</li> </ul>
<p>Can the <b>period provided for the exchange</b> of notes be termed unreasonable?</p>	<ul style="list-style-type: none"> <li>✓ The court cited the earlier instance of demonetization from <b>1978</b> where a three-day period was provided for exchanging the demonetized notes. The court relied on this decision.</li> </ul>
<p>Whether the RBI has independent power under <b>Section 4(2) of the 2017 Act</b> to accept the demonetized notes beyond the period specified in notifications?</p>	<ul style="list-style-type: none"> <li>✓ The <b>Specified Bank Notes (Cessation of Liabilities) Act, 2017</b> prohibits and penalizes holding, transferring, or receiving demonetized currency.</li> <li>✓ Some earlier notifications allowed a grace period for certain individuals, like those who were abroad when demonetization was notified, to exchange their old currency.</li> <li>✓ The majority view stated that the earlier notifications must be read as part of the 2017 law, giving it a “contextual and harmonious construction”.</li> </ul>

### About Demonetization

It is the process where a currency unit ceases to exist as a **legal tender** i.e., the demonetized notes cease to be accepted as legal currency for any kind of transaction.

## Why Is It Done

- To tackle black money.
- To lower the cash circulation.
- To eliminate fake currency and funds used by terror groups.

## Impact of Demonetization

1. **Increased Digital Transactions:** It resulted in increased use of online banking, debit or credit cards or UPI.
2. **New Taxpayers:** Nearly 9.1 million new taxpayers have been added to the list post-demonetization and the number of individual tax returns has reached an all-time high of 25.3%. This has resulted in the availability of more funds for various social and economic development projects.
3. **Helped Identify Tax Evaders:** Nearly 17.92 lakh individuals were reported to have been reviewed by the tax department since their tax profiles and the cash deposits made after demonetization were not found in sync.
4. **Increased Bank Deposits:** Banks and other financial institutions saw a substantial increase in deposits. Nearly 30 Crore families were reported to have opened bank accounts for the first time using the Jan Dhan scheme.
5. **Tracking Shell Companies:** The government reportedly shut down nearly 3 lac shell companies, which were siphoning black money.
6. **Increased Investments:** Millions of individuals are now reportedly looking for alternative investment choices, leading to a massive increase in the popularity of equities and mutual funds.

### What the majority judgment said

- ▶ Note-ban move had no legal or constitutional flaws
- ▶ Decision passed the test of proportionality
- ▶ There was a reasonable nexus between measures and objectives
- ▶ Bench headed by CJI can decide on validity of note ban

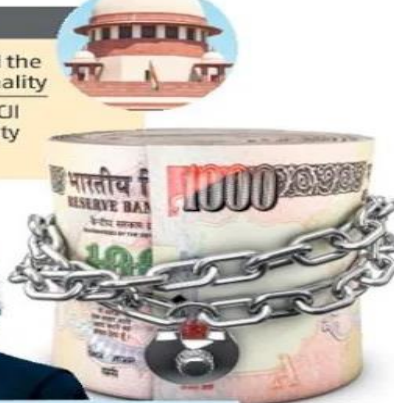
### THE DISSENTING VOICE

"THERE WAS NO INDEPENDENT APPLICATION OF MIND BY THE RBI... PARLIAMENT CANNOT BE LEFT ALOOF ON SUCH IMPORTANT DECISIONS"

**Justice B V Nagarathna**

### DEMONETISATION IMPACT

<b>66%:</b> Average annual growth in digital payment volumes between FY18 and FY22	<b>14%:</b> CAGR of cash in use during this period	<b>11.5%:</b> Higher cash in circulation would have been sans demonetisation
<b>36.5%:</b> Volume of high-value notes (₹500 and ₹2,000) in March 2022, compared to 24.4% in March 2016 (for ₹500 and ₹1,000 notes)		





## Right To Strike

The Kerala High Court declared the national strike held by **government employees** as unconstitutional and reiterated that no State government employee, worker, or association has the legal right to call for a general strike or instigate the employees to strike, in the guise of the *fundamental right of freedom of speech and expression* guaranteed by the Constitution. It is a violation of the provisions of the Kerala Government Servants' Conduct Rules, 1960.

## About The Right to Strike

- Strike means **stoppage of work** by workers with a view of improving their wages or conditions or giving vent to a grievance against something or supporting/ sympathizing with other workers in such endeavor.
- The right to strike is a **statutory right** guaranteed in India under **Industrial Disputes Act, 1947**.
  - ✓ **Industrial Disputes Act, 1947:** It provides for the conditions which constitute a strike:
    - The workmen must be employed in an industry (the term 'industry' is broadened and includes hospitals, education centers, clubs and government departments).
    - Presence of a Contract of Employment.
    - There must be a cessation of work or refusal to perform duties.



- Concerted Action, i.e., the cessation of work by workers must be done under a common understanding.
- Cessation should be the result of an Industrial Dispute.
- ✓ **Section 22** of the act expressly specifies certain conditions to be followed by the workers for their strike to be legal i.e., a strike cannot be resorted:
  - Without giving employer a notice of strike within six weeks before striking; or,
  - Within a minimum of 14 days of giving such notice; or,
 

i.e., The date of the strike must be within **14 days to six weeks** from the date of issue of strike notice.
  - Before the expiry of the date of strike specified in any such notice as aforesaid; or,
  - During the pendency of any conciliation proceedings before the conciliation officer and 7 days after the conclusion of such proceedings.
    - If the notice of strike is given by the workmen to the employer according to these above-mentioned conditions such notice is deemed to be validly served, and thus, the strike by them is legal.
    - Also, whether a strike is justiciable or not depends upon the circumstances of each case, for example, strikes resorted with reference to wages, bonus, D.A., gratuity, provident fund, leave and a holiday would make a strike justiciable.

**Note:**

- In India, the **right to protest, right to form associations and trade unions** are a fundamental right under Article 19 of the Constitution. But right to strike is not a fundamental right but a legal right.
- Further, the right to strike is not an **absolute right** but it flows from the fundamental right to form a union (Article 19(1)(c)).
  - ✓ As every other fundamental right is subject to reasonable restrictions, the same is also the case to form trade unions and the state can impose reasonable restrictions.

**Related Judgements**

- **Industrial Disputes Act, 1947:** While recognizing the objectives of this act, the Apex Court said that strike is a weapon available to workers to force their employer to fulfill workers' demands. It is a legitimate and indispensable weapon available to the employees and can be used in case of urgency. It would be unreasonable to make the workers wait for notice in that case.
- **Kameshwar Prasad vs The State of Bihar 1958:** The Supreme Court settled this case by stating that strike is not a fundamental right. Government employees have no legal or moral rights to go on strikes.
- **Crompton Greaves Ltd. vs Its Workmen, 1978:** The Supreme Court in this case held that strike is a legal weapon available to workers. Whether it is justified or not will depend upon the facts and circumstances of each case.
- **Delhi Police vs Union of India, 1986:** The Supreme Court in this case upheld the restrictions to form association by the members of the non-gazette police force after the Police Forces (Restriction of Rights) Act, 1966, and the Rules as amended by Amendment Rules, 1970, came into effect.
- **Indian Express Newspapers Bombay Pvt. Ltd. vs TM Nagarajan, 1987:** The Delhi High Court held that peaceful strikes can be conducted by the workers to force the employer to fulfill their demands.
- **B.R. Singh vs Union of India, 1989:** The court held that it is very essential for the trade unions to have sufficient membership which can be secured through agitation methods such as strike, go slow etc. He further held that strike is an inherent right which protects the liberty of workers.
- **K. Rangarajan vs Government of Tamil Nadu (2003):** The Supreme Court in this case held that the employees have no fundamental right to resort to strike.

## Related International Laws



**International Labour Organization:** It mandates that a right to organize and collective bargaining should be given to the employees. Its committee of experts has regarded this right indispensable but there are no express provisions on the right to strike.



**Universal Declaration of Human Rights, 1948:** It provides for the protection of workers' interests. They have the right to form trade unions and associations and the right to strike is a sequel of their constitutional privilege to form association.



**International Covenant of Economic, Social and Cultural Rights, 1966:** It provides for the recognition of the right to strike with the condition that it is in conformity with the law of the member states.



**National Labor Relations Act, 1935:** This US law provides the right to strike to bargain for better wages and working conditions, health and hygiene etc. The US Supreme Court has read this right under the 14th Amendment of the US Constitution.

### EXTRA MILE

#### Constitutional Validity of Bandh, Hartals and Chakka Jam

Bandh, Hartals and Chakka Jams are mainly protests organized by political activists in the form of civil disobedience against various policies of the government.

#### Right to Protest

Article 19 provides every citizen the freedom of speech and expression, but it **doesn't explicitly** give any fundamental right to organize bandhs, hartals and chakka jams. It only allows the right to assemble peacefully and without arms.

#### Related Judgements

- In 1997, a Kerala Bench **banned Bandhs** which was later upheld by the Supreme Court (SC). The High Court held that-
  - Calling and holding bandhs is *illegal and unconstitutional*.
  - Organizers of bandhs are to compensate the Government, the public and private citizens for losses suffered due to destruction during the bandh.
  - Exercise of a right of protest should not infract the fundamental right of another citizen who is equally entitled to exercise his rights.
  - A bandh implied threat to life and property of a citizen.
- In 2004, the SC held that inconvenience cannot be caused in the name of hartals.
- **Destruction of Public & Private Properties V. State of A.P., 2009:** The court set up two committees to investigate the matter and give recommendations.
  - The first group headed by **Justice K.T. Thomas** recommended to incorporate amendment to the *Prevention of Damage to Public Property Act, 1984* and to make heads of the gathering, who call for direct activity, responsible for harming public property. And allowing bail only if the Court has reasonable grounds to presume that the accused isn't guilty of the offence.
  - The second group headed by **advocate Nariman** recommended imposing strict liability on persons who caused damage, who were part of the protest or bandh and the organizers of such a bandh or protest.

Both the reports were welcomed by the court

- In 2017, a SC bench noted that hartals could never be considered unconstitutional.

## Government Legislations Regulating Hartals and Bandh

- **Prevention of Damage to Public Property Act, 1984:** It punishes anyone *who commits mischief by doing any act in respect of any public property* with a jail term of up to five years and a fine or both. Public Property means any property, whether immovable or movable (including any machinery) owned by, or in the possession of, or under the control of—
  - ◆ the Central Government; or
  - ◆ any State Government; or
  - ◆ any local authority; or
  - ◆ any corporation established by, or under, a Central, Provincial or State Act; or
  - ◆ any company as defined in section 617 of the Companies Act, 1956 (1 of 1956); or
  - ◆ any institution, concern or undertaking which the Central Government may, by notification in the Official Gazette, specify in this behalf:
- **Draft Kerala Regulation of Hartal Bill, 2015:**
  - The draft bill criminalized enforcement of hartals by force, threat of injury, etc.
  - Organizers were required to obtain permission from the authorities and inform the public three days in advance before organizing a hartal. They were also required to deposit an amount as security for payment of compensation for damage caused to property and injuries sustained.
  - Bail could be obtained by the accused only after depositing an amount equal to the value of damaged property as assessed temporarily.
  - If the police failed to help the public in exercising their legal rights during such hartals, it was to be treated as dereliction of duty and could also be punished with fine extending up to Rupees Ten Thousand.
- **Prevention of Damage Public Property (Amendment) Bill, 2015:**
  - Based on the recommendations of Justice Thomas Committee Report and the Nariman Committee Report.
  - Reversal of the burden of proof. Generally, the law presumes that the accused is innocent until the prosecution proves its case.
- **Uttar Pradesh Recovery of Damages to Public and Private Property Act, 2020:**
  - It aims at "recovery of damage to public or private property during hartal, bandhs, riots, protests etc. through those accused by claim tribunals with no judicial review by any other court.
  - Cost of damages was recovered under this act during the anti CAA protests.



## Governor's Speech

Tamil Nadu Governor stormed out of the State Assembly midway through the proceedings after triggering a controversy by skipping some lines from the customary **Governor's address** prepared by the state government during the opening day of the current session this new year.

### About Governor's Speech

- **Article 176:** It deals with the **special address** given by the Governor, and states that the Governor will address the State Legislative Assembly:
  - ✓ at the commencement of the first session after each general election.

- ✓ at the commencement of the first session of each year.
- ✓ or when both Houses assemble (in the case of a State having a Legislative Council).
- **Content of Speech**
  - ✓ The special address follows the convention of the British system and contains **legislative and policy proposals** that the government intends to initiate.
  - ✓ It recaps the government's accomplishment in the previous years and all its content is put together by aggregating inputs from various ministries of the government.
- After the address is delivered, a debate takes place not only on the contents of the address but also on the broad issues of governance.
- **In Case Of Disagreement With Speech Content, Is The Governor Still Bound To Read It?**
  - ✓ A Governor cannot refuse to perform the constitutional duty of delivering an address to the legislature.
  - ✓ There have been instances where the Governors have refused to read the speeches in other states but in almost all such cases, the Assembly has resolved that the speeches were taken as read avoiding any controversy.
- **Governor's Right To Edit/Delete The Speech**
  - ✓ Article 176 remains silent on the way the address is to be delivered i.e., if any deletions or additions can be made by the Governor.
  - ✓ But as per the convention, the Governor reads out the speech prepared and approved by the state Cabinet and should not deviate from the text, as it is nothing but a statement of policy of the elected government.

### Constitutional Implications

- It **widens the trust deficit** between the Governors and Opposition-ruled governments. Some Opposition CMs merely get the House adjourned (by Speaker), rather than prorogued (by Governor) to avoid the Governor's address.
- Governors editing/deleting the speech may create a **constitutional crisis**.
- The Chief Minister may refuse to defend the address in his response at the end of the debate and with the Chief Minister commanding a majority, the House may reject the resolution on the Governor's speech.
- Defeat of Governor/President's address results in a no-confidence motion and resignation of the Chief Minister or the Prime Minister.
- Such a resignation would not only be grossly unjust and unethical but undemocratic.
- There have been such resignations in the past when the unmodified texts of the Governor's address were not approved by the respective legislative assemblies.
  - Chief Minister Gurnam Singh of Punjab resigned in 1967 when the Governor's address was defeated on the floor of the House.
  - UP CM C B Gupta had to resign in similar circumstances when a resolution thanking the Governor was defeated in the UP assembly.

### Related Judgements

- **Abdul Gafoor Habibullah v. Speaker, West Bengal Assembly (1966)**- In this case, the Calcutta HC held that the Governor cannot decline to deliver his address and refuse to fulfil his constitutional duty. Thus, the address under **Article 176 is mandatory**. If he does so and walks out of the House after laying down the address on the table of the House, this is mere irregularity, not illegality and cannot be questioned under Article 212.
  - ✓ Article 212- It states that the Courts cannot inquire about-
    - The validity of any proceedings of the State Legislature on the grounds of any alleged irregularity of procedure.

- Powers exercised by any officer or member of the State Legislature for regulating procedure or the conduct of business, or for maintaining order.
- **Yogender Singh Handa v. State of Rajasthan (1967)**- The Rajasthan High Court in this case held that some portions read by the Governor were good enough to deem the whole address as read.
- A controversy arose when Governor Dharma Vira skipped certain portions of the speech dealing with the *dismissal of the first United Front Government* in his address to the joint session of the West Bengal legislature in March 1969. The Calcutta HC in this case held that the Governor has the right to delete or not read irrelevant portions or portions which do not deal with the policy of the government.
- **Nabam Rebia Case 2016**- In this case, a five-judge **Supreme Court bench** nullified the action of Governor & observed that the Governor of Arunachal Pradesh, who advanced the session of the assembly without the advice of the Chief Minister, had exceeded his jurisdiction as he had no discretion in convening the assembly session.

### Way Forward

- Chief Ministers must show prudence and not include irrelevant facts or statements that are not related to the business of the House to avoid such instances.
- The Governor should follow his primary role as a sagacious (having good judgement) counsellor and not get involved in tussles with the state governments to prove their loyalty towards their appointing party. Both governors and chief ministers, as constitutional functionaries, should respect each other and have a working relationship.

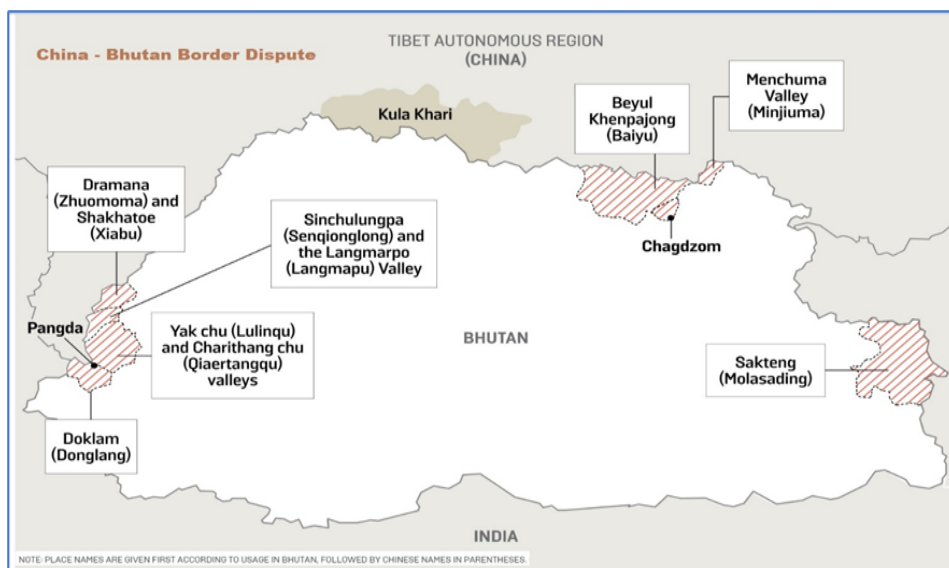


## China - Bhutan Border Dispute

- The 11<sup>th</sup> Expert Group Meeting (EGM) on the China-Bhutan Boundary Issues was held in China's Kunming city.
- After the meeting, both sides announced that a **positive consensus** has been reached to push forward the implementation of all steps of the **Three Step-Roadmap**.

### China - Bhutan Border Dispute

- Bhutan shares a 477 km-long border with China
- China claims certain territories from Bhutan:
  - o **In the north** - Pasamlung and Jakarlung valleys; and
    - Both of these places are culturally vital for Bhutan.
  - o **In the west** - Doklam, Dramana, and Shakhatoe, Yak Chu and Charithang Chu, and Sinchulungpa and Langmarpo valleys.
    - These places are pasture-rich and strategically located in the Bhutan-India-China trijunction, lying precariously close to India's Siliguri Corridor.





- In 2020, China made new claims on Bhutan's East in the **Sakteng sanctuary**.
  - Surprisingly, there has been no mention of Eastern Bhutan in the previous rounds of boundary negotiations held between the two countries.
  - Hence, addition of Eastern Bhutan in the list of disputed territories has baffled Bhutan.
  - This eastern sector of Bhutan has a large Bhutanese population, traditional Dzongs (fortified monastery) and two Bhutanese districts since time immemorial.
  - Some observers viewed that move as a pressure tactic to push Bhutan to accept China's earlier reported offer of a swap of Doklam in the west, which Beijing views strategically, in exchange for Bhutan to retain its northern territories.

### Boundary Negotiation Between Bhutan and China

- Although, Bhutan does not have a formal diplomatic relation with China, the country began its first border negotiations with China in 1984.
- To date, both countries have held 11 expert group meetings and 24 rounds of border negotiations.
- In October 2021, Bhutan and China signed an MoU on the Three-Step Roadmap for Expediting the China-Bhutan Boundary Negotiations. The three-step roadmap has still not been made public.

### China-Bhutan Boundary Dispute And India

- India views Chinese presence near Doklam as a major security concern close to the strategic Siliguri corridor.
- China has also staked claim to a wildlife sanctuary in Bhutan near the border with Arunachal.
- This assumes significance as, in December 2022, Indian and Chinese army troops clashed along the LAC in the Tawang Sector of Arunachal Pradesh.

### Challenges In Solving The Border Dispute Between China And Bhutan

- **Bhutan-China Border Dispute Is Not A Bilateral Issue**
  - The first challenge is to see if China would be keen on discussing the trijunction areas with India.
  - For this, China will to shun its decades-old policy of treating the Bhutan-China border dispute as a bilateral issue and involve India as well.
- **Increasing Chinese expansion In The Western Disputed Regions**
  - India has briefed and sensitized Bhutan of China's increasing inroads on multiple occasions.
  - Bhutan lacks the material capability and presence to avert these continuing intrusions.
  - Despite this, it stays reluctant to seek more Indian assistance, fearing more Chinese assertiveness.
- **China Is Keen On Establishing Diplomatic Relations With Bhutan**
  - China's solution to border disputes has often been inclusive of establishing diplomatic relations with Bhutan.
  - Such demands from Beijing will only intensify as its tensions with the US and India increase.



## India, Egypt Declare 'Strategic Partnership'

President of the Arab Republic of Egypt, Abdel Fattah El-Sisi, paid a State Visit to India. He was also the Chief Guest at India's Republic Day in 2023. A military contingent from Egyptian Army also participated in the Republic Day parade.

## Key Highlights Of The Visit

- Both sides decided to elevate the relationship to “**Strategic Partnership**” covering political, security, defence, energy and economic areas.
- Both sides exchanged the Commemorative Postal Stamps to mark **75 years of establishment of India-Egypt relationship**.
- MoU in the area of Cyber Security, Information Technology, Cooperation in Youth Matters, in the field of Culture and broadcasting were signed.
- Both sides have decided to take the bilateral trade to 12 billion dollars in the next five years.

## Why Was Egypt Chosen As The Guest Country At Republic Day Event This Year

- **Push to Engage the Global South:** The invitation to Mr. Sisi was seen as part of the government’s push to engage the Global South.
- **Rekindling of the Principles of Non-alignment** that have come back to the fore during Russia – Ukraine war.
- **Strategic Weight of Egypt:** With a population of almost 110 million, Egypt is situated at a location that straddles Africa and Asia.
  - It has a **standing army** that is the largest in the region, a capital that hosts the League of Arab States and a **diplomatic presence** that punches above its weight in global affairs.
  - India is keen on further expanding its ties with Egypt, a **key player in the politics of both the Arab world as well as Africa**.
- **Economic Importance of Egypt**
  - Egypt has boosted its attractiveness through a series of free trade agreements that span Africa (ACFTA; AGADIR; COMESA), Europe (EFTA), Latin America (MERCOSUR) and the Arab world (GAFTA).
  - It is also seen as a major gateway to markets in Africa and Europe.
- **Egypt’s Plans To Develop the Suez Canal Economic Zone (SCZONE) Into A Global Manufacturing Hub**
  - The ambitious plans to develop SCZONE into a global manufacturing hub are now gathering critical mass.
  - SCZONE sits astride both banks of the Suez Canal, a strategic waterway that connects the Mediterranean with the Red Sea to provide the shortest link between European and Asian markets.
    - Almost 20% of global container trade takes place through this canal.
  - China, as usual, has been the first to take advantage of the opportunities presented by SCZONE.
    - China views SCZONE as a vital part of its Belt and Road and Maritime Silk Road projects.
  - A deeper economic engagement with Egypt therefore acquires an additional strategic imperative.
- **Resetting India’s Ties With Muslim-Majority Countries**
  - India’s ties with Muslim-majority countries were tested following controversial remarks made by then spokesperson of ruling party in June 2022.
  - That Egypt was one of the few countries from the Arab world which did not react officially to the controversial remarks.

## India-Egypt Bilateral Relations

- India and Egypt, two of the world’s oldest civilizations, have enjoyed a history of close contact from ancient times.
  - Ashoka’s edicts refer to his relations with Egypt under Ptolemy-II.
- Close friendship between President Nasser and PM Nehru led to a **Friendship Treaty** between the two countries in **1955**.

## Political Relations

- Both countries have cooperated closely in multilateral fora and were the founding members of NAM.
- The year 2022 marked the 75th anniversary of diplomatic relation between India and Egypt.
- Egypt has been invited as a **Guest Country** during India's Presidency of G-20.

## Economic Relations

- Bilateral trade has expanded rapidly in 2021-22, amounting to 7.26 billion registering a 75% increase compared to FY 2020-21.
  - India's exports to Egypt during this period amounted to US\$ 3.74 billion and Egypt's exports to India reached US\$ 3.52 billion.
- India was the 6<sup>th</sup> most important trading partner for Egypt in FY2021-22.
- Around 50 Indian companies have invested in various sectors in Egypt with a combined investment exceeding US\$ 3.15 billion. Egyptian investments in India are to the tune of US\$ 37 million.
- **Wheat Export From India**
  - Russia-Ukraine conflict has threatened Egypt with a shortage for wheat, 80% of which is imported from Russia and Ukraine.
  - In April 2022, Egypt announced inclusion of India in the list of accredited countries which can supply wheat to Egypt, thus ending a long pending Non-Tariff Barrier.
  - In May 2022, India — which had put a ban on export of wheat — allowed export of 61,500 tonnes to Egypt.

## Development Cooperation

- **The grants-in-aid projects include:**
  - Pan Africa Tele-medicine and Tele-education project in Alexandria University, Solar electrification project in Agaween village and Vocational Training Centre for textile technology in Shoubra, Cairo, which have been completed.
- **Technical cooperation and assistance**
  - Since 2000, over 1300 Egyptian officials have benefited from Indian Technical and Economic Cooperation (ITEC) and other programs like ICCR and IAFS scholarships.

## Defence Relations

- The first ever IAF-EAF Joint Tactical Air Exercise, **Dessert Warrior**, was held in Egypt in October 2021.
- For the first time, Indian Air Force (IAF) participated in Tactical *Leadership Programme* of Egyptian Air Force (EAF) Weapons School in 2022.
- Cyclone Exercise between two countries was held in Jan 2023 in India.

## Cultural Relation

- The Maulana Azad Centre for Indian Culture (MACIC) has been promoting cultural cooperation between the two countries.
- The iconic **Cairo Tower** (which is the tallest tower in North Africa) was **illuminated with Indian National Flag** in the evening of 15th August 2021.

## Conclusion

Cairo hopes for deeper and more strategic relations with New Delhi and vice-versa, and there's a lot of untapped potential. Cairo and New Delhi should strive together to create a global system that preserves the cultural

specificity of non-Western nations, contains global disorder, resists Western practices of coercion, and promotes equity between East and West, North and South.



## India Sends Notice To Pakistan To Amend IWT

India has sent a notice to Pakistan for the modification of **1960 Indus Waters Treaty (IWT)**. This was sent after Pakistan **unilaterally** tried to change the **process of resolving disputes** between the two sides.

### What Is India's Notice About?

- The notice, sent through the Commissioner of Indus Water, has invoked **Article XII (3)** of the treaty which says:
  - o The provisions of this Treaty may from time to time be modified by a duly ratified treaty concluded for that purpose between the two Governments.

#### Indus Water Treaty (IWT)

- It is a water-distribution treaty between India and Pakistan, brokered by the **World Bank**.
- IWT was signed by the then Prime Minister Jawaharlal Nehru and then Pakistani President Mohammed Ayub Khan in Karachi on September 19, 1960, after nine years of negotiations between the two countries.
- According to this treaty, **three rivers: Ravi, Sutlej and Beas were given to India** and the other **three: Sindh, Jhelum and Chenab were given to Pakistan**.



#### Rights & obligations under this treaty

- India is under obligation to let the waters of the western rivers flow, **except for certain consumptive use**.
- The treaty allocates Pakistan approx. 80% of the entire water of the six-river Indus system and reserved for India just remaining 19.48% of the total waters.
- India can construct storage facilities on western rivers of up to 3.6-million-acre feet, which it has **not done so far**.
- The IWT permits run of the river projects and require India to provide Pakistan with prior notification, including design information, of any new project.

- The notice gives Pakistan **90 days** to consider entering into intergovernmental negotiations to rectify the material breach of the treaty.
- This process would also update the IWT to incorporate the lessons learned over the last 62 years.

### Dispute Redressal Mechanism Under The Treaty

**Article IX** of the Treaty is a dispute resolution mechanism - **graded at three levels** to resolve a difference or a dispute related to projects on the Indus waters.

#### First level

- Either party has to inform the other side if they are planning projects on the Indus River with all the information that is required or asked for by the other party.
- This process is done at the level of the **Permanent Indus Commission (PIC)**, created to implement and manage the goals of the IWT.
- If PIC is unable to solve the question in contention, the question becomes **difference** and goes to second level.

#### Second level

- The second grade is the **World Bank appointing a neutral expert** to resolve the differences
- If a neutral expert cannot resolve the issue, the difference becomes a **dispute** and goes to third level.

The matter goes to a **Court of Arbitration (CoA)** whose chair is appointed by the World Bank.

### Why Has This Notice Been Sent To Pakistan?

- **Background**

- The notice appears to be a fallout of a longstanding dispute over two hydroelectric power projects that India is constructing:
  - one on the Kishanganga river, a tributary of **Jhelum**, and
  - the other on the **Chenab** - Ratle Hydro Electric Projects.
- Both India and Pakistan differed on whether the technical details of the hydel projects conformed with the treaty, given that the Jhelum and Chenab were part of the “western tributaries”.
- In **2015**, Pakistan requested the appointment of a **Neutral Expert** to examine its technical objections to these projects.
- In **2016**, Pakistan unilaterally retracted its request to appoint a Neutral Expert and proposed that a **CoA** adjudicate on its objections.
- On the other hand, in 2016, India requested a Neutral Expert to be appointed as this was an important part of the process which Pakistan was trying to skip.
- As a result, the World Bank paused the process since two separate requests had been made by the two sides.
- It asked India and Pakistan to resolve it through the PIC level of Indus commissioners.

- **Actions On Both The Neutral Expert And Court Of Arbitration (CoA) Processes Initiated**

- Despite the directive from World Bank, Pakistan refused to discuss the issue during the meetings of the Permanent Indus Commission (PIC). Five meetings of the PIC were held from 2017 to 2022.
- In March 2022, at Pakistan’s continuing insistence, the World Bank initiated actions on both the Neutral Expert and CoA processes.

- **India Not Satisfied With The Initiation Of Two Concurrent Processes**

- India insisted that there cannot be two processes for the same dispute.
  - If the two give different outcomes, then the workability of the IWT comes into question.
  - Such parallel consideration of the same issues is not covered under any provision of the IWT.

- **Notice of Modification to Pakistan**

- India stuck to the graded dispute solving mechanism of IWT. It kept attending the Neutral Expert meetings, but it did not send any representative for the **CoA** meetings.
- Later, Pakistan took **unilateral** decision to approach the **Permanent Court of Arbitrage** at The Hague. India has boycotted this court process.
- With no choice left, India was compelled to issue a notice of modification.

### Why Does India Want To Modify The IWT?

- Under Article 60 of the **Vienna Convention** on the Laws of the Treaties, a party can criticise an agreement and give notice of its intention to terminate it if the other party violates its fundamental provisions.
- **India has adopted the moderate approach** of not terminating but modifying the IWT.
- New Delhi claims that Islamabad **has violated the dispute settlement mechanisms**, as mandated by Articles 8 and 9 of the Treaty.
  - **Article 8** specifies the roles and responsibilities of the PIC



- **Article 9** offers a graded pathway (Neutral Expert, Court of Arbitration) to address any issue related to the implementation or interpretation of the IWT.

### Conclusion

- Considered as the world's most generous water-sharing treaty, IWT has survived the three wars of 1965, 1971 and 1999 as well as various tense stand offs between the two countries.
- But over the last few years, especially since the Uri attack, there has been a growing demand in India to use the Indus Waters Treaty as a strategic tool.
  - After Uri attack, the Indian PM had famously said that blood and water could not flow together.
  - Also, India had suspended routine bi-annual talks between the Indus Commissioners of the two countries.
- Although India has not spelled out exactly what it wants modified in the Treaty, the current notice opens the possibility of India proposing major changes to the treaty and even the idea of altering it completely.



## Village Defence Committees

- After the recent killing of innocent villagers of Jammu and Kashmir, locals have demanded that they be provided **weapons** to take on attackers.
- Responding to the demands, Lt Governor Manoj Sinha assured the people that they would get a **Village Defence Committee (VDC)** on the lines of those in **Doda district**.
  - ✓ The VDCs have now been renamed as **Village Defence Guards (VDG)**.

### Reasons Behind The Demand For Arming Civilians

- **Revival Of Attacks In J&K Targeting Minorities And Non-Locals**
  - This targeted killing is aimed at creating an atmosphere of fear and damage communal harmony.
  - This has revived the memories of the mass exodus of minority communities that took place in the early 1990s.
- **Shift In Strategies By Militants Are Posing New Challenges For Security Agencies**
  - Almost all civilian killings have been carried out by newly recruited terrorists or those about to join the ranks.
    - Previously, full-time militants used to go missing from their villages or advertise themselves on social media. Thus, it was easy to track them. While, these part-timers are difficult to track.
    - These neo-recruits of hybrid terrorists, who beat surveillance with one-off attacks, helps Pakistan-based masterminds maintain deniability.
  - Nearly all civilian killings were carried out using pistols. These weapons were brought in using drones from across the border.
    - The pistols were delivered to these neo-recruits by Pakistani handlers specifically for the strikes and later taken back. This allowed them to conveniently return to their homes in populated neighbourhoods.

### How Are Village Defence Guards (VDGs) Different from VDCs?

- Both VDG and VDC are a group of civilians provided guns and ammunition to tackle militants in case of attack until the arrival of security forces.
- Under the new scheme, the persons leading the VDGs will be paid Rs 4,500 per month by the government, while others will get Rs 4,000 each.

- In the VDCs, only the Special Police Officers (SPOs) leading them were provided a remuneration, of Rs 1,500 monthly.
  - The SPOs, the lowest rank in the J&K Police, used to be retired army, para military or police personnel.
- The VDCs will function under the direction of the SP/SSP of the district concerned.

- The VDCs were first formed in the erstwhile Doda district (now Kishtwar, Doda and Ramban districts) in mid 1990s as a force multiplier against militant attacks.
  - The then J&K administration decided to provide residents of remote hilly villages with **weapons and give them arms training** to defend themselves.
- The new scheme to set up VDCs in vulnerable areas of J&K was **approved by the Union Ministry of Home Affairs in March 2022.**
- Like a VDC member, each VDG will be provided a gun and 100 rounds of ammunition.

## VILLAGE DEFENCE COMMITTEE



### WHY WAS THE NEED TO SET UP VDCS FELT?

- The militancy that began in Kashmir in the early 1990s had spread to the adjoining Doda district by mid 1990s.
- The demand for arming the civilian population first rose after the massacre of 13 people in Kishtwar in 1993.
- As the killings increased, prompting the migration of Hindus from villages to nearby towns, the Home Ministry in 1995 decided to set up the VDCs.

### Contribution of VDCs In Fight Against Militants

- During the peak of militancy in most parts of Jammu division, the VDCs played a significant role in combating militancy.
- They were the most-feared armed groups among militants in areas where poor road networks delayed the arrival of security forces.
- The villagers, well-versed with the local topography, averted many militant attacks and helped in their capture and killings.

### Controversies

- Along with the successes, the VDCs also faced allegations of human rights violations and other crimes, including murder, rape and extortions.
- As per official figures placed on the floor of the erstwhile J&K Legislative Assembly in 2016, 27,924 civilians were serving in 4,248 VDCs across the state.
- After peace returned, there were demands from certain quarters to disband the VDCs in 2002.
- Over a period of time, the number of VDC members has dropped significantly, either because of their involvement in a criminal case, or the government taking back their weapons once they turned 60.

### Current Situation Of Militancy In J&K?

- According to official figures, a total of 186 militants, including 56 foreigners, were killed in 98 successful encounters in J&K during 2022.
- The year saw a 37% decline in local youth joining terror ranks, from the previous year.
- Of the 100 youth who joined militancy in this period, 17 were arrested and 65 killed in encounters.

# Women In Armed Forces

The Indian **Army** is conducting women officers **Special Selection Board** for promotion from the rank of **Lieutenant Colonel to Colonel**. As many as 244 women officers are being considered for promotion against 108 vacancies in various arms and services. Once promoted to the rank of Colonel, **these women will be eligible to command units in their respective arms and services for the first time.**

## Participation of Women in Defence Sector

The Indian armed forces began inducting women in the **non-medical branches** in the year 1992, as short service commission (SSC) officers. The scheme initially allowed for a five-year service period, which was revised to 14 years. Over 10,400 women officers are serving in the three services as of March 2022

Army (as on 1 <sup>st</sup> July, 2022)	Officers (Excluding AMC/ADC)	3.97%
	Officers (AMC/ADC)	21.25 %
	MNS Officers	100%
	JCO/OR	0.01%
Navy	Officers	About 6%
Air Force (as on 1 <sup>st</sup> Dec, 2022)	Officers (excluding Medical & Dental Branch)	13.69%

- **Navy**

- o The induction of women as officers in the Indian Navy commenced in the year **1991**.
- o Since then, the Indian Navy has gradually opened **all branches** to women officers including induction through NDA.
  - In Navy, women are engaged in activities such as firing torpedoes and missiles at enemy warships.
  - Women officers also serve on board naval warships in combat, even though discharging non-combat roles.
- o In **2020**, Indian Navy started deploying its first batch of **women pilots** on the Dornier maritime aircraft.
- o Further, for the first time, women are also being recruited for sailors' entries under the Agnipath Scheme w.e.f. 2022. 20% vacancies are reserved for women.

- **Air Force**

- o Officers' recruitment in IAF is **gender neutral**. Women officers are inducted in all the branches and streams of IAF.
- o In **2015**, Indian Air Force had opened **new combat roles for women as fighter pilots**.
- o This experimental scheme to induct women officers in all combat roles has now been regularised into a permanent scheme.

- **Army**

- o Initially, woman officers were permitted **Permanent commission (PC)** in only two services **Judge Advocate General's Branch** and **Army Education Corps**
- o In February 2020, the Defence ministry permitted short-service commission (SSC) women officers in **another** eight services (non-combat support units) to be granted PC.
  - This happened after the Supreme Court, in February 2020, granted **women the right to permanent commission (PC), and the right to command** non-combat support units.
- o Hence, at present, the women are being commissioned in Indian Army in 10 Streams.

- o Now the prestigious National Defence Academy (NDA) has started accepting women cadets.
  - In 2021, the Supreme Court (SC) allowed women to appear for the upcoming entrance exam of the National Defence Academy (NDA).
- o So far, **no combat role has been given to women in Army.**
  - The ‘no women in combat’ rule was not challenged in the SC and the apex court did not rule on this.

### Recent Developments in Army

- For the first time, five women officers have cleared the prestigious Defence Services Staff Course (DSSC) and Defence Services Technical Staff Course (DSTSC) Exam.
- Recently, a women officer has been deployed, for the first time, to a post in the Saichen Glacier.
- The Army has so far recruited six meritorious sportswomen into the Corps of Military Police under its **Mission Olympic Programme.**
  - The Indian Army was the first among the three Services to open its soldier ranks to women in the Corps of Military Police.
- In January 2023, Indian Army deployed its largest-ever contingent of women soldiers for UN peacekeeping operations in the volatile oil-rich Abyei region of Africa.
  - This is **India’s largest single unit of women peacekeepers** in a UN Mission.

### Women In Combat Role: A Debate

#### Arguments Opposing The Combat Role

- **Physical Ability** - The standards of physical fitness have been set to suit men, and women attempting to reach them will over-stretch themselves and will suffer high injury rates.
- **Additional Burden** - integration of women through regulatory and disciplinary costs associated may not make it a worthwhile move.
- **Military readiness** - Pregnancy can affect the deployability of a unit when the unit has a disproportionate number of women or is understaffed.
- **Abuse by Enemy** - Both male and female prisoners are at risk of torture and rape, but misogynistic societies may be more willing to abuse woman prisoners.
- **Possible insubordination** – In India, most of the jawans are from rural origin. They may not be ready to accept a woman as their officer.

#### Arguments in Support

- **Ability vs Gender** - As long as an applicant is qualified for a position, one’s gender is arbitrary.
- **Military Readiness** - Women, who choose to become active combat soldiers, are unlikely to evade their duty by becoming pregnant after a call-up.
- **Changing Traditions** - Cultures change over time and the masculine subculture can evolve too. Many previously masculine professions have been successfully opened to women over the past century.
- **Wider base** - Having a wider personnel base allows militaries to have the best and most diplomatic soldiers working to end conflict quickly.

#### Conclusion

- Tanks and combat positions in Army are still no-go zones for women in India.
- Many countries including Germany, Australia, Canada, US, Britain, Denmark, Finland, France, Norway, Sweden and Israel have allowed women in combat roles.
- India can certainly gain from their experience although there is a variance in the cultural milieu.



# Chinese Commercial Companies & India's Internal Security

Recently held 57<sup>th</sup> Director General of Police (DGP) conference discussed the issue of influence wielded by Chinese commercial firms. The three-day Conference was held in **hybrid format** in New Delhi.

## What Were The Findings Of Investigating Agencies?

- The assessment by agencies found that the Chinese commercial entities operate in India with five primary objectives:

Influencing minds

Build economic control

Acquisition of data

Espionage

Target scientists to compromise innovation and IPRs

- The objective of counterintelligence is pursued through top officials of Chinese companies in India.
- Small-size **shell companies** were also used as financial conduits to fund **espionage rings** and **resident agents**.

## What Is The Modus Operandi Of These Entities?

- Hundreds of small companies controlled by Chinese nationals have **dummy Indian directors and managers** for a show of legitimacy.
  - Many of these companies did not physically exist at their registered offices. However, their banking accounts were active and being operated from abroad.
- A **cheap (and sometimes *below production cost*) pricing model** has given them control of a large chunk of the telecom and hardware markets in India.

### CHINESE COMMERCIAL COMPANIES AND INDIA'S INTERNAL SECURITY

- A disturbing picture of **Chinese Commercial Entities (CCE)** has emerged after a series of actions by Indian authorities since 2020.
  - The investigation began after the June 15, 2020, incident in Ladakh's Galwan.



- Actions by Indian authorities included busting of spying rings, tax raids on major Chinese telecom companies, a crackdown on mobile apps and a study of incoming investments into India.
- The actions by these agencies revealed a web of companies and individuals indulging in espionage, profiling of high value individuals, large-scale tax evasion and exfiltration of bulk data.
- These facts point to Beijing's growing hunger for data and secrets.

- Investigations also show that some senior Chinese employees of these companies are documented members of the **Chinese Communist Party**.
- Agencies also found a seamless flow of data to Chinese servers through remote access of modems, switches, routers and networks sold and installed by these companies in India.
- Similarly, a seamless data link through Chinese origin mobile phones was also established during investigations.
  - The data collected has helped Chinese artificial intelligence (AI) engines create portraits, with biometric details of millions of Indians.

## Threat for India's Internal Security

- Access To Personal Data Of Indians:** Investments by Chinese companies such as **Alibaba and Tencent** were used to manage and control Indian companies which had a repository of large set of personal data of Indians. The objective is of gaining strategic advantage over India's economic and security systems.



- **Influencing Minds**

- o Deep cover resident agents, posing as officials of these companies, are attempting to fund and influence masses in India.
- o This is being done to foment the sentiments of masses and create internal disturbances.
- o Such entities are also used to influence Tibetan monks living in India.
  - Chinese national **Luo Sang** (*alias Charlie Peng*), who was arrested for money laundering in August 2020, was actively sending money in packets to Tibetan monks.
  - Agencies are suspecting that it was intended to gather information about the Dalai Lama and the Tibetan government in exile.

**About Fourth Generation Warfare (4GW)**

- The goal of 4GW is collapsing the enemy internally rather than physically destroying him.
- Targets will include such things as the population's support for the war and the enemy's culture.
- 4WG seems likely to be widely dispersed and largely undefined; the distinction between war and peace will be blurred to the vanishing point.
- It will be non-linear, possibly to the point of having no definable battlefields or fronts.
- In other words, 4GW is conflict characterized by a blurring of the lines between war and politics, combatants and civilians.

- **Espionage and Money Laundering**

- o E.g., operating under the name of Charlie Peng, the web is believed to have laundered over Rs 1,000 crore, with some of the proceeds used to gather intelligence in India.
- o Recently, a top executive of a telecom company found in the possession of sensitive documents.
- o The investigation also revealed of exhaustive profiling of key business leaders.

### **Steps Taken By The Government**

- **Crackdown by Investigating Agencies**

- o Chinese commercial entities (CEC) are under sustained investigation by the intelligence agencies since 2020. Multiple raids have been conducted by the ED under the provision of Prevention of Money Laundering Act, 2002.

- **Clampdown on Chinese Investment**

- o In 2020, Central govt declared that foreign investments from countries with which India shares land border shall be under **approval route.**
- o This announcement clamped down on investments from China making prior government clearance mandatory for all forms of investments, even indirect ones.

- **Ban on Chinese App**

- o The govt of India has banned more than 250 Chinese apps including PUBG Mobile, Tiktok, Shein, AliExpress and more.

- **Other Steps**

- o Intelligence Bureau created a new wing — **China Coordination Centre** — to collaborate with financial enforcement agencies to investigate Chinese companies.

Th border tensions propelled by China were aimed “to keep India constrained and occupied in facing the resultant challenges” and “force resolution of bilateral issues on its own terms”. India thus needs to use its soft power in terms of culture, tradition, religion, and language to counter the growing influence of Chinese commercial entities.



# Rare Earth Elements (REE)

A **Swedish** mining company has identified more than **1 million tonnes** of rare earth oxides in the country's far north, the largest known such deposit in Europe.

## About Rare Earth Elements

- These are a set of **17 metallic elements**.
  - These include the **15 lanthanides** on the periodic table plus **Scandium and Yttrium**.
- REEs are classified as light RE elements (LREE) and heavy RE elements (HREE).
- 17 metallic elements are lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, scandium, yttrium.
- They are called rare because it was difficult to extract them from their oxide's forms.
- **China** alone accounts for *44 million tonnes* of reserves followed by Vietnam, Brazil and Russia.

## Significance of Rare Earth Elements

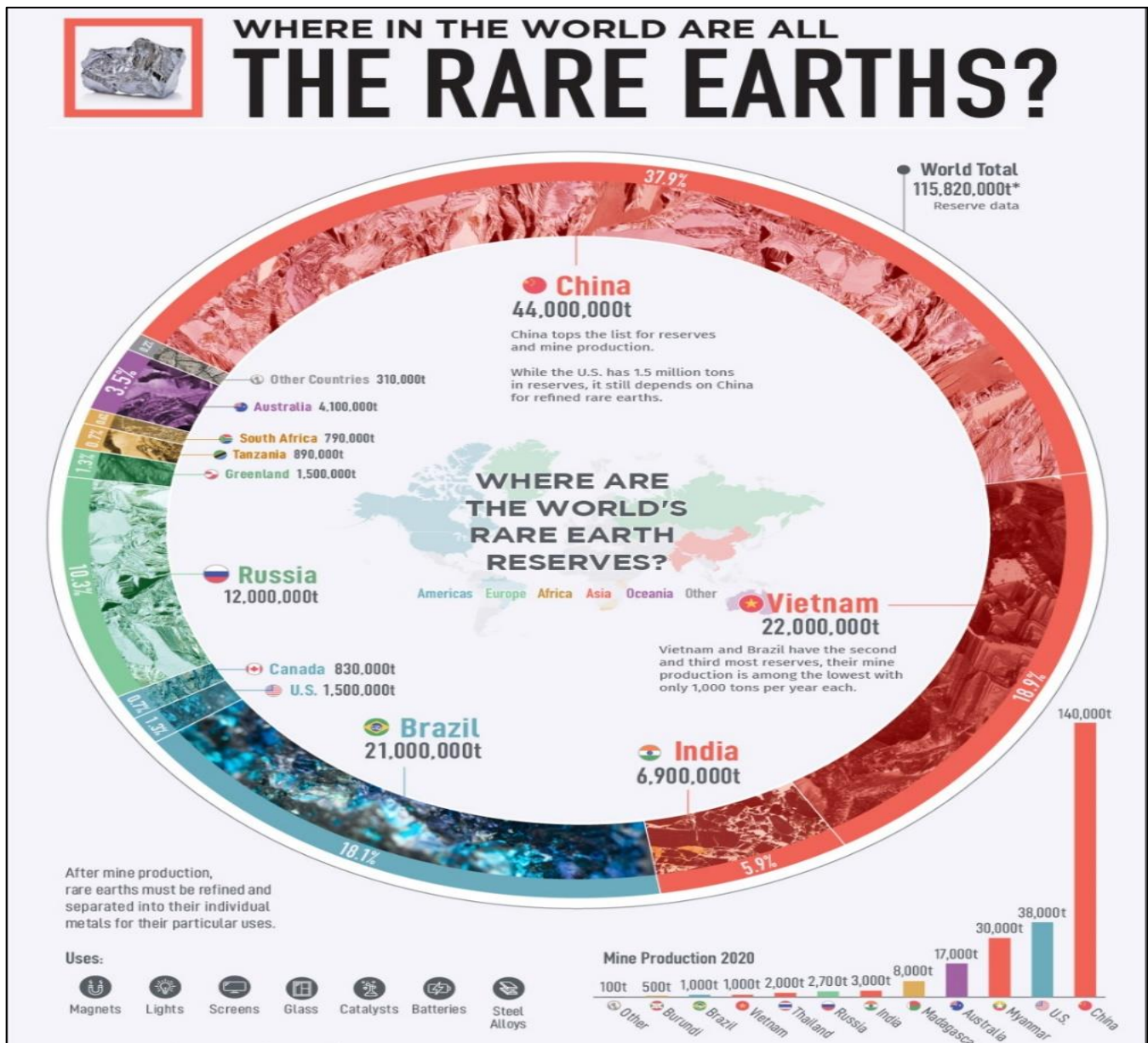
- These have unique magnetic, luminescent, and electrochemical properties.
- These are necessary components, especially for high-tech consumer products, such as cellular telephones, computer hard drives, and flat screen monitors and televisions.
- They're also used in electric car motors(neodymium), lithium-ion batteries, solar panels, wind turbines (*neodymium and dysprosium*) and to transitioning to a clean-tech-driven economy.
- Scandium is used in televisions and fluorescent lamps, and yttrium is used in drugs to treat rheumatoid arthritis and cancer.
- Used in space shuttle components, jet engine turbines, and drones. E.g., Cerium is essential to NASA's Space Shuttle Programme.

## Rare Earth Elements in India

- India has the world's 5th-largest reserves of rare earth elements. India has 6% of the world's rare earth reserves but it produces 1% of global output.
- Geologically the entire landmass around the Indian Ocean contains rare earth element in the surrounding rocks.
- Some REE are available in India such as Lanthanum, Cerium, Neodymium, Praseodymium and Samarium.
- Others such as Dysprosium, Terbium, Europium that are classified as HREE are **not available** in Indian deposits in extractable quantity. Hence, **there is a dependence on countries such as China for HREE**
- **Monazite sand** is the principal source of rare earths (lanthanum, cerium, praseodymium, neodymium, etc.) and thorium.
- Rare earth elements contribute a total value of nearly \$200 billion to the Indian economy.
- Indian Rare Earths Ltd (IREL), the government-owned company is involved in the extraction and processing of rare earth elements.

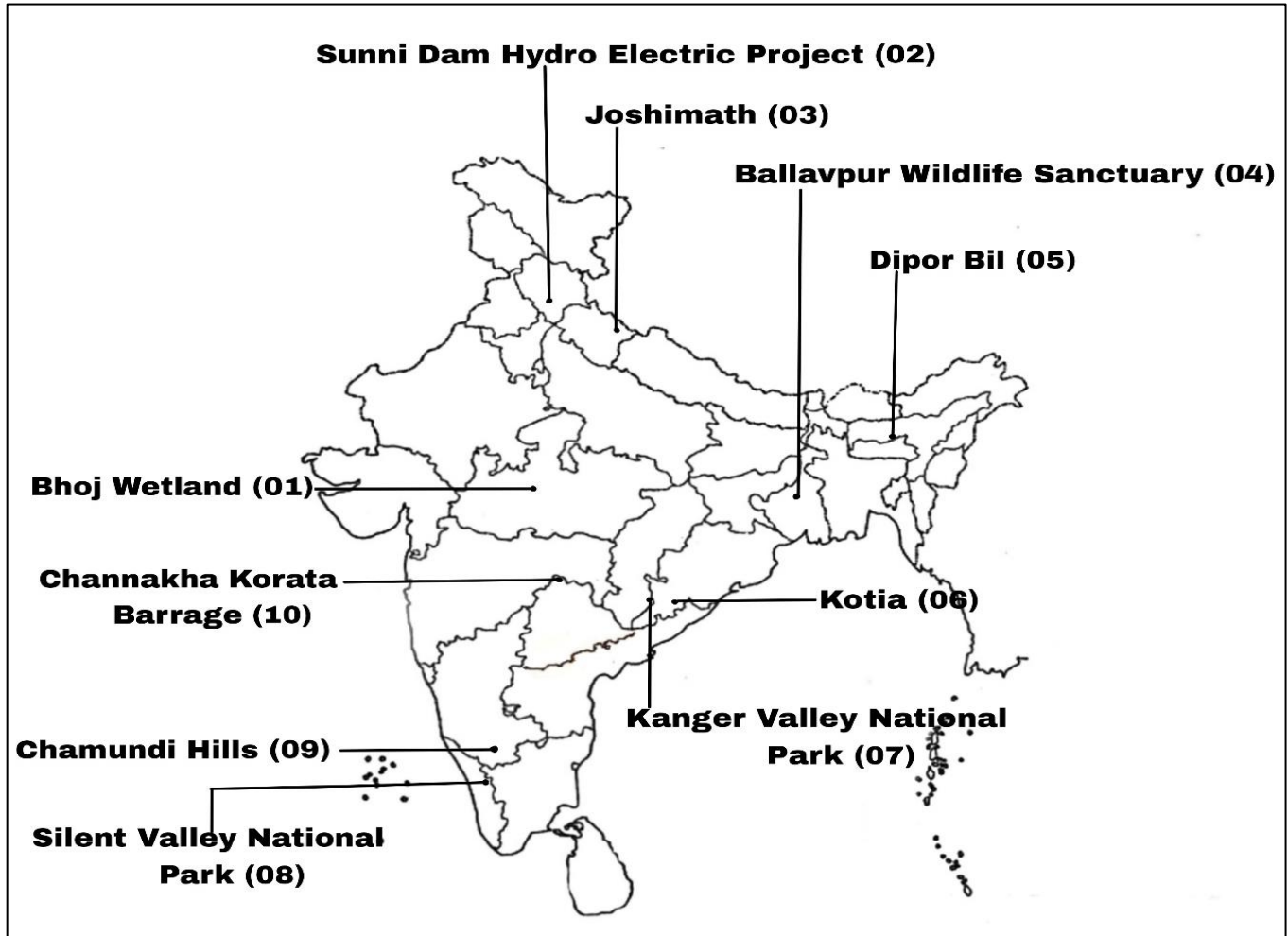
## What Does The Discovery Mean For Europe And The World?

- **Relief to western countries** against the backdrop of the fraught relations between China and other western countries
- **Breaking Chinese monopoly:** Globally, China holds a monopoly over rare earths production, following the withdrawal of USA from this business due to environmental and health issues.
- **Boost to Minerals Security Partnership (MSP)**
  - In August 2022, US and 10 other Partners came together for this alliance known as MSP.
    - Partners include Canada, Australia, Finland, Germany, France, Japan, Republic of Korea, **Sweden**, UK, US, and European Commission.
  - The goal of the MSP is to ensure that **critical minerals (Cobalt, Nickel, Lithium etc and also the 17 “rare earth” minerals)** are produced, processed, and recycled in a manner that supports the ability of countries to realize the full economic development benefit of their geological endowments.
  - The alliance was seen as primarily focused on evolving an alternative to China.



## MAPS: PLACES IN NEWS

### National Places In News



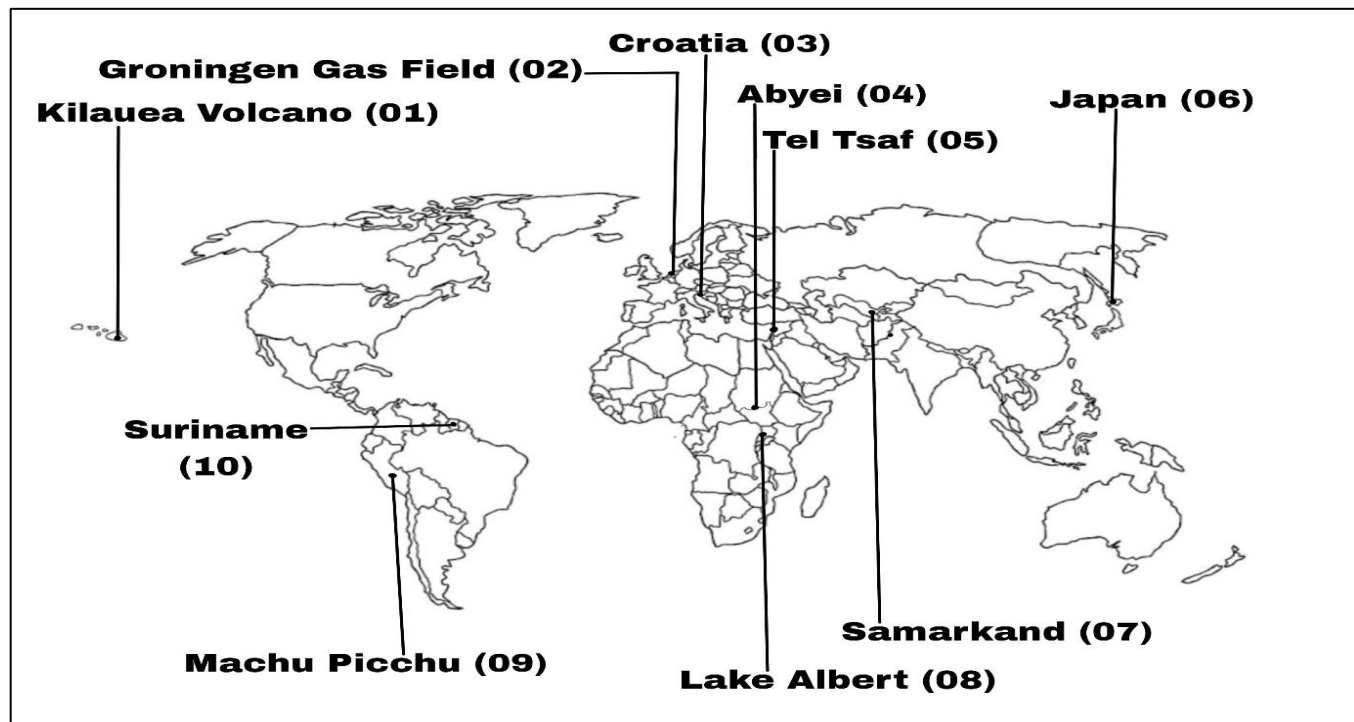
01	<b>Bhoj Wetland</b>	<ul style="list-style-type: none"> <li>The National Green Tribunal has directed the Central Pollution Control Board (CPCB) and Madhya Pradesh Pollution Control Board (MPPCB) to periodically monitor the activities of a cruise vessel polluting the Bhoj wetland.</li> <li>It consists of two contiguous human-made reservoirs, the upper and lower lakes located in Bhopal, Madhya Pradesh.</li> <li>The lakes are very rich in biodiversity, particularly for macrophytes, phytoplankton and zooplankton.</li> <li>It was designated as the Ramsar site in 2002.</li> </ul>
02	<b>Sunni Dam Hydro Electric Project</b>	<ul style="list-style-type: none"> <li>The Central government approved an investment of Rs 2,614 crore for 382 MW for Sunni Dam Hydro Electric Project in Himachal Pradesh.</li> <li>It is a run of the river type development proposes to harness the hydel potential of river Satluj.</li> <li>It will be governed by Indus water Treaty signed between India and Pakistan in 1960 as the project lies in Satluj basin (part of Indus basin)</li> </ul>

		<ul style="list-style-type: none"> <li>The objective behind generating hydroelectric power resources is to produce as much energy as possible, with minimum cost and fewer negative impacts on the environment.</li> </ul>
03	<b>Joshimath</b>	<ul style="list-style-type: none"> <li>Due to land subsidence, roads and over 560 houses in Joshimath developed cracks.</li> <li>The town fall in high-risk seismic Zone-V of the Chamoli district, Uttarakhand.</li> <li>It is traversed by running streams with a high gradient from Vishnuprayag, a confluence of the Dhauliganga and the Alaknanda rivers.</li> <li>It is a gateway to several Himalayan Mountain climbing expeditions, trekking trails (Auli, Valley of Flowers) and pilgrim centres like Badrinath and Hemkund Sahib.</li> </ul>
04	<b>Ballavpur Wildlife Sanctuary</b>	<ul style="list-style-type: none"> <li>Nature enthusiasts have voiced their concern over the recent decline in the number of migratory birds visiting the Ballavpur Wildlife Sanctuary, West Bengal.</li> <li>It is also known as Deer Park and was established in 1977.</li> <li>This area lies between two mighty rivers the Damodar and the Ajay.</li> <li>It has dense local vegetation of Sal, Akashmoni, Sishoo, Cashewnut, Amlaki, Bahera and Haritaki.</li> <li>It also has a deer conservation park which is home to a large number of deer including Cheethals (Spotted Deer) and the Blackbucks.</li> </ul>
05	<b>Deepor Beel</b>	<ul style="list-style-type: none"> <li>Guwahati Wildlife Division of the Assam Forest Department conducted the 2nd Bird Species Count Exercise in Deepor Beel Wetland.</li> <li>It is considered one of the largest freshwater and important riverine wetlands in the Brahmaputra Valley of lower Assam.</li> <li>Due to the richness of avian fauna, it has been selected as one of the Important Bird Area (IBA) sites by Birdlife International.</li> <li>It was designated as a Ramsar site in 2002.</li> </ul>
06	<b>Kotia</b>	<ul style="list-style-type: none"> <li>Odisha government has mooted a proposal allowing officers above joint secretaries to reach Kotia, using flight service to review progress on developmental activities.</li> <li>It is a territory claimed by both Odisha and Andha Pradesh.</li> <li>The area is reported to be rich in mineral wealth.</li> </ul>
07	<b>Kanger Valley National Park</b>	<ul style="list-style-type: none"> <li>A rare orange-coloured bat, also known as 'painted bat' was spotted in Chhattisgarh's Kanger Valley National Park.</li> <li>This National Park derived its name from the Kangar river.</li> <li>It was established as national park in the year 1982.</li> <li>This Park is home to three exceptional caves – famous for their amazing geological structures of Kutumbasar, Kailash and Dandak</li> <li>The structures are composed of Stellagmites and Stalactites.</li> <li>Tirathgarh Waterfall is located in this park.</li> </ul>
08	<b>Silent Valley National Park</b>	<ul style="list-style-type: none"> <li>A bird survey conducted at the Silent Valley National Park identified 141 species, of which 17 were new.</li> <li>It is located in Kerala, in the Southwestern corner of Nilgiris and declared as a national park in 1984.</li> </ul>



		<ul style="list-style-type: none"> <li>• Bhavani River, a tributary of Kaveri River, and Kunthipuzha River, a tributary of Bharathappuzha river, originate in the vicinity of Silent Valley.</li> <li>• The Kadalundi River has also its origin in Silent Valley.</li> <li>• Tribals found inside are: <b>Irulas, Kurumbas, Mudugas and Kattunaikkars.</b></li> </ul>
09	<b>Chamundi Hills</b>	<ul style="list-style-type: none"> <li>• The citizens committee have urged the government to conserve &amp; promote the religious sanctity and environmental integrity of Chamundi Hills under Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive (PRASHAD) scheme.</li> <li>• It is located in Karnataka.</li> <li>• The famous Sri Chamundeshwari Temple dedicated to the Hindu goddess Chamundeshwari is situated on top of Chamundi hills.</li> <li>• These hills are mentioned in the ancient Hindu texts 'Skanda Purana'.</li> </ul>
10	<b>Chanakha-Korata Barrage</b>	<ul style="list-style-type: none"> <li>• The Inter-State Channaka-Korata (Rudha) Barrage got environmental clearance.</li> <li>• It is a Telangana-Maharashtra joint project on the Penganga River.</li> <li>• Penganga River originates in the Ajantha ranges in Aurangabad district in Maharashtra.</li> <li>• The famous Sahastrakund falls on this river.</li> </ul>

### International Places in News

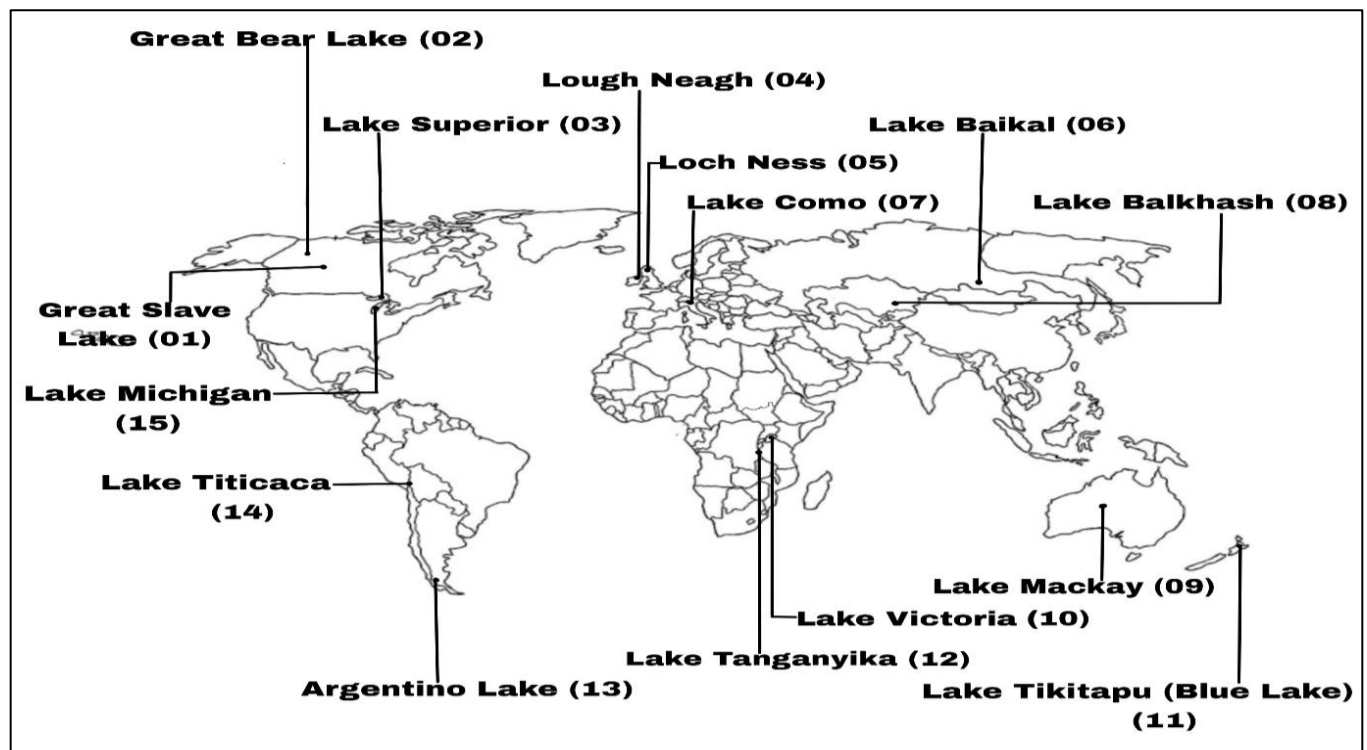


01	<b>Kilauea volcano</b>	<ul style="list-style-type: none"> <li>• Kilauea volcano, one of the world's most active volcano, erupted again.</li> <li>• It is also called Mount Kilauea, located in Hawaii Volcanoes National Park, U.S.A.</li> <li>• It is a shield volcano which is a type of volcano composed of fluid lava</li> </ul>
02	<b>Groningen gas field</b>	<ul style="list-style-type: none"> <li>• The Netherlands wants to shut down operations of Groningen, due to the risk of earthquake.</li> <li>• It is the largest natural gas field in Europe.</li> </ul>

		<ul style="list-style-type: none"> <li>• Gas extraction resulted in subsidence above the field.</li> <li>• From 1991 this was also accompanied by earthquakes.</li> <li>• This led to damage to houses and unrest among residents</li> </ul>
03	<b>Croatia</b>	<ul style="list-style-type: none"> <li>• Croatia adopted the euro currency and enter Europe's passport-free Schengen zone.</li> <li>• It shares its borders with Slovenia, Hungary, Serbia, Bosnia, Herzegovina and Montenegro.</li> <li>• Its coast lies entirely on the Adriatic Sea.</li> <li>• Its capital and largest city is Zagreb.</li> <li>• It is a member of the European Union, the Eurozone, NATO, the United Nations.</li> </ul>
04	<b>Abyei</b>	<ul style="list-style-type: none"> <li>• Indian Army has developed its largest contingent of women peacekeeper in a UN mission at Abyei.</li> <li>• It is contentious region that is oil-rich near the demarcation line which divides Sudan and the south Sudan.</li> </ul>
05	<b>Tel Tsaf</b>	<ul style="list-style-type: none"> <li>• Nearly 5200 BCE, or 7,200 years old cotton fibres, dyed in blue and other colours, were found in Tel Tsaf.</li> <li>• It is a Middle Chalcolithic site, is located in the central Jordan Valley.</li> <li>• This site is distinguished by its superb preservation of mudbrick architecture, as well as by its burials, the earliest metal object in the southern Levant, and evidence for large-scale storage and long-distance trade.</li> </ul>
06	<b>Japan</b>	<ul style="list-style-type: none"> <li>• Japan and India began 1st ever joint fighter jet drill near Tokyo.</li> <li>• It is an island country in East Asia. It is situated in the northwest Pacific Ocean.</li> <li>• Nearly the entire land area is taken up by the country's four main islands; Hokkaido, Honshu (largest), Shikoku, and Kyushu.</li> <li>• Tokyo is the nation's capital and largest city.</li> <li>• There are many active and dormant volcanoes, including Mount Fuji, is Japan's highest mountain.</li> </ul>
07	<b>Samarkand</b>	<ul style="list-style-type: none"> <li>• 18 children died in Samarkand allegedly after consuming India-manufactured syrup due to ethylene glycol. It is city in Uzbekistan.</li> <li>• City is known for its ancient buildings, which principal features are splendid portals, their vast coloured domes, and their remarkable exterior decorations in majolica, mosaic, marble, and gold. The historic city was designated a UNESCO World Heritage site in 2001.</li> </ul>
08	<b>Lake Albert</b>	<ul style="list-style-type: none"> <li>• Uganda is launching a pipeline which will connect the oil fields in Lake Albert to the Tanzanian coast for easy transport. This lake is located on the border between Congo and Uganda.</li> <li>• It is Africa's 7th-largest lake, as well as the 2nd biggest of Uganda's Great Lakes. Semliki River is a waterway connecting Lakes Edward and Albert, in the Western Rift Valley.</li> </ul>
09	<b>Machu Picchu</b>	<ul style="list-style-type: none"> <li>• The iconic tourist site Machu Picchu was shut down, due to the ongoing anti-government protests that are spreading throughout the South American nation. It is a 15th-century Inca site located in Peru.</li> </ul>

		<ul style="list-style-type: none"> <li>The site is believed to have been built by Pachacuti Inca Yupanqui, the ninth ruler of the Inca, in the mid-1400s.</li> <li>It is made up of temples, palaces, terraces, monuments, complexes and walls. It was designated a UNESCO World Heritage site in 1983.</li> </ul>
10	<b>Suriname</b>	<ul style="list-style-type: none"> <li>At the 17th Pravasi Bhartiya Divas event, Suriname President suggested setting up a Hindi language training institutions in Caribbean region. It is a country in South America. It is bordered by the Atlantic Ocean, French Guiana, Guyana and Brazil. It is the smallest sovereign state in South America. The economy is heavily dependent on its large natural resources, namely bauxite, gold, petroleum, and agricultural products.</li> </ul>

### Important Lakes In World

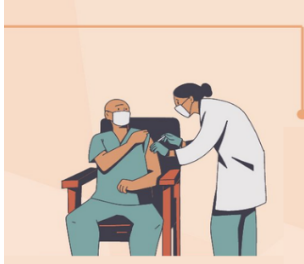


01	<b>Great Slave Lake</b>	It is the <b>2<sup>nd</sup>-largest freshwater lake in Canada</b> , after <b>Great Bear Lake</b> . It is the deepest lake in North America and one of the top 10 deepest lakes in the world. This lake is named after the Slavey people—an American Indian group in the region.
02	<b>Great Bear Lake</b>	It is the largest lake located entirely inside Canadian borders. It is also the 4 <sup>th</sup> largest in North America and the 8 <sup>th</sup> largest in the world. Water flows out of the lake into the Great Bear River, then into the Mackenzie River. Other rivers connected to this lake include the Dease, Camsell and Johnny Hoe.
03	<b>Lake Superior</b>	It is the <u>largest freshwater lake in the world by surface area</u> and the 3 <sup>rd</sup> -largest by <u>volume</u> . It is located in central North America. It is the largest of the five Great Lakes. Other four lakes are <b>Lake Huron, Lake Michigan, Lake Erie and Lake Ontario</b> .
04	<b>Lough Neagh</b>	It is a freshwater lake in Northern Ireland. It is the largest lake in the British Isles. Its main inflows come from the Upper River Bann and River Blackwater, and its main outflow is the Lower River Bann.

05	<b>Loch Ness</b>	It is a freshwater loch in Scotland. It takes its name from the river Ness, which flows from the northern end. It contains more water than all the lakes of England and Wales combined, making it the most voluminous lake in the UK.
06	<b>Lake Baikal</b>	It is located in Russia's Irkutsk province. It has the largest water volume of any continental lake on the planet and it is the <b>world's deepest lake</b> . This lake provides 20% of the world's fresh water. UNESCO declared Baikal a <b>World Heritage Site</b> in 1996.
07	<b>Lake Como</b>	It is located in the northern portion of Italy. It was formed during a period of glaciation. As the ice swept into the area thousands of years ago, it carved deep notches into the land. As it retreated and melted, those notches filled with water and formed Lake Como.
08	<b>Lake Balkhash</b>	It is located in south-eastern Kazakhstan. It sits in the Balkhash-Alakol Basin, an endorheic basin (having no outflow to an external body of water). The lake has a narrow, quite central, strait. The lake's western part is fresh water. The lake's eastern half is saline.
09	<b>Lake Mackay</b>	It is a Salt Lake located in western Australia. It is located within the Great Sandy Desert. It is classified as an ephemeral lake, meaning it exists only after precipitation.
10	<b>Lake Victoria</b>	It is the <b>largest tropical lake</b> in the world, and the 2nd largest freshwater lake in the world after Lake Superior. It is the largest reservoir feeding the river Nile. This lake is mainly in Uganda and Tanzania, but a small part of it is in Kenya.
11	<b>Lake Tikitapu (Blue Lake)</b>	It is the smallest of the four Small Lakes in the Bay of Plenty region of the North Island of New Zealand. The other three are <i>Lake Rotokakahi (Green Lake)</i> , <i>Lake Okareka</i> , and <i>Lake Ocataina</i> . It got its name for its aqua color.
12	<b>Lake Tanganyika</b>	It is a freshwater lake in Africa. According to estimates, this lake is the 2 <sup>nd</sup> deepest, 5 <sup>th</sup> largest, and 3 <sup>rd</sup> greatest (in terms of volume) in the world. This lake makes a boundary between Tanzania and Congo. It also divides eastern and western Africa.
13	<b>Argentino Lake</b>	It is the biggest freshwater lake in Argentina. The lake lies within the Los Glaciares National Park. Waters from this lake flow into the Atlantic Ocean through the Santa Cruz River.
14	<b>Lake Titicaca</b>	It is a freshwater lake in the Andes mountains on the border of Bolivia and Peru. It is the highest large lake (navigable lake) in the world. By volume of water and by surface area, it is also the largest lake in South America.
15	<b>Lake Michigan</b>	It is one of the five Great Lakes of North America. It connects with Lake Huron through the Straits of Mackinac. Approximately 100 streams flow into the lake, which include the Manistee, Muskegon, St. Joseph rivers Menominee rivers, Chicago River.

## Rural Health Statistics Report 2021-22

Ministry of Health and Family Welfare (MoHFW), has published the **Rural Health Statistics Report 2021-22**.



### About Rural Health Statistics (RHS) Report

- It is an annual publication of MoHFW since the year 1992.
- This provides the data on health infrastructure including manpower up to 31st March of every year.
- The publication is **based on the data uploaded by States/UTs on Health Management Information System (HMIS) Portal** and published only after getting verified by respective States/UTs.
  - HMIS portal provides periodic reports on the status of the health services' performances.
- It serves as a **vision document in identifying the gaps in the existing Healthcare Infrastructure and Human Resources** in rural, urban and tribal areas of the country.
- It also serves as an important source of information for citizens.

## Key Highlights of the 2021-22 Report

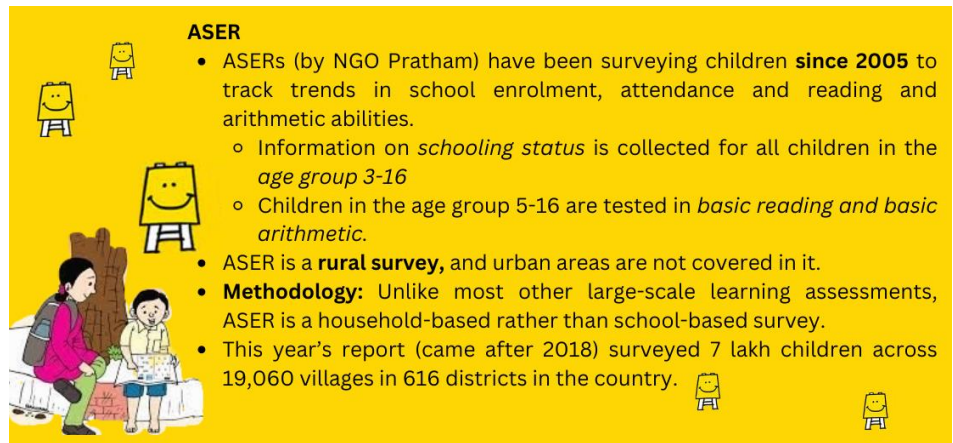
- **Rural Health Centers –**
  - As per norms, each sub center (**SC**) is supposed to cater to a population of 3,000-5,000, each Primary Health Centers (**PHC**) to a population of 20,000-30,000 and each Community Health Centers (**CHC**) to a population of 80,000-1,20,000.
  - The RHS estimates as of 31 March, 2022, has revealed that each SC catered to an average of 5691 people, each PHC to 36049 people and each CHC to 164027 people.
- **Urban Health Statistics –**
  - There is a vacancy of 18.8% of doctors, 16.8% of pharmacists, 16.8% of lab technicians and 19.1% of staff nurses at the U-PHCs (Urban PHCs).
  - The population covered by a U-PHC may vary from 50,000 to 75,000.
  - Urban Community Health Centre (U-CHCs) is set up as a referral facility for every 4-5 U-PHCs. The U-CHC caters to a population of 2,50,000 to 5 lakhs.
- **Rise in Number of Allopathy Doctors –**
  - There has been an over 50% rise in the number of allopathy doctors in primary health centers since the launch of the National Rural Health Mission (NRHM) in 2005.
  - The allopathic doctors at PHCs have increased from 20,308 in 2005 to 30,640 in 2022.
- **Shortage of Specialist Doctors –**
  - India is reeling under an acute shortage of specialist doctors, with a shortfall of nearly 80% of the required specialists at CHCs.
    - CHCs are 30-bed block-level health facilities which are ideally supposed to provide basic care related to surgery, gynecology, pediatrics and general medicine.
    - There are **6,064 CHCs across India** and the Health Ministry has been unsuccessful in meeting the requirement for specialist doctors in most of these centers.
  - The report points out that there is a shortfall of specialist doctors, including surgeons (83.2%), obstetricians and gynecologists (74.2%), physicians (79.1%) and pediatricians (81.6%).
  - Apart from specialist doctors, there is also a **shortage of female health workers and auxiliary nursing midwives**, with up to 14.4% of these posts lying vacant in PHCs and SCs.



After two years of a Covid-19-induced school shutdown, the recently released **17th Annual Status of Education Report (ASER) for 2022** contains both good (high enrolment) and bad news (drop in learning levels).

### Findings of ASER 2022 Report

- **School enrolment touched a record high:** As the pandemic subsided, school enrolment touched **98.4%** in 2022 up from 97.2% in 2018, when the last full pre-pandemic survey was conducted.
- **The proportion of girls not enrolled has also reduced:** For girls aged 11-14, this share dropped from 4.1% in 2018 to 2% in 2022 (which stood at 10.3% in 2006).
  - The proportion of 15-16-year-old girls not enrolled has continued to drop, standing at 7.9% in 2022.
- **Enrolment in the pre-primary age group:** Proportion of 3-year-olds enrolled in some form of early childhood education stands at 78.3% in 2022, an increase of 7.1% over 2018 levels.
- **Drop in learning levels:**
  - Between 2014 and 2018, learning levels in terms of foundational skills in reading and arithmetic had been rising gradually.
    - **Period 2014-2018:** The proportion of Class 3 students who could read a Class 2 textbook had gone up from 23.6% to 27.2%, while those who could do at least subtraction rose from 25.3% to 28.2%.
  - **Period 2018-2022:** However, the basic reading ability of children in Class 3 dipped by 6.8% points to 20.4% and the proportion of children in Class 3 who could do at least subtraction fell to 25.9%.
  - Clearly, **the pandemic has resulted in learning loss**. However, the loss is much greater in reading as compared to arithmetic.
- **A small, steady increase in the children availing private tuitions:** Between 2018 and 2022, this proportion increased further - from 26.4% to 30.5% - a trend for over a decade now.
- **Proportion of children in government schools has risen:**
  - The percentage of children (aged 11 - 14) who are enrolled in government schools has risen from 65% in 2018 to 72.9% in 2022 - a trend that was reflected in the government's UDISE+ (Unified District Information on School Education) data.



### Inference From Above Findings

- An improvement in infrastructure variables, government schools distributing textbooks, midday meals during lockdown led to a pull factor, **increasing enrolment in government schools**.
  - This phenomenon can also be **attributed to several other factors**, including job losses and the closure of budget private schools in rural areas during the pandemic.
- **Private tuition** probably increased because it is **more flexible (payments/timings) and provided some extra help** to children when schools were closed.
- The drop in reading levels is more than in maths, because maths at such a basic level, is used by people much more.

- This is despite the fact that 80% of the government schools have received guidelines and teachers have been trained under the **NIPUN** Bharat and Foundational Literacy and Numeracy (**FLN**) mission (both conceived under the National Education Policy 2020).
  - The **National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN) Bharat** ensures that every child in India gains foundational numeracy and literacy by the end of Grade 3.

### Road Ahead to Improve these Foundational Skills

- Foundational Literacy and Numeracy is a **critical thing for improving the productivity of the country**.
- Therefore, **an integration** between the anganwadi system and the school system is urgently needed because the work starts there.
- In order to make sure that happens, the anganwadi system (especially for the education part) **needs to be well-funded**.

### Aspirational Block Programme (ABP)

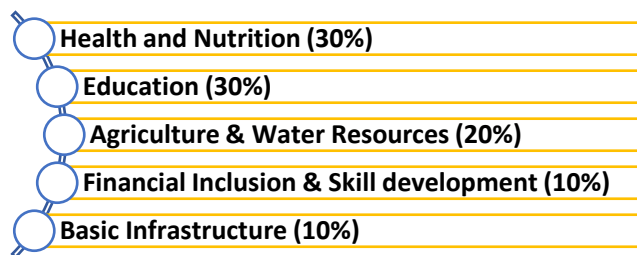
- The Prime Minister of India launched the **Aspirational Block Programme (ABP)**, which is aimed at improving performance of blocks lagging on various development parameters.
- Launching the ABP, PM underscored the success achieved in various Aspirational Districts in the country under the **Aspirational District Programme (ADP)**.

### About ABP

- In Budget (2022-23) speech, Finance Minister had announced the government's intention to launch the ABP.
- The ABP will take the aspirational district model up to block level and will **enable holistic development in those areas that require added assistance**.
- The programme will cover **500 districts across 31 states and UTs** initially and over half of these blocks are in 6 states - Uttar Pradesh (68 blocks), Bihar (61), Madhya Pradesh (42), Jharkhand (34), Odisha (29) and West Bengal (29).

### ADP or the 'Transformation of Aspirational Districts' initiative

- Launched in **2018**, the ADP aims to quickly and effectively **transform** (socio-economic status of) **112 most under-developed districts** across the country, with a vision of a New India by 2022.
- The focus is to improve India's ranking under the **Human Development Index (HDI)** and localising **Sustainable Development Goals (SDGs)**, leading to the progress of the nation.
- The districts have been **identified by NITI Aayog** based upon composite indicators:

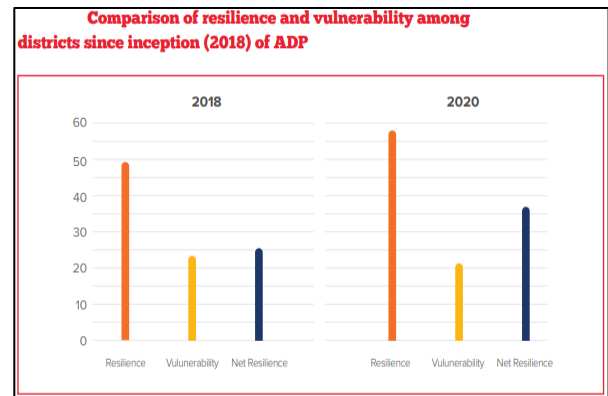


- The broad contours (all driven by a mass movement) of the programme are -
  - **Convergence** (of Central & State Schemes),
  - **Collaboration** (of Central, State level Nodal Officers & District Collectors), and
  - **Competition** among districts through monthly delta ranking (available on the Champions of Change Dashboard), so that they can learn from others in the spirit of **competitive and cooperative federalism**.
- With States as the main drivers, this program focuses on the **strength of each district, identifying low-hanging fruits** for immediate improvement and measuring progress by ranking districts on a monthly basis.

- NITI Aayog works closely with the respective line Ministries and various development partners to fast-track progress at the district level, **ensuring inclusive growth** for all, 'Sabka Saath Sabka Vikas'.

### ADP Performance

- The UNDP India has lauded the ADP as 'a very successful model of local area development', and acted as a **catalyst for expediting development** in the previously neglected districts, including those affected by Left Wing Extremism.
- The programme has **strengthened the technical and administrative capacities** of the districts, however, there was a need to focus more on capacity building.
- **Best Practice under the ADP - GoalMart:** It is an e-commerce portal launched by Assam's Goalpara district administration to promote rural, ethnic and agrarian products of the district in the national and global markets.



### Board of Examinations in Medical Sciences

The draft **National Medical Commission (Amendment) Bill 2022** seeks to introduce a fifth autonomous body - Board of Examinations in Medical Sciences, under the country's apex medical education regulator, to conduct the **National Exit Test (NExT)**.

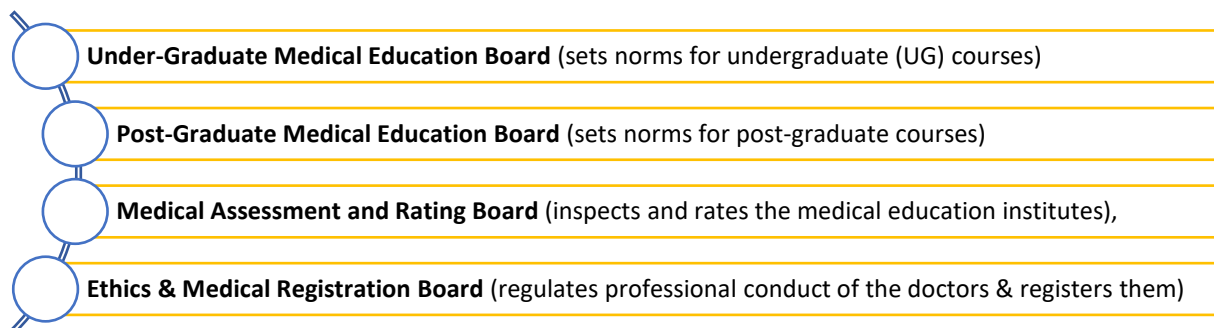
- NExT is a nationwide screening test for doctors before they are registered with the medical council.
- NExT is a medical licensing exam that is designed to assess the competency of medical graduates.

### National Medical Commission (NMC)

- The NMC was constituted in September 2020 by an act of Parliament known as the National Medical Commission Act, 2019.
- It regulates medical education and medical professionals in India and has replaced the Medical Council of India (MCI), constituted under the Indian Medical Council Act, 1956.

### Organisational structure of NMC

- **Medical Advisory Council:** It provides the platform through which the states or UTs can put forth their views and concerns before the NMC and advises the NMC on measures to determine and maintain minimum standards of medical education.
- **4 autonomous boards:**



### Board of Examinations in Medical Sciences

- **Background:**
  - **National Board of Examinations in Medical Sciences (NBEMS)** is an autonomous body (established in 1975 as a Society) under the Ministry of Health and Family Welfare.

- It was established to standardise postgraduate (PG) medical education and currently conducts -
  - The **entrance tests** for all post-graduation and super-speciality courses.
  - The screening test for **foreign medical graduates**.
- After several delays in conducting the PG examinations due to the pandemic, court cases and other procedural delays, resident doctors' associations asked the government to set up such a body to streamline the process.
- **The existing NBEMS will be dissolved**, according to the draft National Medical Commission (Amendment) Bill 2022.

**National Testing Agency** conducts the UG entrance exam, and no changes have been proposed in new bill.

● **About the new Board of Examinations in Medical Sciences:**

- This will be the 5th autonomous board under NMC and will take over the functions of the NBEMS, in addition to conducting the **NExT** tests
- **NExT** tests is a two-part examination - a qualifying exam for granting registration to doctors as well as the basis for PG admissions.
- The new board will also **accredit institutions** for diploma, postgraduate fellowship, and super-speciality fellowships.

**Other Proposals In The Draft NMC (Amendment) Bill 2022**

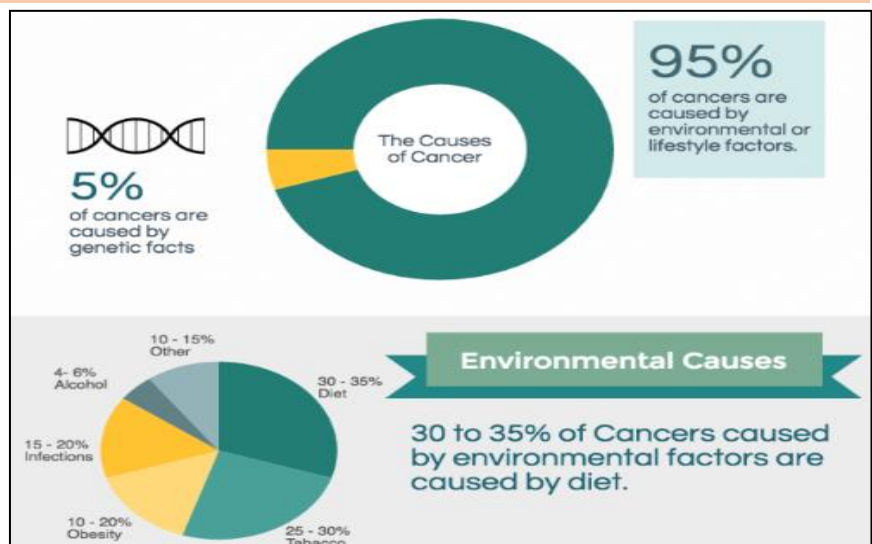
- It also proposes a section in the parent act stating that any cases against the commission by medical colleges/ institutions will lie under the jurisdiction of the **Delhi HC**.
  - This is significant because the NMC's order regulating fees at private medical colleges and deemed universities was initially challenged in Kerala HC, which ruled in the favour of the institution.
- It also makes provision for patients and their relatives to appeal with the Ethics and Medical Registration Board or the NMC against decisions of the state medical council in cases of medical negligence.

**Way Ahead To Further Reform Medical Education In India**

- On a similar note, '**Board of Counsellors or Counselling**' should be constituted under NMC, to streamline and fast track admissions.
- At present, the counselling is conducted by the Medical Counselling Committee independent of NMC.

**Cancer in India**

- According to the American Cancer Society, cancer deaths have decreased by 33% since 1991, resulting in **3.8 million fewer deaths in the United States**.
- This success is primarily due to earlier detection, lower smoking rates, and advancements in cancer treatment.
- Even with advancements in treatment, **this trend has yet to be reflected in India**, where cancer incidence and mortality continue to rise.

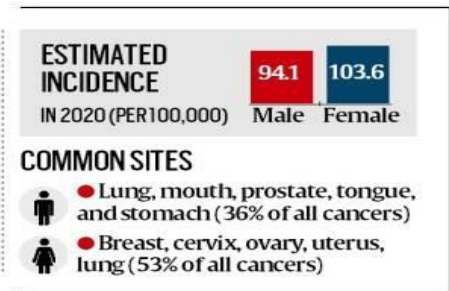


## Why Are Some Cancers On The Decline And Others Continue To Rise?

- In India, the **incidence of cervical cancer has decreased** from 45 to 10 per 100,000 people in the last 50 years, **while the prevalence of breast cancer is rising**, particularly in urban areas, for example, **45 per 100,000 in Hyderabad**.
  - Late marriages, fewer children, improved hygiene and human papillomavirus vaccine are all contributing to the **decline of cervical cancer**.
  - Late marriages, having the first child at a later age, not breastfeeding, and a high protein diet resulted in the **rise of breast cancer**.
  - Breast cancer, unlike cervical cancer, has no **specific intervention other than screening because the exact cause is unknown**.
- **Tobacco-related** - oral, esophageal - cancer rates are also decreasing, owing largely to tobacco laws that have reduced smoking in public places.
- **Lung cancer**, which is caused by pollution as well as smoking, **continues to be a source of concern**. In **Arunachal Pradesh**, for example, lung cancer rates are high because people light fires indoors during the winter.
  - Lung cancer has a low survival rate and is typically diagnosed in its late stages.

	Incidence	Mortality
2020	13.92 lakh	7,70,230
2021	14.26 lakh	7,89,202
2022	14.61 lakh	8,08,558
2025*	15.69 lakh	

Source: National Cancer Registry data presented in Parliament, ICMR National Centre for Disease Informatics and Research study; \*Estimated



## Have There Been Improvements In Cancer Treatments?

- This can be elucidated by the cure rate for various cancers:
  - In the last 50 years, the cure rate for **pancreatic** cancer has doubled from 3% to 6%.
  - It has risen from 60% to 100% for **prostate** cancer.
  - **Breast** cancer survival rates have increased from 50% to 90% due to newer treatments.
- However, India's infrastructure for the **seven pillars of cancer care** - prevention, surgery, chemotherapy, radiotherapy, imaging, laboratory diagnostics, and palliation, **is deficient**.
- In developing countries, as per WHO there should be one radiotherapy machine for every million people. **So, for 1.4 billion people in India, 1,400 machines are needed, but we only have 700.**

## What Must Be Done To Bring Down Overall Mortality Like In The US?

- **Screening must be the first intervention**. This has already begun with the government's upgraded health and wellness centres for the three most common types of cancer - breast, cervical, and oral (34% of cancers in India).
- **Screening should lead to hospital treatment**, which should be accessible and affordable.
- The need is to ensure that people are **diagnosed early and treated promptly**.
- There is a need to **coordinate existing efforts** because the government has several programs that operate independently and in silos.

## Census To Be Delayed Again


- The Census enumeration, which was scheduled to take place in 2021, has been further pushed to 2024-25 until further orders.
- The Census enumeration is to be preceded by house-listing enumeration where the exercise for **National Population Register (NPR)** is to be held.



- The first NPR was prepared in 2010 and updating this data was done during 2015 by conducting door to door survey. The next NPR was to be held along with Census 2021.
- In a letter sent to all states and Union Territories, the office of the **Registrar General of India (RGI)** has extended the deadline of freezing of administrative boundaries to June 30, 2023.
  - Earlier, the deadline for jurisdictional changes was December 31, 2022, and before that, June 30, 2022.
- This means the census enumeration, scheduled to take place in 2021, has been further pushed to later dates.
  - The time period for conducting the ensuing census is not yet decided.
- In the letter, the RGI has cited **Covid-19 as a reason** for extending the deadline.
  - The same reason has been given for multiple such deadlines since 2020.

### Freezing Of Administrative Boundaries

- Before every Census, states are required to provide information to the RGI on **changes** in the number of **notified** districts, villages, towns and other administrative units such as tehsils, talukas and police stations in a state since the last Census.
- The boundaries of administrative units are frozen *three months before the commencement of Census.*
  - As per **Rule 8(iv) of Census Rules, 1990**, the boundaries of the administrative units shall be frozen from the date intimated by the Census Commissioner, which shall not be earlier than one year from the **Census reference date**.
- In this period, the boundaries of administrative units cannot be changed and the data is compiled and shared with RGI which begins its preparatory work for the Census.



**Census in India**

- Population Census provides basic statistics on state of human resources, demography, culture and economic structure at local, regional and national level.
- Beginning in the year 1872, when the first census was conducted non-synchronously, the census enumeration exercise in India is carried out in every 10 years.
  - The first synchronous census was taken under British rule in 1881, by W.C. Plowden, Census Commissioner of India.
- The responsibility of conducting the decadal census rests with the Office of the **Registrar General and Census Commissioner of India**, Ministry of Home Affairs.

**Legal/Constitutional basis of Census**

- Population census is listed in **Union List (entry 69)** of Seventh Schedule in Indian Constitution.
- Census is conducted under the provisions of the **Census Act, 1948**.

### Process Of Census Enumeration

- The Census Operations in India have been carried out in two phases:

House-listing and Housing Census

Population Enumeration

- The Population Enumeration follows the Housing Census within a gap of six to eight months.
- In Population Enumeration phase each person is enumerated and her/his individual particulars like Age, Marital status, Religion, Schedule Cast/Schedule Tribe, Mother tongue, Education level, Disability, Economic activity, Migration, Fertility (for female) are collected.

### Some Of The Features Of Upcoming Census

- The ensuing decadal Census of India will be the 16th in series and 8th after independence.
- In the history of Indian Census, for the first time, the Census data will be collected digitally i.e., on Mobile App in the ensuing census.
- Also, self-enumeration facility will be provided for the first time

{For more about NPR refer The Recitals-November 2022}

## Criteria For Scheduling Of Tribes

- An RTI enquiry revealed that the Office of the Registrar-General of India (RGI) is following the old set of criteria set out by the Lokur Committee nearly 60 years ago to define any new community as a Scheduled Tribe.
- The Office of the RGI's nod is mandatory for the inclusion of any community in ST lists, as per the procedure for scheduling tribes.

### Lokur Committee

- The term 'Scheduled Tribes' first appeared in the Constitution of India. However, the Constitution does not define the criteria for recognition of Scheduled Tribes.
  - **Article 366 (25)** defined scheduled tribes as "such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purposes of this constitution."
  - **Article 342**, simply, prescribes procedure to be followed in the matter of specification of scheduled tribes.
- As a result, during initial years after independence, the definition contained in 1931 Census was used to categorise Schedule Tribes.
  - Census-1931 termed Schedule tribes as "backward tribes" living in the "Excluded" and "Partially Excluded" areas.
- Against this backdrop, the Govt. of India set up an Advisory Committee on the Revision of Lists of Schedule Casts and Schedule Tribes, also known as **Lokur Committee**, in **1965**
- One of the mandates of this committee was to revise the list of SCs and STs in a rational and scientific manner.

### Criteria Set Out By Lokur Committee For Defining A Community As A Tribe Are:

indications of primitive traits

distinctive culture

geographical isolation

shyness of contact with the community at large

backwardness

### Criticism

- **Obsolete criteria:** These set of criteria may have become obsolete considering the process of transition and acculturation over the time.
  - Acculturation is cultural modification of an individual, group, or people by adapting to or borrowing traits from another culture.
- **Condescending in nature**
  - Terms like primitive and the requirement of primitivity to be a characteristic of Scheduled Tribe indicates a condescending (superior) attitude by outsiders.
  - What we consider primitive is not considered by the tribals themselves.
- **Rigid and dogmatic** (avoidance from accepting new beliefs/ ideas) **approach**
  - Many experts believe that the committee followed a rigid and dogmatic approach while setting out the criteria.
  - E.g. – with respect to the geographical isolation criterion, they point out that as infrastructure development continued across the country, how can any community remain in isolation?

### Steps Taken By The Government To Develop New Set Of Criteria

- The government task force on Scheduling of Tribes was constituted under the leadership of then Tribal Affairs Secretary, Hrusikesh Panda in February 2014.
- While concluding that the criteria fixed by Lokur Committee may have become obsolete, the task force had recommended changes to the criteria in May 2014.

- Based on this, the Tribal Affairs Ministry had, in June 2014, prepared a draft Cabinet note to overhaul the criteria and procedure for scheduling of new communities as STs.

### New Set Of Criteria Which Are Under The Government's Consideration

- **Socio-economic**, including educational, backwardness, vis-a-vis, the rest of the population of the State;
- **Historical geographical isolation** which may or may not exist today;
- **Distinct language/dialect**;
- **Presence of a core culture** relating to life-cycle, marriage, songs, dance, paintings, folklore;
- **Endogamy, or in case of exogamy**, marital relationship primarily with other STs
  - This criterion is for scheduling of a community as ST and not for determining ST status of an individual.
- The draft Cabinet note also proposed, Communities which have adopted a 'Hindu' way of life will not be ineligible merely on this ground.
- It further recommended considering the population of the new community in relation to the existing ST population of the State.
- It further added that all these criteria had to be **looked at holistically** and none should take precedence over another.

#### Current process followed by the Office of RGI for determination of a community as ST

- The Office of the RGI has said that it relies on census publications, which go back to 1891, along with materials provided by the nodal Union ministry and State governments.
- After that, it decides whether a community can be categorised as ST based on the Lokur Committee criteria.

Experts point out that there are inconsistencies in census records dating that far back.

- For instance, the 1891 census described tribes as people with a tribal religion;
- 1901 and 1911 censuses described them as tribal animists; in 1921, they were called hill and forest tribes.
- In 1931, they were documented as "primitive tribes"; and were classified as "tribes" in 1941, before moving to the Constitutional term of "Scheduled Tribes" in 1951.

### Draft Norms Announced By UGC For Foreign Universities

- The University Grants Commission (UGC) has announced draft norms for facilitating foreign universities and educational institutions to set up campuses in India which allow them autonomy in decision making.
- The final norms will be notified by the end of the month after feedback from all stakeholders.
- **The draft includes the following guidelines:**
  - **Criteria** – A foreign university with a rank among the top 500 global rankings or a foreign educational institution of repute in home jurisdiction can apply to the UGC to set up a campus in India.
  - **Application Process** – The application will be considered by a standing committee appointed by the UGC which will submit its recommendations within 45 days after examining the institution's credibility.
    - Subsequently, within 45 days, the UGC may grant in-principle approval to the foreign institution to set up campuses in India within two years.
    - The initial approval will be for 10 years, which can be extended.
  - **Reasonable Fees** – Such a campus can evolve its own admission process and criteria to admit domestic and foreign students.
    - It will also have autonomy to decide its fee structure, and will face no caps that are imposed on Indian institutions. Fee should be "reasonable & transparent".
  - **Mode of Teaching** – It will also have autonomy to recruit faculty and staff from India and abroad.
    - The courses to be offered cannot be in online and open and distance learning mode.
    - The qualifications awarded to the students in the Indian campus should have equivalence with those awarded by the institutions in their country of origin.
  - **Fund Management** – Foreign universities will be allowed to repatriate funds to parent campuses.

- Cross-border movement of funds and maintenance of Foreign Currency Accounts, mode of payments, remittance, repatriation, and sale of proceeds, if any, will be as per the **Foreign Exchange Management Act (FEMA) 1999** and its Rules.

### Need For Allowing Foreign Universities To Set-Up Campuses In India

- The UGC chief pointed out that in 2022 over 4.5 lakh Indian students went abroad to study, leading to outflow of estimated \$28-30 billion.
- Allowing foreign universities to set-up campuses in India will also ensure that all our students, ~40 million pursuing higher education, have access to global quality education.
- The ideal of setting up foreign universities' campuses in India is also mentioned in the **National Education Policy 2020**.

### Integrating Transgender Concerns In Schooling Processes

- The draft manual titled “Integrating Transgender Concerns in Schooling Processes” has been released.
- The document aims to initiate a dialogue among the participants and bring to fore their experiences with transgenders and understanding of transgender concerns.
- It is prepared by a new committee convened by the National Council of Educational Research and Training’s (NCERT) Department of Gender Studies head (Jyotsna Tiwari).

#### Background in which the New Draft came

- It came two years after NCERT removed a document “Inclusion of Transgender Children in School Education: Concerns and Roadmap”
  - The old document was removed following an objection by **National Commission for Protection of Child Rights (NCPCR)** to suggestions on gender-neutral toilets and puberty blockers (hormone blockers)
- The NCERT has released a fresh manual, which avoids the usage of not just those terms but also references to **caste system and patriarchy** that were highlighted in the previous one.

### Key Highlights of the New Draft

- **Diverse gender expressions have a long history of acceptance in India:** It was documented in various art forms and multiple texts of ancient period, including epics of Ramayana and Mahabharata.
- **Recognise people with diverse sexualities:** It includes LGBTQIA+ communities and the present module is specifically focusing upon transgender persons by birth.
- **Recommends introduction of gender-neutral uniforms:** From Grade VI onward, schools can introduce gender neutral uniforms which are comfortable, climate appropriate, fit and do not conform to a particular gender.
- **Toilets exclusively for transgender students:** In case there is a toilet for Children with Special Needs (CWSN) that can also be shared by transgender students.

### Concerns Related to the New Draft

- The two manuals (old and new), prepared by two different committees, **are starkly different in nature despite dealing with the same subject.**
- For instance, the previous manual, categorically stated that -
  - The dominant social system of caste patriarchy in India had **relegated transgender persons to occupations that are stigmatised.**
  - **Textbooks should provide all students with a critical lens** to investigate a variety of issues that continue to confront us, such as caste, class, gender and power relations, patriarchy, diverse sexual identities and marginalisation, etc.
- **Does not deal with all categories of gender non-conforming children:** No information for teachers on dealing with children who may not be transgender but show signs of “**Gender Dysphoria**”.
  - Gender Dysphoria indicates psychological distress resulting from a conflict between a person’s assigned gender at birth and the gender with which they identify or the “agender” category (neither man nor woman).

## BIND Scheme

- The Cabinet Committee on Economic Affairs (CCEA) has approved a **central sector scheme Broadcasting Infrastructure and Network Development (BIND)** at a cost of ₹2,539.61 crore up to 2025-26.
- A scheme of **Ministry of Information and Broadcasting**, BIND will focus on **infrastructure development of Prasar Bharati**, including All India Radio (AIR) and Doordarshan (DD).
- The scheme is the means for providing financial support to Prasar Bharati for expenses related to expansion and upgradation of its broadcasting infrastructure, content development and civil work related to the organisation.
- The Scheme will increase coverage of AIR FM transmitters in the country to 66% by geographical area and 80% by population up from 59% and 68% respectively.
- It also intends to freely distribute over 8 lakh DD Free Dish Set-Top Boxes (STBs) to people living in remote, tribal, Left Wing Extremist and border areas.

## Benefits

- In addition to **enhancing the scope of public broadcasting**, it has the potential to **generate indirect employment** through manufacturing and services related to supply and installation of broadcast equipment.
- Content generation and content innovation for AIR & DD will lead to indirect employment of persons with experience in different media fields in the content production sector including TV/Radio production, transmission and associated media related services.

### Prasar Bharati

- Headquartered in New Delhi, Prasar Bharati is India's **state-owned public broadcaster**. It is a statutory autonomous body set up by an Act of Parliament and comprises the **Doordarshan Television Network and Akashvani All India Radio**.
  - At present, Doordarshan operates 36 TV channels including 28 regional channels and All India Radio operates more than 500 broadcasting centres.
- As the public broadcaster of the country, it is the *most important vehicle of information, education, entertainment and engagement for the people* especially in the remote areas of the country through Doordarshan and All India Radio.
- It played a significant role in communicating public health messages and awareness to the public during the covid pandemic.

## Utkarsh 2.0

The RBI recently launched Utkarsh 2.0, the second phase of the central bank's **medium-term strategy for strengthening regulatory and supervisory mechanism**.

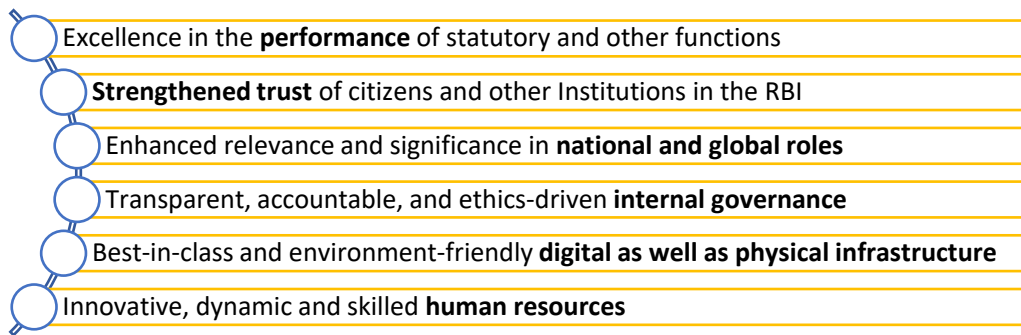
### Background

- In 2015, the RBI launched a **strategic management program** to provide a framework for all its future policies.
  - Under this, the first strategy framework titled Utkarsh 2022 was launched in **2019**, covering the **period from 2019-2022**.
- It became a medium-term strategy document guiding the Bank's progress towards realization of the identified milestones.

### Utkarsh 2.0

- Utkarsh 2.0 harnesses the strengths of Utkarsh 2022 by retaining the **six Vision statements** as well as Core Purpose, Values, and Mission statement.
- The **6 Vision** in Utkarsh 2.0 that will guide the RBI over the period **2023-25** includes:





- Adoption of Artificial Intelligence (AI) and Machine Learning (ML) driven tools for data analysis and information creation will be an integral part of Utkarsh 2.0.
- The strategy framework will also make the Bank a listening oriented, transparent organization equipped with best-in-class and environment friendly digital and physical infrastructure.
- Its core purpose is to foster monetary and financial stability
- It will enable the Bank to be in readiness not just to respond to the changing socio-economic environment, but also proactively anticipate and act.

### Financial Stability Report

RBI in its latest Financial Stability Report (FSR) conducted macro stress tests, to assess the resilience of banks' balance sheets

- FSR is published biannually and **includes contributions from all the financial sector regulators**. It reflects the collective assessment of the Sub-Committee of the **Financial Stability and Development Council (FSDC)** on risks to financial stability

### Macro Stress-testing

- It refers to a range of techniques used to assess the vulnerability of the banking system to **exceptional but plausible (probable) macroeconomic shocks**. Essentially, stress tests are meant to be **"what if" exercises**.
- There are **three scenarios** considered in the stress testing by the RBI which are:



- The baseline scenario assumes the *continuation of the current economic situation in future*.

### Key Findings

- India's banks and non-bank lenders are in a position to withstand even the worst macro-economic stress originating from global spillovers.
- By September 2022, the gross non-performing assets (**GNPA**) ratio had slowly declined to 5% to a seven-year low.
  - As of September 2022, the **net non-performing assets (NNPA)** ratio stood at a ten-year low of 1.3%, whereas private banks (PVBs') NNPA ratio was below 1%.

**GNPA:** It refer to the sum of all the loans that have been defaulted (not repaid within the ninety-day period) by the borrowers within the provided period.

**NNPA:** NNPA subtracts the **provisions** made by the bank from the GNPA. Therefore, net NPA gives the exact value of non-performing assets (NPA) after deducting provision for doubtful & unpaid debts from GNPA.

$$\text{NNPA} = \text{GNPA} - \text{Provisions}$$

NNPA constitute the actual loss experienced by the organization after debts have defaulted.

- Stress tests indicate that the GNPA ratio of **all banks** may improve from 5% in September 2022 to 4.9% by September 2023, under the baseline scenario.
- However, if the macroeconomic environment worsens to a **medium** or **severe stress scenario**, the GNPA ratio may rise to **5.8%** and **7.8%**, respectively.
- At the bank group level, under the severe stress scenario **GNPA ratios** of:
  - **Public sector banks** may rise from 6.5% in September 2022 to 9.4% in September 2023;
  - **Private sector banks** would go up from 3.3% to 5.8%; and
  - **Foreign banks** would increase from 2.5% to 4.1%.

#### Capital to Risk Weighted Assets Ratio (CRAR)

- Stress test results further showed that the banks are well capitalised and capable of absorbing macroeconomic shocks even in the absence of any further capital infusion by stakeholders.
- CRAR of 46 major banks is projected to slip from 15.8% in September 2022 to 14.9% by September 2023, under the baseline scenario.
  - It may go down to **14% in the medium stress scenario** and to **13.1% under the severe stress scenario** by September 2023.
- Thus, none of the 46 banks would breach the regulatory minimum capital requirement of 9% in the next one year, even in a severely stressed situation.

#### Common Equity Tier 1 (CET1)

- The CET1 ratio of 46 banks may decline from 12.8% in September 2022 to 12.1% by September 2023 under the baseline scenario.
- Even in a severely stressed scenario, the aggregate CET1 capital ratio would decrease only by 210 basis points, which would not breach the minimum regulatory norms.

### Business Confidence Index

- The latest Business Confidence Index by the **Confederation of Indian Industry (CII)** for the October-December quarter rebounded to its highest reading in almost two years of 67.6 from 62.2 in the previous quarter.
- The index is based on the findings of a **survey of over 120 firms** of varying sizes and across all industry sectors and regions of the country.
- Despite tightening financial conditions & geopolitical tensions globally, around **73%** of the survey respondents expected only a moderate impact of the global slowdown on Indian economy.
- This reflects optimism around India being in a **'sweet spot'** despite rising global uncertainties.
- However, a majority (70%) of respondents feel that the Indian economy will expand in a range of 6.5-7.5% in the current financial year ending March, slower than the 8.7% recording last fiscal.
- Growth is expected to moderate further in the next year due to the global scenario. Hence, to support growth, it is critical that the RBI does not raise interest rates any further.



#### Confederation of Indian Industry

- CII is a **non-government, not-for-profit, industry-led and industry-managed organization**, with about 9000 members from the private as well as public sectors.
- Founded in **1895**, it works to create and sustain an environment conducive to the development of India, by partnering with industry, Government and civil society, through advisory and consultative processes.
- Extending its agenda beyond business, CII assists industry to identify and execute **corporate citizenship programmes.**
- Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains, livelihoods, diversity management, skill development, empowerment of women, and sustainable development.

## Ken-Betwa Link Project

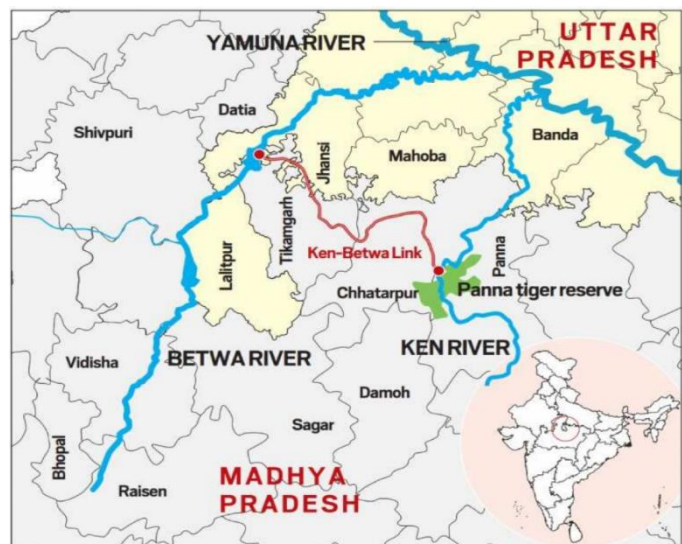
- The third meeting of the steering committee of Ken-Betwa Link Project (KBLP) was recently held.
- KBLP is the first project under **National Perspective Plan** for interlinking of rivers. It involves transferring of water from Ken river in Madhya Pradesh to Betwa river in Uttar Pradesh, both tributaries of the Yamuna.

### Background

- The idea of linking Ken with Betwa got a major push in 2005, when a tripartite MoU for preparation of a detailed project report (DPR) was signed among the Centre and the two states.
- In 2008, the Centre declared KBLP a **National Project**. Later, it was included as part of the Prime Minister's package for development of drought-prone Bundelkhand region.
- In 2009, it was decided that the DPR will be prepared in two phases. In 2018, a comprehensive DPR was prepared.
- In March, 2021, a memorandum of agreement was signed among the Ministry of Jal Shakti and the governments of Madhya Pradesh and Uttar Pradesh to implement KBLP.

### Details Of The Project

- The project has **two phases**, with mainly four components.
- **Phase-I** will involve one of the components — **Daudhan Dam complex** and its subsidiary units such as Low Level Tunnel, High Level Tunnel, Ken-Betwa Link Canal and power houses.
- **Phase-II** will involve three components — Lower Orr Dam, Bina Complex Project and Kotha Barrage.
- The total **cost** of KBLP has been assessed at **Rs.44,605 crore**. The Centre would fund Rs 39,317 crore for the project, with Rs 36,290 crore as a grant and Rs 3,027 crore as a loan.
- A Special Purpose Vehicle (SPV) called **Ken-Betwa Link Project Authority (KBLPA)** will be set up to implement the project.
- In fact, the Centre has initiated the process to create the **National Interlinking of Rivers Authority (NIRA)**.
  - NIRA would be an independent autonomous body for planning, investigation, financing and implementation of the interlinking of river projects in the country. It will have powers to set up SPV for individual link projects.



### Benefits of KBLP

- The project has the potential to **irrigate 1.06 million hectares** of land and thus enable an increase in food grains production.
- It will **provide drinking water to 6.2 million people** across MP & UP, which will lead to fulfilment of SDG goals.
- It will also lead to generation of **103 MW of hydel power**.
- With groundwater recharge and drinking water supply, it has the potential to **generate local agricultural employment**, consequently reducing migration.

### Concerns

- Nearly 4000 hectares of forest land in the core tiger habitat of Panna Tiger Reserve will get submerged.
- This will impact the conservation of tigers, vultures and also impact the breeding pattern of gharials and other aquatic life.

- Large scale clearance of forest land, may **impact the local rainfall pattern**, which will further impact the wildlife habitat.
- The claims of Ken having surplus water may be unrealistic as the river is not perennial.
- The Ken flows 60-70 feet lower than the Betwa and at least 30% of the 103 MW power generated will be used for pumping the water up.

### Interlinking of Rivers in India

- In the 1970s, the idea of transferring surplus water from a river to water-deficit area was initiated by the then Union Irrigation Ministry.
- It also suggested construction of a National Water Grid for transferring water from water-rich areas to water-deficit areas. Similarly, a Garland Canal was proposed to redistribute water from one area to another.
- However, the government did not pursue these two ideas. Later, in 1980 the Ministry of Irrigation prepared a **National Perspective Plan (NPP)** for water resources development for inter basin water transfer in the country.
- The NPP comprised two components: **Himalayan Rivers Development** and **Peninsular Rivers Development**.
- Based on the NPP, the National Water Development Agency (NWDA) identified **30 river links**—16 under Peninsular component and 14 under Himalayan Component. KBLP is a part of the Peninsular component.
- The following **clearances** are required for the interlinking of river projects:
  - Techno-economic (given by the Central Water Commission);
  - Forest Clearance and Environmental clearance (Ministry of Environment & Forests);
  - Resettlement and Rehabilitation (R&R) Plan of Tribal Population (Ministry of Tribal Affairs);
  - Wildlife clearance (Central Empowered Committee).

### Hakku Patra

- The Prime Minister distributed Hakku Patra (land title deeds) to families of the Banjara (Lambani) community, a nomadic Scheduled Caste group, in the Kalaburagi district of Karnataka.
- A title deed is a **property ownership document**, and the bearer of document owns the land.
- This formal recognition by the government will enable owners to **avail of bank loans**, make them eligible to buy or sell land to which the title deed is granted and receive government services like drinking water, electricity, roads etc.

#### BANJARA COMMUNITY

- The word 'banjara' is derived from **vanaj meaning to trade, and jara meaning to travel**. Their dialect is **Gorboli**, with words from many regions.
- These nomads were the vital supply chain for villages, and they ended up all over Asia and Europe.
- The Banjaras were among many tribes that resisted the British attempt to seize their lands for plantations and enrol them as labour.
- Their constant revolt frustrated the British, and in 1871, the Banjaras and several other tribes were brought under the **Criminal Tribes Act**.
- With roots in Rajasthan, Banjaras now live in several States, and are known by different names – in **Andhra Pradesh, Lambada or Lambadi**; in **Karnataka, Lambani**; in **Rajasthan, Gwar or Gwaraiya**.
- Banjaras number tens of millions in the country, but they remain marginalised. They are listed in various States as Scheduled Caste, Scheduled Tribe, Other Backward Class and as Vimukta Jati/ denotified tribes.



### Additional Tier 1 Bonds

The Bombay High Court cancelled the **write-off** of Additional Tier-1 (AT1) bonds worth Rs 8,400 crore issued by Yes Bank Ltd, bringing relief to investors.

#### Additional Tier 1 (AT1) Bonds

- AT1 bonds are **unsecured, perpetual bonds with no pre-determined maturity date** issued by financial institutions to fulfil their capital adequacy requirements.
- Though these bonds never mature, they are issued with a call option. The **call option** gives the issuers of AT1 bonds, usually banks, the right (but not an obligation) to buy these bonds back from investors by paying the principal amount to investors.
  - The issuer of such bonds may call or redeem the bonds if it is getting money at a cheaper rate, especially when interest rates are falling.



- Also, the holders of AT1 bonds **do not have a put option**, which means, investors cannot return these bonds to the issuing bank and get back the principal amount.
- Like other bonds, AT1 bonds pay a fixed rate of interest (slightly higher) at regular interval. However, **if banks face bankruptcy or capital shortage**, they can dismiss the principal amount and not pay interest.
- AT1 bonds can also be listed and traded on exchanges. So, if an AT1 bond holder needs money, he/she can sell it in the market.
- AT1 bonds are regulated by RBI. If the RBI feels that a bank needs to be rescued, it can ask the bank to cancel its outstanding AT-1 bonds without consulting its investors.

### Reason For The Write-off

- Yes Bank, which was on the verge of collapse, was placed under a moratorium by the RBI in March 2020 and a new management and board were appointed as part of a rescue plan worked out by the RBI.
- The central bank allowed a write-off of Rs 8,400 crore on AT1 bonds issued by Yes Bank after it was rescued by the State Bank of India.
- **Duping individual investors**
  - A **SEBI probe** found that the bank facilitated the selling of AT1 bonds from institutional investors to individual investors.
  - It found that during the process of selling the AT1 bonds, individual investors were not informed about all the risks involved in the subscription of these bonds.
  - Yes Bank represented these bonds as a 'Super FD' and 'as safe as FD' to the investors.

### Capital Adequacy Ratio (CAR)

- CAR is the **ratio of a bank's capital in relation to its risk weighted assets and current liabilities.** In other words, it measures how much capital a bank has with it as a percentage of its total credit exposure (loans).
- It is also known as the Capital to Risk (Weighted) Assets Ratio (CRAR).
- **CAR = (Tier 1 capital + Tier 2 capital)/risk weighted assets**
  - Banks' regulatory capital is divided into Tier 1 and Tier 2

#### Tier 1 capital

• This can absorb the losses without a bank being required to stop trading. Also called core capital, this consists of ordinary share capital, equity capital, **audited** revenue reserves, and intangible assets. This is permanently available capital and readily available to absorb losses incurred by a bank without it having to cease operations.  
 ○ It is subdivided into **Common Equity Tier-1 (CET-1) & Additional Tier-1 (AT-1) capital.**

#### Tier 2 capital

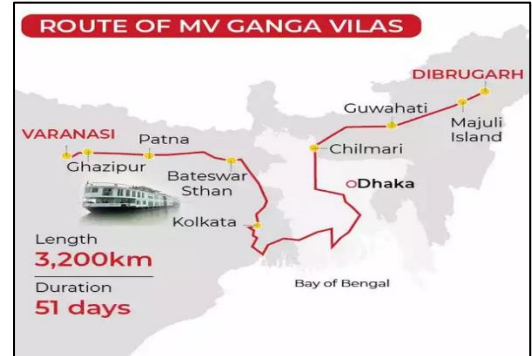
○ This can absorb losses if the bank is winding-up and so gives depositors a lesser measure of protection. This consists of **unaudited** reserves, **unaudited** retained earnings, and general loss reserves. This capital is used to absorb losses after a bank loses all its tier 1 capital.

- Bank regulators enforce this ratio to ensure **credit discipline** in order to protect depositors and promote stability and efficiency in the financial system.
- CAR was formulated under the **Basel III accord** of 2009 after the global financial crisis of 2008.
  - Basel III is a set of financial reforms developed by the **Basel Committee on Banking Supervision (BCBS)**, to strengthen regulation, supervision, and risk management in the banking industry.
- As per Basel III, banks must maintain a capital adequacy ratio of at least 8%. However, in India, RBI norms mandate that India's public sector banks maintain a CAR of 12% and scheduled commercial banks should maintain a CAR of 9%.



## Ganga Vilas

- The world's longest river cruise, MV Ganga Vilas was flagged off by the Prime Minister.
- While it will be managed by private operators, the **Inland Waterways Authority of India (IWAI), under the Ministry of Shipping, Ports and Waterways (MoPSW)**, has supported the project.
- Setting sail from **Varanasi**, the cruise ship, MV Ganga Vilas, will cover 3,200 km over **51 days**
- Besides connecting National Waterway 1 (NW-1) and NW-2, while crossing 27 river systems and several states, it will end its journey at **Dibrugarh in Assam**
- The voyage is packed with visits to **50 tourist spots**, including World Heritage spots, national parks, river ghats, and major cities like Patna, Sahibganj, Kolkata, Guwahati and **Dhaka** (Bangladesh).
- It will make pit-stops to cover the famous Ganga Arti in Varanasi, the Buddhist site of Sarnath, and even Majuli, the largest river island in Assam. The travellers will also visit the Bihar School Of Yoga and Vikramshila University.
- The cruise will traverse through the Sunderbans in the Bay of Bengal delta, as well as the Kaziranga National Park.



## River Tourism in India

- In India, eight river cruise vessels are operational between Kolkata and Varanasi while cruise movement is also operation on NW-2 (Brahmaputra).
  - The construction of 10 passenger terminals across NW-2 are going on which will further bolster the prospect of river cruise
- The Union government has taken several initiatives to boost the country's cruise tourism industry, including infrastructure upgrades, rationalisation of port fees, removal of ousting charges, priority berthing for cruise ships, and the provision of e-visa facilities.
- India aims to increase cruise passenger traffic from 0.4 million at present to 4 million.
- The economic potential of cruise tourism is expected to rise from \$110 million to \$5.5 billion in the coming years.
- Riverine tourism will also lead to job creation in states like Uttar Pradesh, West Bengal, Bihar and Assam.

## Way Ahead

- The expansion must take into account the best practices from around India and the world.
- Furthermore, *employment generation* must go hand-in-hand with *ecological repair*. Two of the greatest threats to India's rivers — silting and pollution — must be addressed for the government to realise its goal.

## First Advance Estimates

The **National Statistical Office, Ministry of Statistics and Programme Implementation (MoSPI)** released the First Advance Estimates (FAE) for the financial year 2022-23.

### First Advance Estimates (FAE)

- The FAE, which were first introduced in 2016-17, are typically published at the end of the first week of January. They are the "first" official estimates of how GDP is expected to grow in that financial year.
- But they are also the "advance" estimates because they are published long before the financial year (April to March) is over.
- Even though the FAE are published soon after the end of the third quarter (October, November, December), they do not include the formal Q3 GDP data, which is published at the end of February as part of the Second Advance Estimates (SAE).
- Since the SAE will be published next month, the Union Finance Ministry uses the FAE to decide the next financial year's Budget allocations.

## Calculation of FAE

- The FAE are derived by extrapolating the available data. **Extrapolation** is a process of estimating the values of a particular metric by assuming that existing trends will continue.
- The sector-wise estimates are obtained by extrapolating indicators like:
  - Index of Industrial Production (IIP) of first 7 months of the financial year.
  - Financial performance of listed companies in the private corporate sector available for Q1 and Q2 2022-23.
  - The 1st Advance Estimates of crop production.
  - Production estimates of Major Livestock Products for summer season of 2022-23;
  - Fish Production; Production/Consumption of Cement and Steel;
  - Net Tonne Kilometres and Passenger Kilometres for Railways;
  - Passenger and Cargo traffic handled by Civil Aviation;
  - Cargo traffic handled at Major Sea Ports;
  - Sales of Commercial Vehicles;
  - Bank Deposits & Credits
  - The accounts of central & state governments.

## Key Points from FAE

- India's GDP is expected to grow at 7% for financial year 2022-23. This is slower than the 8.7% GDP growth in 2021-22, but slightly higher than the RBI's forecast of 6.8% for the current financial year.
- **Real GDP** or GDP at Constant (2011-12) Prices in the year 2022-23 is estimated at ₹157.60 lakh crore (to grow at 7%), as against the Provisional Estimate of GDP for the year 2021-22 of ₹147.36 lakh crore, released in May 2022.
- The country's **nominal GDP**, which factors in the inflation rate, is expected to grow by 15.4% in 2022-23, down from 19.5% in 2021-22.
- **Gross Value Added (GVA)** is expected to grow at 6.7% in 2022-23 as against 8.1% in 2021-22.

**GDP=**

• private consumption + gross investment + government investment + government spending + (exports-imports).

**GVA=**

• GDP + subsidies on products - taxes on products.

- **Private final consumption expenditure** – a measure of consumption of goods and services by individuals – is seen growing at a slower pace of 7.7% in FY23 as against 7.9% a year ago.
- **Gross fixed capital formation** – a proxy for investment activity – will grow at 11.5% as against 15.8 per cent growth last fiscal.
- Government expenditure will grow by 3.1% as against 2.6% last fiscal coming on the back of a capital expenditure push.
- Further, it expects exports to rise by 11.9% in H2(second half of a fiscal year) FY2023.

## Sectoral Growth

	Estimated growth FY23	FY22 growth
manufacturing sector (output)	decelerate to 1.6%	9.9%
construction	moderate to 9%	11.5%

mining sector	2.4%	11.5%
electricity generation	9%	7.5%
Agriculture	3.5%	3%
Financial, real estate and professional services	6.4%	4.2%
public administration, defence and other services	7.9% (slower growth)	12.6%
Services sector, especially hospitality and financial services, are expected to post a strong rebound.		
Trade, hotels, and transport services	13.7%	11.1%


### Open Market Sale Scheme

- The government approved a proposal for the sale of 30 Lakh Metric Tonnes of wheat under the Open Market Sale Scheme (OMSS).
- Wheat will be offered to the flour millers, and bulk buyers through e-auction.
- Wheat will also be offered to State governments and UTs for their schemes without e-auction.

### OMSS


- Under the OMSS, the government allows state-run **Food Corporation of India (FCI)** to sell foodgrains, especially wheat and rice, at **pre-determined prices** in the **open market** from time to time to bulk consumers and private traders.
- The purpose is to dispose of surplus stocks of wheat and rice held by FCI, boost the supply during the lean season and moderate the general open market prices, especially in the deficit regions.

- The FCI conducts a **weekly e-auction** to conduct this scheme using NCDEX (National Commodity and Derivatives Exchange Limited).
  - NCDEX is a commodity exchange platform for trading in various agricultural and other commodities in India.



## Food Corporation of India (FCI)

- It was set up in 1965, under the Food Corporation Act, 1964, as the country was facing major shortage of food grains, especially wheat.
- It is a statutory body under the Ministry of Consumer Affairs, Food and Public Distribution.
- Since its inception, FCI has played a significant role in India's success in transforming the crisis management-oriented food security into a stable security system.



**Objectives of FCI**

- Provide remunerative prices to farmers for safeguarding their interests.
- Distribution of food grains throughout the country for public distribution system (PDS).
- Maintaining satisfactory level of operational and buffer stocks of food grains to ensure national food security.

### India Adopts T+1 Settlement System

- India has transitioned to a market-wide Transaction+1 (T+1) settlement system for equities from the previous T+2 cycle.
- This is aimed at bringing operational efficiency, faster fund remittances, share delivery, and ease for stock market investors.
- Until 2001, stock markets had a weekly settlement system. The markets then moved to a rolling settlement system of T+3, and then T+2 in 2003.

### Benefits

- The shorter trade cycle is good for investors, and encourages trust among them.

- It also shows how well India has grown on the digital journey to ensure seamless settlements within 24 hours.
- It will help the investor in reducing the overall capital requirements and thereby the cost of transactions.
- If a trader has availed financing to buy the shares, s/he will be able to save one day's interest.
- The shift will boost the operational efficiency as the rolling of funds and stocks will be faster.



#### T+1 settlement system

- T+1 settlement cycle means investors buying stocks will get the delivery of the shares on the day after the transaction is executed.
  - Say if an investor buys shares on a Monday, s/he will get these shares in his/her demat account by Tuesday.
- Under the previous T+2 system, it used to take two days for the investors to get the actual proceeds of the transaction.
- Thus, in both purchase and sale transactions, the market participants will be able to wrap up the transaction a day earlier.

Reduce Number Of Outstanding Unsettled Trades	Reduce Systemic Risk
<ul style="list-style-type: none"> <li>• T+1 settlement cycle not only reduces the timeframe but also reduces and frees up capital required to collateralize that risk.</li> <li>• A shortened settlement cycle also reduces the number of outstanding unsettled trades at any point of time, and thus decreases the unsettled exposure to Clearing Corporation (CCP) by 50%.</li> <li>• The narrower the settlement cycle, the narrower is the time window for a counterparty insolvency/ bankruptcy to impact the settlement of a trade.</li> </ul>	<ul style="list-style-type: none"> <li>• Systemic risk depends on the number of outstanding trades and concentration of risk at critical institutions such as CCPs, and becomes critical when this magnitude of outstanding transactions increases.</li> <li>• Thus, in this era of increasing trade volumes, a shortened settlement cycle will help in reducing systemic risk.</li> </ul>

#### Global Scenario

- Globally, T+2 system is still the most dominant system with most of the developed markets such as the US, Japan and Germany following the longer settlement cycle.
- Even the majority of the emerging markets follow the same standard. Only Mainland China market where its class A shares trade, follows a T+1 system.
  - However, the global off-shore funds barely deal in these securities and instead buy from the Hong Kong market, which also offers T+2 settlement.

#### Opposition From Foreign Investors

- Foreign investors have been against SEBI's T+1 proposal, and had written to the regulator and the Finance Ministry about the operational issues faced by them.
- The internal systems and processes of FPIs have been designed to support the globally popular T+2 cycle.
- Unlike domestic investors who put their money entirely in a single market, Foreign Portfolio Investors deal with multiple markets and also operate from different geographies.
- Among the issues raised by them are **time zone differences, information flow processes, and foreign exchange problems.**

#### Short Selling

Hindenburg Research disclosed short positions in Adani Group, alleging stock manipulation and accounting fraud in its latest investigative report.

- **Buy low, sell high** is the traditional investment strategy in which one buys a stock or security at a particular price and then sells it when the price is higher, thereby booking a profit.
- This is referred to as a **long position**, and is based on the view that the price of the stock or security will appreciate with time.
- **Short selling, or shorting**, on the other hand, is a trading strategy based on the expectation that the price of the security will fall.
- While fundamentally it is based on the buy low, sell high approach, the **sequence of transactions is reversed in short selling — to sell high first and buy low later**.
- Also, in short selling, the trader usually does not own the securities he sells, but merely borrows them.
- In the stock market, traders usually short stocks by selling shares they have borrowed from others through brokerages.
- When the price of the shares falls to the expected levels, the trader would purchase the shares at the lower price and return them to the owner, booking a profit in the process.
- If, however, the price of the shares appreciates instead of falling, the trader will be forced to buy shares at a higher price to return to the owner, thereby booking a loss.

## Global Economic Prospects

- The World Bank released its latest **Global Economic Prospects**.
- Released **twice** a year, the report examines global economic developments and prospects, with a special focus on emerging market and developing economies.

### Highlights Of The Report

- The global economy will come very close to a **recession** this year, led by weaker growth in all the world's top economies — United States, Europe and China.
  - China will grow by 4.3%, nearly a percentage point lower than the previous forecast, and about half the pace that China posted in 2021.
  - European Union's economy won't grow at all next year after having expanded 3.3% in 2022.
  - Although the United States might avoid a recession this year, the US economy is only expected to grow at 0.5%.
- Global growth is slowing sharply in the face of elevated inflation, higher interest rates, reduced investment, and disruptions caused by Russia's invasion of Ukraine.
- World Bank has slashed its forecast for **global growth** this year by nearly half, to just 1.7%, from its previous projection of 3%
  - If that forecast proves accurate, it would be the **third-weakest annual expansion in three decades**, behind only the deep recessions that resulted from the 2008 global financial crisis and the pandemic in 2020.
  - This would mark the first time in more than 80 years that two global recessions have occurred within the same decade.
- The deceleration in global growth is due to the lagged effect of the monetary policy tightening by central banks around the world and weakening external demand.
- The impact of a global downturn would be particularly hard on poorer countries in areas like Saharan Africa, where the World Bank predicts per capita income will grow just 1.2% in 2023 and 2024. This rate is so low, that **poverty rates could rise**.



- The report also noted that rising interest rates in developed economies like the United States and Europe will attract investment capital from poorer countries, thus depriving them of crucial domestic investment.
- At the same time, those high interest rates will slow growth in developed countries at a time when Russia's invasion of Ukraine has kept world food prices high.
- Weakness in growth and business investment will worsen the already devastating reversals in education, health, poverty, and infrastructure and the increasing demands from climate change.

### Developing Economies

- The bank expects developing countries to fare better, growing 3.4% this year, the same as in 2022, though still only about half the pace of 2021. It forecasts Brazil's growth slowing to 0.8% in 2023, down from 3% last year.
- In Pakistan, it expects the economy to expand just 2% this year, one-third of last year's pace.

### Indian Scenario

- India is expected to be the **fastest growing economy of the seven largest Emerging Markets and Developing Economies (EMDEs)**.
- The Indian economy is projected to grow at a robust **6.6% in 2023-24 (FY24)**, slowing down from an estimated **6.9% in 2022-23 (FY23)**, due to limited spillovers to Asia's third largest economy from a projected global slowdown.
- The report, however, noted that **consumer inflation was above the RBI's upper tolerance limit** of 6%, for most of the last year. This led to the policy rate to be raised by 2.25% points between May and December.
- India's **goods trade deficit has more than doubled since 2019**, and was \$24 billion in November, with deficits for crude petroleum and petroleum products (\$7.6 billion) and other commodities (ores and minerals at \$4.2 billion) accounting for the widening.
- However, governments increased infrastructure spending and various business facilitation measures, will crowd-in private investment and support the expansion of manufacturing capacity.

### World Bank

- **Headquartered in Washington D.C.**, the World Bank is an international financial institution.
- It is the largest development bank in the world and provides **loans and grants** to the governments of low- and middle-income countries for the purpose of pursuing capital projects.
- An observer at the United Nations Development Group, the bank's stated mission is to achieve the twin goals of ending extreme poverty and building shared prosperity.
- The World Bank comprises only IBRD and IDA. All the five below organizations together are called World Bank Group



### Trademark Infringement

The Delhi High Court dismissed a case of trademark infringement brought up by the global fast food chain **Subway**, against a Delhi based restaurant - **Suberb**.

## Trademark

- It is a **symbol, design, word or phrase that is identified with a business**. When a trademark is registered, its owner can claim **“exclusive rights” on its use**.
- **The Trademark Act, 1999**, governs the regime on trademark and its registration.
- The Act guarantees protection for a trademark that is registered with the **Controller General of Patents, Designs, and Trademarks**, also known as the trademark registry.
- A trademark is **valid for 10 years**, and can be **renewed by the owner indefinitely** every 10 years.

## Violation of Trademark

- Using a registered trademark without authorisation of the entity that owns the trademark is a violation or infringement of the trademark.
- Using a substantially similar mark for similar goods or services could also amount to infringement.
- In such cases, courts have to determine whether this can cause confusion for consumers between the two.

**Types of Intellectual Property (IP):** Copyright, Patents, Trademarks, Industrial designs, Geographical indications (GI) and Trade secrets.

### IP rights in India are governed under:

- The Trade Marks Act 1999,
- The Patents Act 1970 (amended in 2005),
- The Copyright Act 1957,
- The Designs Act 2000,
- The GI of Goods (Registration and Protection) Act 1999, etc.

## Ways Of Trademark Infringement

- **Deceptive Similarity:** A mark is considered deceptively similar to another mark if it nearly resembles that other mark, confusing the consumer in the process. Such deception can be caused phonetically, structurally or visually.
- **Passing off:** For example, if a brand logo is **misspelt in a way that's not easy for the consumer to recognize**.
- In such cases, the infringing products need not be identical — but similarity in the nature, character, and performance of the goods of the rival traders has to be established. (Cadila Healthcare Limited vs Cadila Pharmaceuticals Limited, 2001).
- Essentially, for a claim of 'passing off', some form of deception, misrepresentation, or harm to goodwill and reputation to the owner of a mark has to be established.
- As per the Supreme Court, passing off is an unfair trade practice that attempts to obtain an economic benefit of the reputation which other has established for himself in a particular trade or business.
- In the Subway case, the HC did not look into the issue of passing off.

## The Subway Case And The Judgement

- Subway held that the brand name and logo “Suberb” was deceptively similar to “Subway”, and that the combination of green and yellow in Suberb was identical to the Subway trademark.
- In response, Suberb argued that Subway is a “well-known brand”, and that a consumer would not walk into a Suberb outlet confusing it with Subway.
- The HC held that while the two terms do not sound the same, “Sub” (the first syllable/ part) is common to both marks and is used as an abbreviation for “submarine”, which represents a well-known variety of long-bodied sandwiches.
- Thus, **Subway, cannot claim “exclusivity” or “monopoly” over “sub”**, the first part of its trademark “Subway”, when used in the context of eateries which serve sandwiches and similar items.
- This is because, there was **no likelihood of confusion to the public** as the marks when considered as a whole did not sound the same.

## Quality Control Orders

- The Department for Promotion of Industry and Internal Trade (DPIIT) is looking to bring air coolers, bicycles and bottled water dispensers under the **quality norms**.
- The other light-engineering industry products for which these norms are under consideration include pumps, door fittings, cookware and utensils, electrical accessories, communication cable and water meters.
- The move is aimed at **containing the import of sub-standard goods and boosting the domestic industry**.
- The DPIIT is in the process of formulating **Quality Control Orders (QCOs)** for various products and has floated draft QCOs for 16 products.
- The items under these orders cannot be produced, sold/traded, imported and stocked unless they bear the **Bureau of Indian Standards (BIS) mark**.
- These orders are issued by the department in consonance with the **WTO (World Trade Organisation) Agreement on Technical Barriers to Trade (TBT)** for industries falling under its domain.

### Agreement on Technical Barriers to Trade (TBT)

- The TBT Agreement aims to ensure that technical regulations, standards, and conformity assessment procedures are non-discriminatory and do not create unnecessary obstacles to trade.
- At the same time, it recognises WTO members' right to implement measures to achieve legitimate policy objectives, such as the protection of human health and safety, or protection of the environment.
- It strongly encourages members to base their measures on international standards as a means to facilitate trade.
- Through its transparency provisions, it also aims to create a **predictable trading environment**.

## National Financial Reporting Authority

- In a first-of-its-kind move aimed at **improving audit quality**, the National Financial Reporting Authority (NFRA) has published draft requirements regarding preparation and publication of **Annual Transparency Report (ATR)** by auditors/audit firms.
- The effort is aimed at enhancing the transparency about management and governance of **audit firms** and their internal policy framework to ensure high quality audits and preventing conflict of interest by maintaining independence.
- The gradual implementation of this filing will start with the statutory auditors of the top 1,000 listed companies by market capitalisation on March 31.
- Audit firms will have to provide the details of their ownership and legal, governance and management structures.
- The reports will also cover the details about the revenues of the statutory auditor and its network firm for the current and previous years.

### NFRA

- The NFRA was constituted in **2018**, by the Union Government under the **Companies Act, 2013**. It is an audit regulator.

### Functions

- Recommend accounting and auditing policies and standards to be adopted by companies for approval by the Central Government;
- Monitor and enforce compliance with accounting standards and auditing standards;
- Oversee the quality of service of the professions associated with ensuring compliance with such standards and suggest measures for improvement in the quality of service;

## Pension Eligibility For Adopted Child

- The Supreme Court recently ruled that a child adopted by the widow of a government servant is not qualified to get the family pension under the Central Civil Services (Pension) Rules.
- However, it clarified that a child born to the wife of the deceased government servant after his death is entitled to it.
- The case related to a person who was adopted as a son by the widow two years after the death of her government servant husband, from whom she had no children.
- The adopted son had claimed the right to receive a family pension citing the Hindu Adoption and Maintenance Act, which does not differentiate between a blood-related child and an adopted one.
- The bench said that family pension was devised as a means to help the dependents of a deceased government servant.
- Therefore, the definition of the term 'family' cannot be extended to include those persons who were not even dependents of the government servant, **at the time of his death.**
- Rejecting the claim, the bench said that the word "adoption" in Rule 54(14)(b)(ii) of the CCS (Pension) Rules, must be restricted to an adoption made by a government servant during his/her lifetime.
- And it must not be extended to a case of adoption made by a surviving spouse of the government servant after his/her death.
- However, the bench clarified that a child born to the widow from the deceased husband after the latter's death would be entitled to family pension.

## Remote Voting Facility for Migrant Workers

The Election Commission is ready to pilot a remote voting facility for migrant workers. A prototype of a **Multi-Constituency Remote Electronic Voting Machine (RVM)** has been developed for the same that can handle multiple constituencies from a single remote polling booth.

### Need For Remote Voting Facility

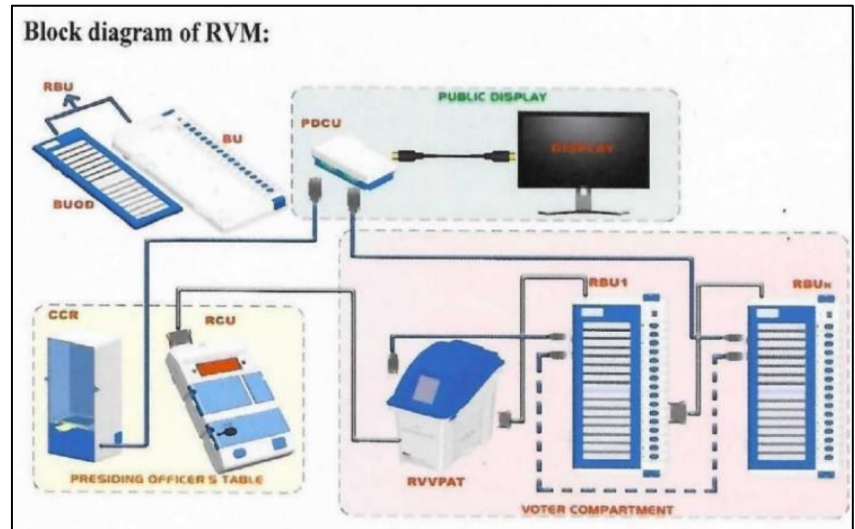
- Migration based disenfranchisement is a major reason for low voter turnout.
- The EC is concerned over the stagnation in voter turnout.
  - In 2019 General Elections, 67.40% of the 91.20 crore registered electors voted, slightly higher than 66.44% in 2014. In 2009, the turnout was 58.21%.
  - About 30 crore electors did not exercise their franchise as they were absent from their home locations on the polling day and were unable to travel to vote due to various reasons like exigencies of work or lack of resources to travel.
  - As per Census 2011, 45.36 crore Indians, or 37% of the population are migrants, but 75% of them are migrants on account of marriage or other family-related reasons.
- This is against EC's rule of "no voter left behind".

### Proposed Solution

- The EC has come up with a prototype Remote Voting Machine (RVM) - a stand-alone, non-networked system providing a voter with the same experience as currently used EVMs.
- It is being developed with the assistance of Bharat Electronics Limited (BEL) and the Electronics Corporation of India Limited (ECIL).

### Features:

- **Remote Ballot Unit (RBU):** The unique feature of RVMs is that a single RBU will cater to as many as **72 constituencies** by using a "dynamic ballot display board" instead of the usual printed paper ballot sheet on EVMs.
- **Ballot Unit Overlay Display (BUOD):** It will show the requisite candidates based on the **constituency number** read on the **voter's Constituency card**.
- **Barcode Scanning System:** To read voter ID cards.



### Voting Process

- According to the EC, the RVM, like the EVM, would not be connected to the internet.
- The RO in the remote location will load the symbols of candidates into the unit using a laptop with no internet connection.
- Representatives of political parties and candidates would be invited to be present when the symbols are loaded onto the unit.



- These symbols would be visible on a display unit for all to see.
- After verifying a voter's identity, their constituency card will be read, with a "public display" showing the constituency details and candidates.
  - This will **also** be displayed *privately, on the BUOD in the RVM's RBU.*
- The VVPAT system is expected to work along the same lines with the new technology.

**Proposed remote voting process**

<p><b>Registration of remote voter:</b></p> <ul style="list-style-type: none"> <li>➤ Remote voter has to pre-register for remote voting facility by applying online/offline</li> <li>➤ Voter details will be verified at home constituency and remote voting request approved</li> <li>➤ Special multi-constituency remote voting polling stations will be set up in places of current residence.</li> </ul> <p><b>Voting process:</b></p> <ul style="list-style-type: none"> <li>➤ After verifying identity of the voter, presiding officer scans his/her constituency card</li> <li>➤ Ballot sheet details for the</li> </ul>	<p>respective constituency are displayed on using public display unit and also on RBU</p> <ul style="list-style-type: none"> <li>➤ Display will change dynamically based on the constituency card read by CCR</li> <li>➤ Remote voter presses candidate button of his choice on RBU</li> <li>➤ Vote is recorded along with state code, constituency number and candidate number in RBU</li> <li>➤ RVPAT prints the state code and constituency code on the paper slip, along with candidate and symbol voted for</li> </ul>
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### Challenges

- There is no accurate number of migrants. Also, in 2017, the ECI had told the SC that it was not feasible to track movement of domestic migrants to allow remote voting.
- Also, migrants are not a uniform and defined class, with fluid identities, locations and situations.

Administrative Challenges	Legal Challenges	Technological Challenges
Enumerating remote voters-self declaration?  Providing controlled environment - ensuring secrecy of voting at remote locations  Provision of polling agents at remote voting booths & ensuring identification of voters to avoid impersonation  Number of booths to be set up & locations  Appointment of polling personnel for remote polling stations and supervision thereof  Implementation of MCC in remote location (other State)	<b>Laws/Rules needing amendments</b> <ul style="list-style-type: none"> <li>RP Act, 1950 &amp; 1951</li> <li>The Conduct of Election Rules, 1961</li> <li>The Registration of Electors Rules, 1960</li> </ul> <b>Defining Migrant Voter</b> <ul style="list-style-type: none"> <li>Poll day absence to permanently shifted</li> <li>Retain registration at original place in the context of 'ordinary residence' &amp; 'temporary absence' legal construct</li> </ul> <b>Defining Remote Voting</b> <ul style="list-style-type: none"> <li>Dealing with territorial constituency concept</li> <li>Defining remoteness: outside constituency, outside district or outside state</li> </ul>	Method of remote voting  Familiarity of the voters with the methods/ Multi-constituency Remote EVM or any other technology.  Counting of votes cast at remote booths and transmit to RO located in other State.

### Benefits

- It can lead to a social transformation for the migrants as many times they are reluctant to get themselves enrolled at their place of work due to various reasons like:
  - frequently changing residences
  - not enough social and emotional connect with the area of migration
  - unwillingness to get their name deleted in electoral roll of their home/native constituencies as they have permanent residence/property etc.
- Improve voter turnout and ensure participative elections.

While the EC claims that RVMs are as secure as currently used EVMs, more technological components are bound to raise further questions.

### Triple Test Formula for OBC Quota

The Uttar Pradesh Government set up a five-member commission to conduct surveys and ensure OBC reservation in the local body is provided based on the **triple test**. This test will be carried out for the first time in Uttar Pradesh and its rules will be laid down by the Law department and the Urban Development department.

### What Is The Triple Test?

- In a landmark judgement in the **K.Krishna Murthy & Ors. Vs. Union of India** (2010), the Supreme Court had laid down a triple test for reserving seats in local body polls.

- It was reiterated by the Supreme Court in the case of **Vikas Kishanrao Gawali vs. State of Maharashtra and others in 2021**.
- It requires the government to complete the following three tasks before finalizing reservation for OBCs in local body elections:



#### About OBCs

- OBC (Other Backward Classes) is a collective term to classify educationally or socially backward castes.
- It is one of several official classifications of India's population along with General, Scheduled Castes and Scheduled Tribes (SCs and STs).
- V.P. Singh government in 1991 recommended a 27% quota for OBCs in public sector jobs and higher education, thus making the total number of reservations for SC, ST and OBC to 49%.
- In October 2017, former President Ram Nath Kovind notified a five-member Commission headed by Delhi HC's former **Chief Justice G. Rohini** under Article 340 of the Indian Constitution, to explore the idea of OBC sub-categorization.

- Set up a dedicated commission to conduct a rigorous **empirical inquiry** into the nature and implications of the backwardness in local bodies.
- Specify the **proportion of reservations required** in local bodies considering recommendations of the commission, so as not to *fall foul of overbreadth*.
- Ensure reservations for SCs/STs/OBCs taken together do not exceed an aggregate of 50% of the total seats.

- The reservation cannot be notified without meeting these conditions.

#### Previously Used Method

- The UP government used the method of **rapid survey** for determining the population of OBCs as determined by the Urban Development Department. It was used for the polls held in 1995, 2000, 2006, 2012 and 2017.
- Based on this survey, seats were reserved in proportion to the population of the backward class of citizens in the constituency/ward concerned.

#### Why Triple Test?

- Allahabad High Court, while rejecting the reservation provided to OBC's in local body elections based on the rapid survey method stated that an exercise cannot be confined to counting heads alone.
  - It pointed out that granting reservation based on population misses a **very crucial factor** ie "political representation of the class or group" **for determination of backwardness**.
- Quoting the Supreme Court's observation in the **K Krishna Murthy case**, the court stated that the nature of disadvantages which restrict access to education and employment cannot be readily equated with disadvantages in the realm of political representation.
  - **Nature of reservation provided:** Supreme Court observed that there is an inherent difference between the nature of benefits that accrue from **access to education (Article 15(4))** and **employment (Article 16(4))** on one hand and **political representation at grassroots level (Article 243-D)** on the other hand.
  - Thus, backwardness in the social and economic sense does not necessarily imply political backwardness.

#### Centre vs Delhi Government on Control over Services

A five-judge constitution bench is hearing a dispute between Centre and the Delhi Government on control over services i.e., matters pertaining to control over the transfers and overall functioning of administrative services in Delhi.

#### Background

- **2018 Judgement:**
  - A five-judge Bench interpreted **Article 239AA** of the Constitution.

- It laid down broad parameters for the governance of Delhi and held that the powers of the Lieutenant Governor (LG) can be curtailed as he has no independent decision-making power and must act on the aid and advice of the elected government except for those functions where the Lieutenant Governor is permitted to exercise his own discretion.
- **2019 Judgement:**
  - A two-judge Bench dealt with the issue of control over services which was not settled as the judges ruled differently.
    - One Justice held that the Delhi government has no power over administrative services at all,
    - Whereas other Justice held that transfers and postings of Secretaries, HODs and other officers in the scale of Joint Secretary to the Government of India and above can be done by the Lieutenant Governor and the file should be submitted to him directly but for other levels, including DANICS (Delhi, Andaman and Nicobar Islands Civil Service) officers, the files can be routed through the Chief Minister to LG.
  - Due to this split verdict, the case came up before the CJI for listing to be heard afresh by a larger bench.
    - Whenever a split verdict is delivered, the case is heard afresh by a larger Bench assigned by the CJI.
  - The two-judge bench had recommended that a three-judge bench be set up to decide the issue of control of administrative services. Further, in May 2022, a three-judge Bench had referred this case to a larger Bench on the Central government's plea.

### Arguments

Centre	Delhi Government
The very purpose of creating a Union Territory is that the Union itself wants to administer the territory and control its administrative functions.	Elected representatives must have power over transfers and postings in the interest of federalism.
All employees, right from All India services till downwards are recruited by the UPSC and governed by the central laws. Delhi subordinate services comes under the President of India and there is no separate Act for service-related issues.	A government cannot function if it does not have control over services as the exclusion of civil servants will negate governance and render officials unaccountable to people.

### Article 239AA

- It contains special provisions for administration of Delhi and was inserted by the **69th Amendment Act, 1991**.
- It conferred special status of National Capital Territory of Delhi and authorized the appointment of Lieutenant Governor for its administration.
- It states that:
  - The Legislative Assembly will have power to make laws for the whole or any part of the National Capital Territory with respect to any of the matters enumerated in the State List (**except public order, police and land**) or in the Concurrent List.
    - ✓ If any provision of a law made by Legislative Assembly with respect to any matter is repugnant to any provision of a law made by Parliament with respect to that matter, whether passed before or after the law made by Legislative Assembly then, in either case, the law made by Parliament shall prevail.
    - ✓ But if any such law made by the Legislative Assembly has been reserved for the consideration of the President and has received his assent then such law shall prevail in the National Capital Territory.
  - In the case of difference of opinion between the Lieutenant Governor and his Ministers on any matter, the Lieutenant Governor will refer the matter to the President and act according to the decision of the President and in case of urgent matters he can take an action as he deems necessary.

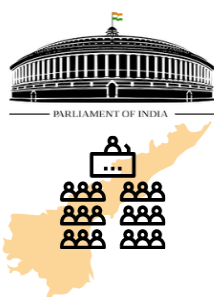
## What Are The Legal Issues Before The SC?

There are two legal issues before the court –

- The first arises from a reference made by a two-judge Bench in February 2019.
  - While deciding on the distribution of powers between the Delhi government and Centre, left the question of who will have control over the administrative services for consideration by a larger Bench.
- Second issue is the **Government of National Capital Territory of Delhi (Amendment) Act 2021**, passed by the Parliament.
  - The Act provided that the term “government” referred to in any law made by the Legislative Assembly of Delhi will imply the Lieutenant Governor (L-G).
  - However, the Delhi government has challenged the constitutional validity of the Act.

## Stalemate Between Telangana And Andhra Pradesh

The Andhra Pradesh government has approached the Supreme Court seeking just, reasonable and equitable apportionment of assets and liabilities with Telangana under the Andhra Pradesh Reorganization Act, 2014.



**Background**

- The Parliament of India passed the Andhra Pradesh Reorganization bill in 2014 paving way for the formation of Telangana state which comprised of ten districts from north-western Andhra Pradesh.
- More than eight years after this bifurcation, division of assets and liabilities between the two States remains elusive as the States make their own interpretation of the provisions under the Andhra Pradesh Reorganization Act 2014.
- The issue involves the division of 245 institutions with a total fixed asset value of ₹1.42 lakh crore. Of 245 institutions, 91 institutions are under Schedule IX and 142 institutions are under Schedule X of the Act.
- The division of another 12 institutions not mentioned in the Act has also become contentious between the States.

### Expert Committee Recommendations

- It made recommendations with respect to the division of 89 out of the 91 Schedule IX institutions.
- Its recommendations on the assets that are ***not a part of the headquarter assets***, attracted criticism from the Telangana government.
- The division of several institutions like the RTC headquarters and the Deccan Infrastructure and Landholdings Limited (DIL) which have huge land parcels in its possession have become the key bone of contention between the two States.

**Division of Headquarter Assets**

According to the Home Ministry, in case of one single comprehensive State undertaking (which includes the headquarters and the operational units in one facility) exclusively located in one area or if its operations are confined in one local area then it shall be **apportioned** based on the location according to **Section 53(1) of the Reorganization Act**.

### Claims Made

Andhra Pradesh	Telangana
The Government is firm on the implementation of the recommendations given by the expert committee for bifurcation of 89 out of the 91 Schedule IX institutions.	<p>The government contended that the expert committee’s recommendations were against the interests of Telangana.</p> <ul style="list-style-type: none"> <li>• Telangana claims that there is a clear definition of division of headquarter assets in Section 53 of the Reorganisation Act.</li> <li>• <i>The assets and liabilities relating to any commercial or industrial undertaking of the existing State of Andhra Pradesh, where such undertaking or part thereof is exclusively located in, or its</i></li> </ul>



	<i>operations are confined to, a local area, shall pass to the State in which that area is included on the appointed day, irrespective of the location of its headquarters.</i>
It complained that the Telangana government had selectively accepted the recommendations resulting in delays in the division of assets and liabilities.	The government is firm that the assets located outside the erstwhile united State like <b>Andhra Pradesh Bhavan in New Delhi</b> could be divided between the States based on population as per the provisions of the Act.

### Centre's Role

- The Reorganization Act empowers the Union Government to intervene as and when needed.
- But several meetings of the dispute resolution committee headed by the Union Home Secretary and comprising of the Chief Secretaries of the two States and those convened by dispute resolution sub-committee headed by the joint secretary of Home Ministry could not break the impasse.

### Constitutional Provisions Related to Inter-State Disputes

- **Article 131:** The Supreme Court has original jurisdiction in any dispute –
  - between the Government of India (GoI) and one or more States or
  - between the GoI and any State or States on one side and one or more other States on the other or
  - between two or more States.
- **Article 263:** It empowers the President to appoint an Inter-State Council (ISC) in public interest for
  - inquiring into and advising upon disputes between the states.
  - investigating and discussing subjects in which some or all the States, or the Union and one or more of the States, have a common interest.
  - making recommendations upon any such subject and for better co-ordination or policy and action with respect to that subject.

ISC was set up in 1990 through a presidential ordinance for the first time as per the recommendations of the Sarkaria Commission under the Ministry of Home affairs.

### Chargesheets Are Not Public Documents

The Supreme Court (SC) held that chargesheets are **not** public documents and their free public access violates the provisions of the Criminal Code of Procedure (CrPC).

#### Background

- A PIL was filed in the SC in 2021 which sought that all charge sheets or final reports should be uploaded on state websites as they are summary of police investigations in criminal cases.
- The petition was made based on the SC ruling of *Youth Bar Association of India vs*

- **Section 173 of CrPC:** It is related to the final report (chargesheet) prepared by the investigating police officer and submitted to the Magistrate.
- **Section 207 of CrPC:** It requires the investigating agency to furnish copies of the final report (charge sheet) along with the relevant documents related to the case *to the accused and to no-one else*.
- **Section 74 of Evidence Act:** It defines public documents as the ones which form the acts or records of:
  - Sovereign authority.
  - Official bodies, tribunals.
  - Public offices either legislative, judicial or executive in any part of India, Commonwealth or a foreign country.
  - Public records "kept in any state of private documents".
- **Section 76 of Evidence Act:** It is related to the certified copies of public documents and mandates, every public officer having custody of a public document which any person has a right to inspect, to provide its copy on payment of legal fee, accompanied by a certificate of attestation along with the date, seal, name and designation of the officer.
- **Section 4(2) of RTI Act:** It mandates every public authority to provide as much information Suo motu to the public at regular intervals through various means of communications, including internet so that the public have minimum resort to the use of this Act to obtain information.

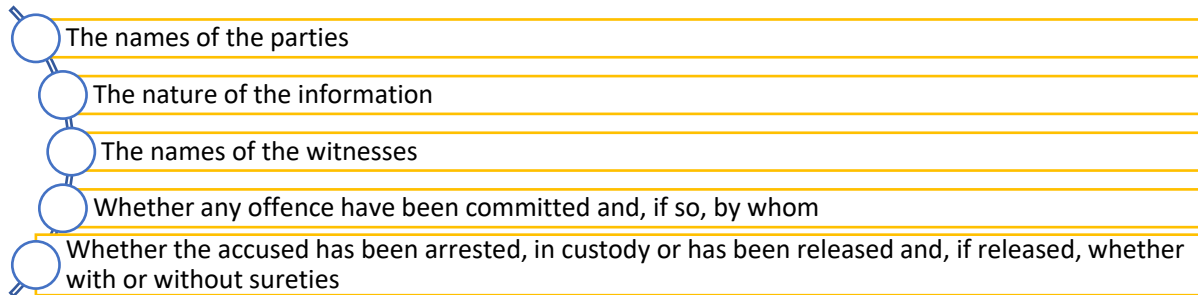


UOI Case, 2016 which directed all police stations in the country to publish copies of FIRs online within 24 hours of registration, except in cases where offenses were of sensitive nature.

- The petitioner argued that if FIRs could be made public which are just unsubstantiated allegations, then there was a greater need to disclose contents of a charge sheet which contains the investigation report on those charges to bring transparency in the criminal system.
- Petitioner cited sections 173 and 207 the CrPC, sections 74 and 76 of the Evidence Act, **1872** and section 4(2) of the Right to Information (RTI) 2005 to support his point.

### What is a Chargesheet?

- Defined under Section 173 of CrPC, it is the final report prepared by a police officer or an investigative agency after completion of an investigation.
- It answers all the questions related to an accused i.e.:



### Process After Preparing the Chargesheet

After preparing the chargesheet, the officer-in-charge of the police station forwards it to a Magistrate, complete with all documents. This forms the basis for the prosecution's case.

### Time Limit to File Chargesheet

- The charge sheet is to be filed within 60 days from the date of arrest of the accused in cases triable by lower courts and 90 days in cases triable by Sessions Court.
- If the charge sheet is not filed within the given time limit the arrest is termed to be illegal and the accused is entitled to bail.

### Chargesheet v/s FIR

Chargesheet	FIR
Defined under Section 173 of the CrPC.	Undefined but mentioned under police regulations/rules under Section 154 of CrPC, which deals with 'Information in Cognizable Cases'. ✓ Cognizable Offence is the one in which police may arrest a person without warrant and is authorized to start investigation into it on their own and do not require court orders to do so.
It is the final report filed towards the end of an investigation.	Filed at the ' <b>first instance</b> ' when the police are informed about a cognizable offence.
It is complete with evidence and is used during the trial to prove the offences of the accused.	It does not prove a person's guilt.
It is filed only after sufficient evidence has been gathered against the accused in respect of the offences mentioned in the FIR; otherwise, a	Investigation takes place only after filing an FIR. Section 155 states that the police don't have any legal authority to record an FIR regarding any non-cognizable

'cancellation report' or 'untraced report' can be filed due to lack of evidence.	offence, unless they have obtained permission from the magistrate for it
--	--

### SC's Stand

- The Court held that a chargesheet cannot be made publicly available as it's **not** a 'public document' as defined under Sections 74 and 76 of the Evidence Act.
- It rejected the reliance on its **2016 judgment** by saying that its ruling applied only to FIRs and was done to help accused innocents get relief from the competent court and could not be extended to chargesheets.
- It expressed concerns about the possibility of misuse of chargesheets by NGOs and busybodies.
- It cited the ruling in *Vijay Madanlal Choudhary vs UOI, 2022 case* where the Court held that Enforcement Case Information Report (ECIR) is not equivalent to FIR and thus, the accused cannot be allowed a copy of the same.
- Applying the same principles to the present case, the court stated that investigating agencies like ED and CBI could not be made to provide their chargesheets to the public.

### Journalists Not Exempted from Disclosing Sources

A special CBI court while rejecting a closure report filed by CBI said that the journalists have no statutory exemption in India from disclosing their sources to the investigating agencies.

#### Background

- In 2007, the Supreme Court (SC) directed CBI to conduct a preliminary enquiry into an assets case of late Mulayam Singh Yadav and his family. Its status report was submitted in the SC.
- A day before the final adjudication of proceedings in 2009, a news story based on forged documents was published and aired by the media houses.
- Following which the CBI filed a FIR alleging that some unknown persons prepared a fake and fabricated report to tarnish the agency's reputation. During the investigation, the CBI requested relevant documents from the media houses concerned but were denied.
- After the investigation, the CBI filed a closure report on the matter and argued that the documents used by the news channel were forged but it could not be established who forged the documents since the users of the forged documents did not disclose their source.
- A special CBI court rejected this closure report and directed CBI to question the journalists and to investigate the modus operandi adopted by the culprits for gaining access to or obtaining the official documents including probing involvement of any insider in the acts alleged and preparing the alleged forged documents.

### Journalistic Privileges Around the World

- **India**
  - There is no specific legislation for protecting journalists from disclosing their sources in our country.
  - Article 19 of the Constitution guarantees the right to freedom of speech and expression to all citizens.
  - Section 91 of CrPC empowers any Court or any investigating officer to issue summons or written orders to the person in whose possession any relevant document or thing is believed to be, to produce it for the purpose of any investigation, inquiry, trial or other proceeding.
  - Thus, Investigative agencies can issue notice to anyone, including journalists, to provide information and in case one does not comply, they can face charges of Contempt of Court.
  - **Section 15(2) of the Press Council of India Act** protects a journalist from revealing his sources. It is only applicable to proceedings in front of the Press Council. No protection is available to the journalists before the Court.

- **United Kingdom:** The journalists are protected from disclosing their sources under the Contempt of Courts Act 1981.
  - But this right is subject to certain conditions in the “interest of justice”.
  - A landmark ruling by the European Court of Human Rights in 1996 held that an attempt to force a journalist to reveal his source for a news story violated his freedom of speech and expression guaranteed under the European Convention on Human Rights.
- **United States:** Journalists do not have any right to refuse or to testify in a federal grand jury proceeding and disclose their sources.
  - Several journalists have been imprisoned for refusing to disclose their sources. But there are shield laws in several states to protect journalist's rights.
- **Sweden:** The Freedom of the Press Act provides broad protection rights to journalists and extends to state and municipal employees who might share information with journalists freely. If a journalist reveals his or her source without consent, he may be prosecuted at the behest of the source.
- **France and Germany:** Journalists can refuse to disclose sources in an investigation.

### Related Judgements

- **Jai Prakash Aggarwal v. Vishambhar Dutt Sharma, 1986:** The Court while directing reporters of *Jan Satta* and *Punjab Kesari* to disclose their sources for a story alleging that a judicial verdict in the election petition had been fixed, held that if a journalist is compelled to disclose their source, it must be in the interest of justice and not detrimental to public interest.
- **Javed Akhtar v. Lana Publishing Co. Pvt. Ltd., 1987:** The Bombay High Court held that an allegedly defamatory article about the private life of a famous film script writer, while interesting to the public, was not of “public interest,” and therefore the journalist could be compelled to divulge his source as the disclosure was not detrimental to public interest.
- **Rafale Case, 2019:** The SC overruled Centre’s objections on the petitioner’s claims which relied on allegedly “stolen” confidential documents. The Centre had asked the publisher of reports to disclose his sources. The publisher in his response reminded the Court of its consistent views of upholding the freedom of press in a long line of decisions commencing from *Romesh Thapar vs. State of Madras* and *Brij Bhushan vs. The State of Delhi*.
- **Pegasus Software Case, 2021:** While constituting a committee to investigate the Pegasus spyware, the Supreme Court held that one of the fundamental conditions for the media to exercise its right to freedom of speech and expression under Article 19 is the *protection of journalistic sources* and without such protection, sources may be deterred from assisting the press in informing the public on matters of public interest.

Need for Disclosure of Information	Need for Protection
<ul style="list-style-type: none"> <li>• For greater public interest.</li> <li>• To control fake news.</li> <li>• Prevent misuse of media.</li> <li>• Vital for investigations in a case.</li> </ul>	<ul style="list-style-type: none"> <li>• To protect the right to freedom and speech of journalists.</li> <li>• To protect the identity of sources and preserve their trust.</li> <li>• Leads to quality journalism and benefits public interest by allowing reports on sensitive information and stories.</li> <li>• To prevent sources of information from running dry.</li> </ul>

### Recommendations

The **Law Commission of India** recommended recognizing **journalistic privilege in its 93<sup>rd</sup> report** by amending the **Indian Evidence Act**. It suggested inserting a new provision that -No court will require a person to disclose the sources of information contained in a publication for which he is responsible, where such information has been obtained by him on the express agreement or implied understanding that the source will be kept confidential. This recommendation was repeated in its 185<sup>th</sup> report.

# INTERNATIONAL RELATIONS

## Croatia Becomes Fully Integrated EU Member

- Croatia adopted the European Union's **common currency, the euro**, and joined the Schengen Area, Europe's visa-free travel area, on January 1.
- With this, Croatia became the fully integrated member of EU. The country joined the EU in 2013.

## Eurozone

- All European Union Member States are part of **Economic and Monetary Union (EMU)** and coordinate their economic policy-making to support the economic aims of the EU.
- However, a number of Member States have taken a step further by replacing their national currencies with the single currency – the euro.
- These Member States form the euro area, also known as **eurozone**.
- In other words, it is a **geographic and economic region** that consists of the European Union countries that have fully incorporated the euro as their national currency.
- It has a common Monetary Policy governed by a single monetary authority, the European Central Bank.
- Every member state is largely in charge of its own Economic Policy. But to achieve coordination between governments in this aspect, tools like the Stability and Growth Pact (SGP) are provided.



**As of January 2023, the eurozone consists of 20 countries in the European Union (EU):** Austria, Belgium, Croatia, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, and Spain.

## What Are The Requirements For Joining The Eurozone?

- In order to join the eurozone and use the euro as their currency, EU nations must meet certain criteria consisting of four macroeconomic indicators that focus on:
  - **Price stability** by demonstrating sustainable price performance and average inflation no more than 1.5% above the rate of the three best-performing member states.
  - **Sound and sustainable public finances** - the government must run a budget deficit no greater than 3% of GDP and hold public debt no greater than 60% of GDP.
  - **The durability of convergence** – It is assessed through its long-term interest rates, which cannot be more than 2% above the rate in the three member states with the most stable prices.
  - **Exchange rate stability** - The nation must demonstrate exchange rate stability by participating in the Exchange Rate Mechanism (ERM) II for at least two years without severe tensions and without devaluing against the euro.

## Schengen Area

- Schengen Area signifies a zone where **27 European countries**, abolished their internal borders, for the free and unrestricted movement of people.
  - Croatia became the 27<sup>th</sup> nation in the passport free Schengen zone.

**Member of Schengen area: 23 of the 27 EU member states and all members of the European Free Trade Association (Iceland, Liechtenstein, Norway and Switzerland).**

- Being part of this area means that countries:
  - do not carry out checks at their internal borders, except in cases of specific threats;
  - carry out harmonised controls at their external borders, based on clearly defined criteria.

### Facebook Fined €390 Mn For Breaching EU Privacy Law

- Facebook's parent company Meta has been slapped with two sets of fine totalling €390 million (\$414 million) by the **Irish** Data Protection Commission (DPC) for breaking EU data rules.
- The privacy regulator concluded that the company's advertising and data handling practices were in breach of the EU's new data and privacy law, the **General Data Protection Regulation (GDPR)**.

### The Ruling Came From The Irish Regulator

- As per the GDPR, cross-border cases are to be handled by the data-protection authority in the country where the company is based.
- As a result, the Irish DPC is the lead regulatory authority for Meta and a number of other US tech majors that have their headquarters in Ireland.

### Significance Of This Ruling

- **Right Of Individual Over His/Her Data**
  - The outcome of the case supports the overarching theme of the EU's GDPR:
    - the right of the individual over her data; and
    - need for a person to give explicit consent before their data can be processed.
- **Meta Will Have To Change Its Permission Seeking Mode**
  - The DPC's decision could imply that Meta would have to tweak its apps to ensure that they do not leverage personal data for advertising.
  - That could be a big blow to the company in terms of how its advertising model works:
    - Meta earlier relied on a user's consent to process this information for the purposes of behavioural ads.
    - However, it tweaked the terms of service for both Facebook and Instagram on the processing of the information after the GDPR kicked in.
    - But these changes, activists allege, essentially forced users to accept the processing of their information for ad targeting for essentially using the platforms.
- **Likely Ripple Effect**
  - Given that the EU is the de facto global technology regulator, the rulings based on the GDPR's broader tenets could have resonance across geographies, including India.
  - In India, the government is currently working on a policy framework for the tech sector, which includes:
    - ✓ new personal data protection bill; a comprehensive digital India Act that would eventually replace the existing IT Act, and the new telecom Bill.



## General Data Protection Regulation (GDPR)

- GDPR is a legal framework that sets guidelines for the collection and processing of personal information from individuals of the European Union (EU).
  - The law was approved in 2016 but didn't go into effect until May 2018.
- It imposes obligations onto organizations anywhere, so long as they target or collect data related to people in the EU.
- Its aim is to give consumers control over their own personal data by holding companies responsible for the way they handle and treat this information.
- The law makes it difficult for companies to mislead consumers with confusing or vague language when they visit their websites.
- **European Data Protection Board:** The body that oversees regulatory action on data privacy across the 27-nation bloc

### GDPR compliance

- Under the terms of GDPR, not only do organizations have to ensure that personal data is gathered legally and under strict conditions, but those who collect and manage it are obliged to protect it from misuse and exploitation.
- Companies are also required to respect the rights of data owners - or face penalties for not doing so.



## U.S. House Speaker

After losing multiple rounds of voting for Speaker due to opposition from his own party, Republican leader Kevin McCarthy finally became the Speaker of the United States House of Representatives.

### Speaker of The United States House of Representatives

- The US Constitution established the role of Speaker of the House, which oversees the lower chamber of Congress.
- The Speaker is both traditionally and historically a sitting member of the majority party, though this is not a constitutional requirement.
- Therefore, in addition to leading the House of Representatives, they are also leader of the majority party in the chamber.
- The Speaker is second in line for the presidency, following the Vice-President, in the event of the President being incapable of continuing in office.

### Election of a Speaker

- **No House without a speaker**
  - The House of Representatives functions on a two-year cycle, known as a "**session**."
    - The mid-term elections were held in the United States on 8 November, 2022.
    - The new Congress began on 3 January 2023 and with Republicans in the majority.
  - The very first thing a new session of the House of Representatives must do is vote for a Speaker of the House.
  - Without that person in place, the chamber cannot move on to any other function, including swearing-in members.
  - The chamber must continue to hold votes until a Speaker is elected.
- **Nomination for Speaker**
  - In the weeks after an election, the Republican conference and the Democratic caucus hold an informal vote among their members.
    - This voting is done to decide who they want to nominate to lead their party.

- o But members are not obligated to vote for the party's chosen candidate.
- o While it has been the tradition for the speaker candidate to be a member of the House, **it is not required.**

- **Voting**

- o The vote for Speaker requires a candidate to receive the support of a majority of the House - 218 votes (out of the 435 members of the House).
- o The existing leader of the majority party is usually presumed to be the person to assume the speakership.
- o For more than a century, the Speaker of the House was decided on the first vote.

- However, this time, a record-making 15 voting rounds were conducted before McCarthy succeeded

{For more about US midterm polls, refer *The Recitals-November 2022*}


### Notice To Air Missions (NOTAM)

- Recently, thousands of flights, within, into or out of the United States were delayed or cancelled due to a technical glitch.
- The **US Federal Aviation Administration (FAA)** said that flights were grounded due to failure of a key **pilot notification system** called **Notice to Air Missions (NOTAM)**.
  - o FAA is the largest transportation agency of the US government that runs a centralised NOTAM system.
- According to the FAA's website, "a NOTAM is a **notice containing information essential to personnel concerned with flight operations** but not known far enough in advance to be publicized by other means."
  - o NOTAMs basically provide real time information about potential hazards or changes to flight operations that may affect safety.
  - o E.g. - Without NOTAMs, aeroplanes are at a risk of running into flocks of birds or remaining unaware of slippery conditions on runways.
  - o The system relays information about changes in conditions such as weather, volcanic activity, airspace restrictions and other factors, as well as unusual events such as parachute jumps, rocket launches and military exercises.
- NOTAMs have a unique language using special contractions to make communication more efficient.
- NOTAM is different from **Air traffic control system** that helps in keeping planes at safe distance from each other while on air.

### Pravasi Bharatiya Divas 2023

- The 17th edition of the 'Pravasi Bharatiya Divas' (PBD) convention was held in Madhya Pradesh's Indore city.
  - o The 17th PBD Convention is being organised as a "**physical event**" after a gap of four years and the first after the onset of the Covid-19 pandemic.
- Theme of this year's PBD is '**Diaspora: Reliable partners for India's progress in Amrit Kaal**'.

**Pravasi Bharatiya Divas (PBD)**



- It is observed on January 9 to strengthen the engagement of the Indian community overseas with the India government and reconnect them with their roots.
  - o January 9 was chosen as the day to celebrate PBD as it was on this day in **1915** that Mahatma Gandhi, had returned to India from South Africa.
- It also marks the contribution of the Indians living abroad in the development of the land of their ancestors.
- PBD conventions were being held every year since 2003.
  - o Since 2015, its *format has been revised*. PBD is now celebrated once in **every two years**.
- It is organized by the Ministry of External Affairs, Government of India, in partnership with the Confederation of Indian Industry (CII) and other stakeholders.

## Pravasi Bharatiya Samman Award

- During the Convention, Pravasi Bharatiya Samman Award (PBSA) is conferred on the selected overseas Indians for their significant contributions to various fields both in India and abroad.
- It is the highest honour, conferred by President, on a Non-Resident Indian (NRI), Person of Indian Origin (PIO); or an organisation or institution established and run by NRI/PIO.

## INDIAN DIASPORA

### Historical Background

- **'Girmitiya' Arrangement:**
  - The Indian diaspora has grown manifold since the first batch of Indians were taken to counties in the east pacific and the Caribbean islands as indentured labourers.
  - They were shipped to these countries in the 19th and early 20th centuries to work on plantations in **British colonies** that were reeling from a labour crisis following the abolition of slavery in 1833-34.
- **Waves of Migration:**
  - In the **2nd wave**, nearly 20 lakh Indians went to Singapore and Malaysia to work in farms.
  - 3rd and 4th wave saw professionals heading to western countries and workers going to the Gulf and west Asian countries in the wake of the oil boom.

### Classification Of Indian Diaspora

- Overseas Indians are classified into **3 categories:** Non-Resident Indians (NRIs are Indians who are **residents of foreign countries**), Persons of Indian Origin (PIOs), Overseas Citizens of India (OCIs).
- According to the MEA, **PIO** refers to a foreign citizen (except a national of Pakistan, Afghanistan Bangladesh, China, Iran, Bhutan, Sri Lanka and Nepal) -
  - who at any time held an Indian passport, or
  - who or either of their parents/grandparents/great grandparents was born and permanently resided in India as defined in Government of India Act, 1935, or
  - who is a spouse of a citizen of India or a PIO
- A separate category of **OCI** was carved out in **2006**. An OCI card was given to a foreign national -
  - who was eligible to be a citizen of India on January 26, 1950,
  - was a citizen of India on or after January 26, 1950, or
  - belonged to a territory that became part of India after August 15, 1947
  - Minor children of such individuals, except those who were a citizen of Pakistan or Bangladesh, were also eligible for OCI cards.
- The PIO category was abolished in **2015** and merged with the OCI category.

### Geographical Distribution Of Indian Diaspora

- According to the Parliamentary committee on external affairs, there were **4.7 crore Indians** (NRIs - 1.35 crore, PIOs - 1.87 crore, OCIs, and students) living overseas (as on December 31, 2021). Excluding students,



the number stands at 3.22 crore.

- As per the World Migration Report, prepared by the International Organisation for Migration under the United Nations, **India has the largest emigrant population in the world**, making it the top origin country globally, followed by Mexico, Russian and China.

## India-China Trade Relationship

According to data released by Chinese customs, the trade between India and China touched an all-time high of **\$135.98 billion in 2022**. However, India's trade deficit with Beijing also **crossed the \$100 billion mark for the first time**.

### Key Highlights

	2021	2022	% Change
<b>Bilateral Trade</b>	\$125 billion	<b>\$135.98 billion</b>	8.4 % increase
<b>China's exports to India</b>	\$97.59 billion	<b>\$118.5 billion</b>	21.7 % increase
<b>India's exports to China</b>	\$28.03 billion	<b>\$17.48 billion</b>	37.6% decrease
<b>Trade Deficit</b>	\$69.38 billion	<b>\$101.02 billion</b>	45.6% increase

- Analysts have seen India's growing imports from China as both a worry, reflecting continued dependence for a range of key goods, but also, to some extent, as a positive indicator of the Indian economy importing more intermediate goods.
  - **India's major imports from China:** Electronic goods, engineering goods, chemicals and related products, other manufactured goods, and textiles.
  - **India's major exports to China:** Engineering goods, agricultural and allied products, ores and minerals, chemicals and related products, petroleum and crude products.

### Reasons Behind High Trade Deficit

- **Gap Between Domestic Production (Supply) And Demand For Various Products**
  - India imports goods to fill this gap which is the major reason behind India's extremely high and continuously widening trade deficit.
- **Export Of Raw Material While Importing Finished Goods**
  - India's predominant exports have consisted of iron ore, cotton, copper, aluminium and diamonds/ natural gems.
  - However, majority of Chinese exports consists of machinery, power-related equipment, telecom equipment, organic chemicals and fertilisers.
  - This resulted in decline in **total value** of Indian exports to China.
- **Indian Pharmaceutical Industry Is Heavily Dependent On APIs From China**
  - India's \$42 billion pharmaceutical industry imports about 68% of its active pharmaceutical ingredients (APIs) from China.
- **Other Factors**
  - A narrow basket of commodities, mostly primary, that India exports to China.
  - Market access impediments for most Indian agricultural products and competitive markets, such as IT/ITES, etc.

# SUMMITS AND ORGANISATIONS

## Voice of Global South Summit

India hosted the Voice of Global South Summit in virtual mode. It was inaugurated by PM Modi

### About the Summit

- Theme — **“Unity of Voice, Unity of Purpose”**.
- It is an effort to give “voice to the unheard”, and thereby **leverage India’s role as the current G20 president**.
- The idea behind the summit is that India will work to ensure that inputs generated from this Summit deliberations will be pushed forward at the G20 summit.
  - India holds the presidency of G20 this year.
- The initiative is inspired by Prime Minister Narendra Modi’s vision of **Sabka Saath, Sabka Vikas, Sabka Vishwas and Sabka Prayaas**, and is underpinned by India’s philosophy of **“Vasudhaiva Kutumbakam”**.

### Key Highlights Of The Summit

- Underlining that the world is in a state of crisis, PM Modi told leaders of developing countries that **“your voice is India’s voice”** and **“your priorities are India’s priorities”**.
- **PM Modi gave the mantra of ‘Respond, Recognize, Respect & Reform’** to re-energise the world
  - **Respond** to the priorities of the Global South by framing an inclusive and balanced international agenda.
  - **Recognize** that the principle of ‘Common but Differentiated Responsibilities’ applies to all global challenges.
  - **Respect** sovereignty of all nations, rule of law and peaceful resolution of differences and disputes; and,
  - **Reform** international institutions, including the United Nations, to make them more relevant.
- PM Modi also highlighted the fact that the Global South does not have adequate voice in the eight decades old model of global governance.
- He further stated that most of the **global challenges have not been created by the Global South** but they affect us more. Despite this, the search for solutions does not factor in our voice.
  - E. g. COVID pandemic, climate change, terrorism and Ukraine conflict.

### Significance

- **Leading From The Front**
  - With this summit, India has expressed its aspiration to become Voice of the Global South at the G20.
- **India’s Push For Human Centred Globalisation**
  - It also highlights India’s push for **human centred globalisation** countering the first world’s view of expediting climate change goals at the cost of development.
  - India ensuring immigration and work mobility for skilled populations of the global south, and resilient renewable energy access.
- **Expressed India’s Intent Towards More Just View Of The World**
  - During its presidency of G-20, India wants to focus on a more just view of the world and to show how the developing world is being affected by global inequities.
- **Acknowledgment Of India’s Common Past With Global South**
  - This summit was the acknowledgment of **India’s “common past” with the Global South**, many of whom have suffered colonialism.
  - Now, India recognises the need to build a common future with the Global South.

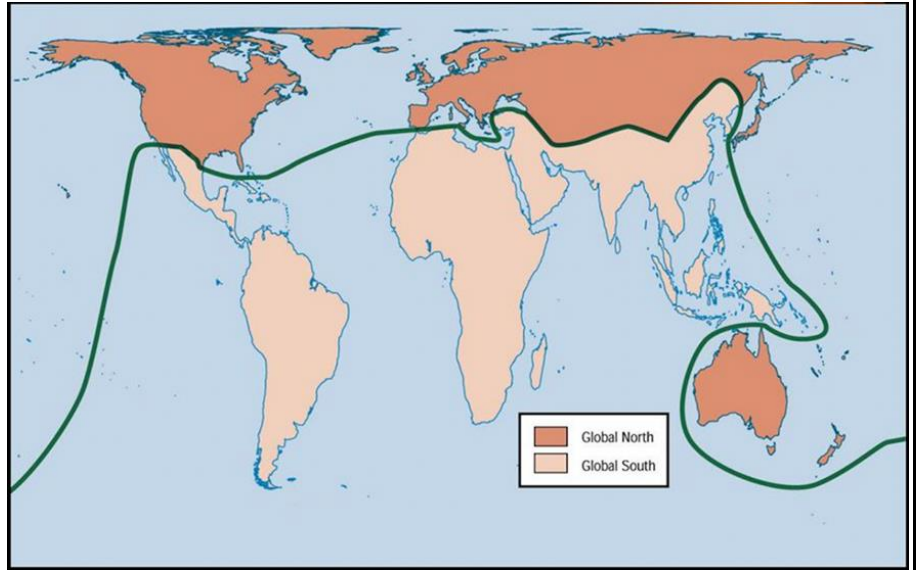


## Conclusion

For India to be heard as the 'Voice of the Global South at the G20', it must reflect on the aspirations of the other nations and amplify them as a true leader of the developing world at the G20 summit later this year.

### What Is the Global South?

- The term 'Global South' began by loosely referring to those countries that were left out of the industrialisation era.
- These countries had a conflict of ideology with the capitalist and communist countries, accentuated by the Cold War. It includes countries that are in **Asia, Africa and South America**.
- 'Global South' is just the opposite of 'Global North', defined essentially by an economic division between the rich and poorer countries.



### Global Partnership for Financial Inclusion

- The first G20 **Global Partnership for Financial Inclusion (GPII)** meeting, under G20 India Presidency was held in Kolkata.
- The meeting focused on topics like digital financial inclusion, reducing remittance costs, and finance for the SME sector.
- GPII is an inclusive platform for all G20 countries, *interested non-G20 countries* and relevant stakeholders to carry forward work on financial inclusion.
- It also works towards implementation of the G20 Financial Inclusion Action Plan, endorsed at the G20 Summit in Seoul.
  - The GPII was officially launched in December 2010 in Seoul.

### 'G20 Digital Innovation Alliance' and 'Stay Safe Online' campaign

- G20 Digital Innovation Alliance (DIA) and 'Stay Safe Online' campaign was launched by the Indian government.
- The DIA and Stay Safe Online campaigns foster the vision of greater **digital transformation** by ensuring an innovative and secure cyber environment.
  - The Ministry of Electronics and Information Technology (MeitY) is the nodal Ministry behind the G20 'Digital Economy Working Group' (DEWG).
  - In India's G20 presidency, the Ministry is focusing on three main areas:

Digital Skill Development

Digital Public Infrastructure

Cyber Security

- The DIA aims to identify, recognize and facilitate the adoption of impactful and innovative digital technologies developed by start-ups from G20 countries as well as the invited non-member nations.
- Due to the increasing usage of social media platforms and the uptake of digital payments, the "Stay Safe Online Campaign" aims to educate people on how to stay safe online.

- It involves the dissemination of multilingual awareness content in the form of infographics, cartoon stories, puzzles, short videos, etc.

## First Movers Coalition


- India participated in the **First Movers Coalition (FMC)** Leadership Meeting of the World Economic Forum (WEF).
- This year's annual meeting of WEF took place in Davos.
  - **Theme** of this year's summit was **"Cooperation in a Fragmented World"**.
- It was launched at COP26. The meeting deliberated on the need for clean energy technologies to confront climate crisis globally.
- Industry leaders appreciated India's fight against COVID leveraging digital technologies and also expressed their appreciation for Government partnering with industry in its fight.
- The First Movers Coalition is a global initiative harnessing the purchasing power of companies to decarbonize **7 "hard to abate" industrial sectors**.



**WORLD  
ECONOMIC  
FORUM**

- It is the international non-governmental organization for Public-Private Cooperation.
  - It was founded in January 1971 by German engineer and economist Klaus Schwab.
- The Forum engages the foremost political, business, cultural and other leaders of society to shape global, regional and industry agendas.
  - It has no independent decision-making power.
- **HQ:** Cologny-Geneva, Switzerland.
- Annually, the WEF organizes a meeting at the end of January in Davos, a mountain resort in Graubünden, in the eastern Alps region of Switzerland.
  - The Annual Meeting, also known as the Davos Agenda, has the objective of orienting global leaders on the imperatives of the year ahead.

**Different reports published by WEF**



- Global Competitiveness Report,
- Global Information Technology Report,
- Global Gender Gap Report,
- Global Risks Report,
- Global Travel and Tourism Report,
- Financial Development Report and
- Global Enabling Trade Report.

- These sectors, currently accounting for 30% of global emissions, include:



- For these sectors to decarbonize at the speed needed to keep the planet on a 1.5-degree pathway, they require low-carbon technologies that are not yet competitive.
- Hence, FMC was formed to commit in advance to purchasing near-zero or zero-carbon solutions, despite the premium cost.

### Largest Women Contingent Of Peacekeepers At A UN Mission

- The Indian Army has deployed its largest-ever contingent of women soldiers for UN peacekeeping operations in the volatile oil-rich **Abyei region of Africa**.
- Abyei region is situated between northern and southern Sudan and is hotly contested by both.
- The women platoon will provide relief and assistance to local women and children in one of the highly operational and challenging conditions under the UN flag.
- This is India's largest single unit of women peacekeepers in a UN Mission since it deployed the first-ever all women's contingent from the Central Reserve Police Force in Liberia in 2007 as part of United Nations Mission in Liberia (UNMIL).
- Indian women particularly have a tradition in Peacekeeping.
  - Dr Kiran Bedi, UN's first Police Adviser, Major Suman Gawani and Shakti Devi have made a mark for themselves in UN Peacekeeping.

[For detailed discussion on UN Peacekeeping and India's role, refer the topic **"UN peacekeepers need 'robust' mandates, to be able to go after the armed groups"** from October 2022 The Recital- October 2022]

### Abdul Rehman Makki Listed as Global Terrorist

- The ISIL and Al Qaida Sanctions Committee of the U.N. Security Council (UNSC) has placed Abdul Rehman Makki on its sanctions list.
  - Makki was a fundraiser and key planner of the Pakistan-based terrorist outfit Lashkar-e-Taiba (LeT).
- This came after China dropped its technical hold over a proposal to list him under the UNSC's ISIL (Da'esh) and Al Qaida Sanctions Committee.
- India and the US had jointly proposed in June, 2022 to list Makki as a global terrorist under UNSC 1267 Committee.
- However, China had blocked the move by placing a **technical hold** on the proposal.
  - Placing a technical hold effectively blocks the proposal until the it is withdrawn.
  - This measure (Technical hold) can last for up to six months at a time under the Security Council's procedures.

[For detailed discussion on UN Sanctions Committee, refer the topic **"China blocks India-US bid to list Pak-based LeT dy chief as global terrorist"** From June 2022 edition of The Recitals]

### First IAF Woman Fighter Pilot To Participate In Aerial Wargames Abroad

- For the first time, an Indian Air Force (IAF) female fighter pilot, **Squadron Leader Avani Chaturvedi**, participated in aerial war games which were held aboard.
  - Avani Chaturvedi was also a part of the first batch of women to be commissioned as **fighter pilots** in the country's air force.
- While women fighter pilots have been part of aerial wargames in the country with foreign contingents, including the French air force, this would be the first instance of a woman air warrior leading an Indian fighter squadron on foreign soil.
- She was part of the Indian contingent for the maiden **'Veer Guardian 2023'** wargame joint exercise between India and Japan. This exercise was conducted at the Hyakuri Air Base in Japan.

## First Woman Officer Deployed At Siachen

- Captain Shiva Chauhan became the first woman army officer to get operationally deployed on the Siachen Glacier.
  - The Siachen glacier at a height of around 20,000 feet in the Karakoram range is known as the highest militarised zone in the world.
- The officer was deployed at the Kumar post, located at an altitude of around 15,600 feet in Siachen.
  - Earlier, women officers were posted to Siachen base camp, located at about 9,000 feet, as part of their regular postings along with the unit.

# ENVIRONMENT AND GEOGRAPHY

## Microplastics

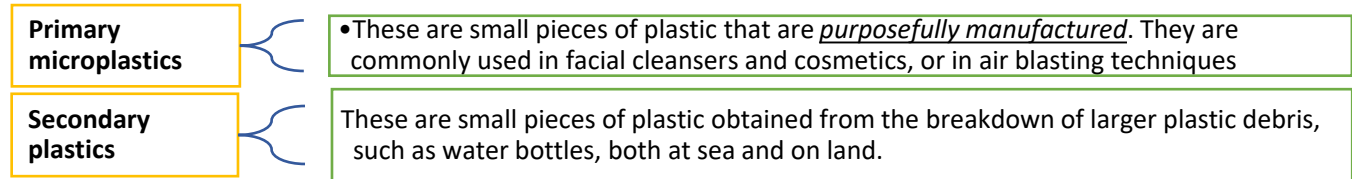
Scientists from South Korea have developed a new **water purification system** that can quickly and efficiently filter out microplastics.

### About Microplastics

- Microplastics are small plastic pieces less than five millimeters (0.2 inches) in diameter.
- It comes from a variety of sources, including larger plastic debris that degrades into smaller and smaller pieces.

### Categories of Microplastic

There are two categories of microplastics



### Impact of Microplastics

- It can take hundreds or thousands of years to decompose and in the meantime, wreak havoc on the environment.
- On beaches, microplastics are visible as tiny multi-colored plastic bits in sand.
- In the oceans, microplastic pollution is often consumed by marine animals and it can affect the food chain.
- The pollutants released by microplastics can be absorbed by humans. These can interfere with the human endocrine system and cause genetic modification.

### Initiative on Microplastics Pollution

- The risks posed by microplastics has been acknowledged in the Leaders' Declaration at the 2015 G7 summit in Bavaria, Germany.
- A 2017 United Nations resolution discussed microplastics and the need for regulations to reduce this hazard to our oceans, their wildlife, and human health.
- **Un-Plastic Collective (UPC)** was launched by the UNEP-India, Confederation of Indian Industry and WWF-India, that seeks to minimize externalities of plastics on planet.
- India is a signatory to **MARPOL (International Convention on Prevention of Marine Pollution)**.
- Global efforts like "**Beat Plastic Pollution**" to address plastic pollution.
- **The Plastics Pacts** are business-led initiatives to transform the plastics packaging value chain for all formats and products.

## Siyom River

Defence Minister inaugurated 100-metre-long bridge over Siyom river, close to Arunachal's northern border with China.

### About Siyom River

- It is a right bank tributary of Brahmaputra and is a latitudinally flowing river in Arunachal Pradesh.
- River Siyom also known as the Yomgo originates in Tibet. After entering India it joins Siang (Brahmaputra). It is the largest river of the West Siang district of Arunachal Pradesh.



- The Mouling National Park (in the Abor Hills) is located on the east bank of the river.

### South Asian Black Carbon Aerosols

According to a study, Black carbon aerosols have affected the **mass gain of the Tibetan Plateau glaciers** by changing long-range water vapour transport from the South Asian monsoon region.

### Impact of Black Carbon Aerosols on South Asia

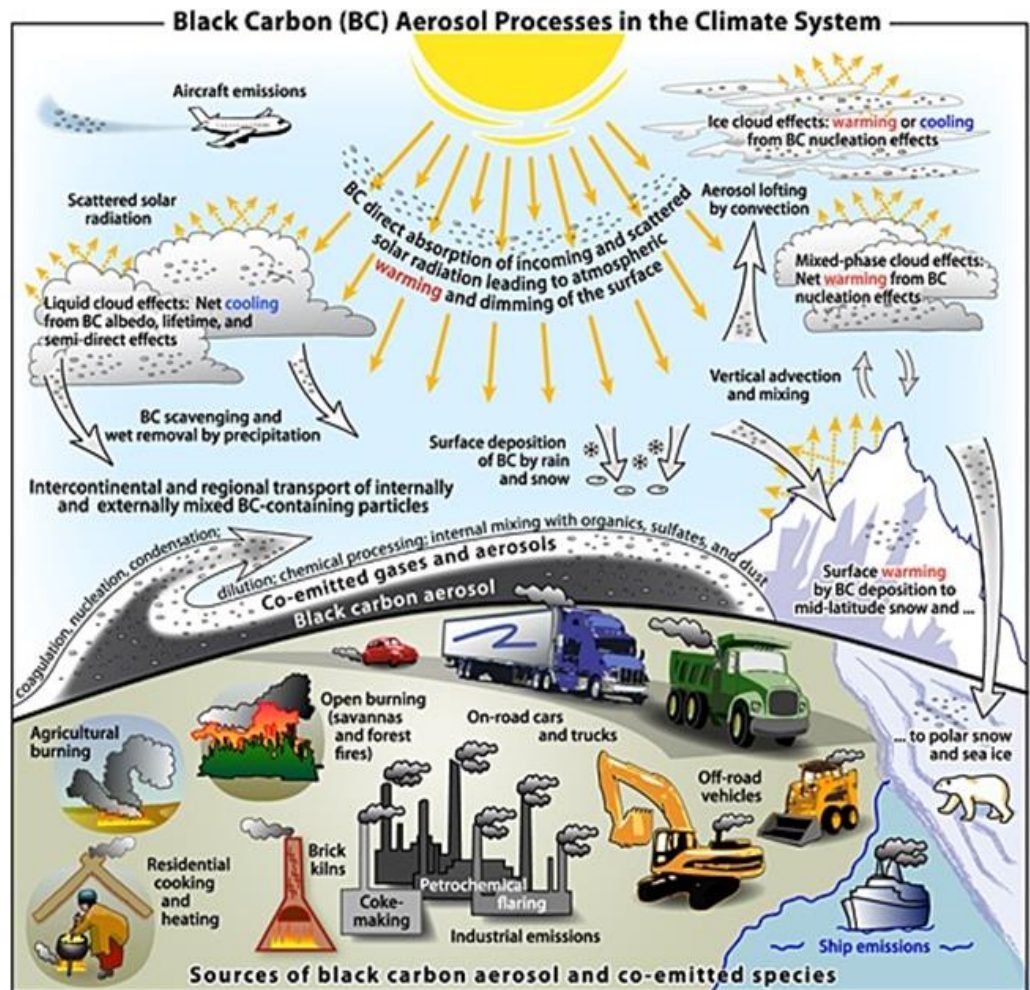
- The South Asia region adjacent to Tibetan Plateau has among the highest levels of black carbon emission in the world.
- Black carbon aerosols in South Asia heat up the middle and upper atmosphere, thus increasing the **North–South temperature gradient**.
  - Accordingly, the **convection** activity in South Asia is enhanced, which causes convergence of water vapour in South Asia.
  - Black carbon also increases the number of **cloud condensation nuclei** in the atmosphere
- These changes in meteorological conditions make more **water vapour form precipitation** in South Asia, and the northward transport to the Tibetan Plateau was weakened.
- As a result, the precipitation in the **central and southern Tibetan Plateau is reduced** during the monsoon.
- The decrease in precipitation further leads to a decrease of mass gain of glaciers.
  - From 2007 to 2016, the reduced mass gain by precipitation accounted for 11% of the average glacier mass loss on the Tibetan Plateau and 22.1% in the Himalayas.

### About Black Carbon Aerosols

- Also called soot, it is part of fine particulate air pollution (PM<sub>2.5</sub>).
- It is formed by the incomplete combustion of fossil fuels, wood and other fuels.
- It is a short-lived climate pollutant with a lifetime of only days to weeks after release in the atmosphere.

### Impact Of Black Carbon Aerosols

- It is an important contributor to warming because it is very effective at absorbing light and heating its surroundings.



- It also influences cloud formation and impacts regional circulation and rainfall patterns.
- It's deposition in snow reduces the **albedo of surfaces**, a measure of how much of Sun's radiations are reflected.
  - It accelerates the melting of glaciers and snow cover, thus changing the hydrological process and water resources in the region.

### Way Forward

The Climate and Clean Air Coalition (CCAC) supports implementation of control measures that, if globally implemented by 2030, could reduce global black carbon emissions by as much as 80%.

### Viologen-unit grafted organic-framework (iVOFm)

- To tackle the problem of **Water contamination**, Indian Institute of Science Education and Research (IISER), Pune came up with **iVOFm technique**.
- There are carcinogenic pollutants in freshwater sources that are removed using sorbent materials and ion-exchange techniques, but these techniques are not effective enough. iVOFm aims to improve this.

Ion-Exchange (IX) is a process of purifying water by replacing dissolved impurity ions with hydrogen and hydroxyl ions.

Water softeners are similar to IX systems in that they can remove magnesium and calcium ions from water.

### About iVOFm

- It is a **custom-designed** unique **molecular sponge-like material**, which can swiftly clean polluted water by soaking up contaminants in it.
- The material employs **amalgamation of electrostatics driven ion-exchange** combined with **nanometer-sized macropores** and **specific binding sites** for the targeted pollutants.
- This material features inherent cationic nature and microporosity to allow fast diffusion of pollutants.
- Unlike normal **sorbent materials**, this material is found to be very selective toward toxic pollutants. It can be used several times just like a bath sponge.

### About Water Contamination

- It occurs when harmful substances, often chemicals or microorganisms contaminate a body of water, degrading water quality and rendering it toxic to humans or the environment.

### Factors Responsible For The Water Contamination

- Industries discharge **harmful chemicals** into water bodies.
- At sea, tanker spills account for about 10% of the oil in waters around the world.
- Excessive quantities of chemicals and fertilizers get washed from the fields into water bodies.
- Untreated sewage is thrown directly into rivers. It contains food waste, detergents, microorganisms, etc.
  - According to the United Nations more than 80% of the world's wastewater flows back into the environment without being treated or reused.

### Effects of Water Contamination

- **On Human Health** - Contaminated water can also make us ill. Every year, unsafe water sickens about 1 billion people.
- **On Environment** – Environmental effects of water contamination include natural ecosystem harm and endangered wildlife.
  - It causes an **algal bloom**: The proliferation of newly introduced nutrients stimulates plant and algae growth, which in turn reduces oxygen levels in the water.

- **On the soil** - Contaminated water changes the acidity of soil, thereby affecting the growth of microorganisms.

### Way Forward

- Dispose of chemical cleaners, oils, and non-biodegradable items properly to prevent them from going down the drain.
- Consider landscaping that *reduces runoff* and avoid applying pesticides and herbicides.
- Do not flush old medicines, throw them in the trash to prevent them from entering local waterways.

### Cold Wave

- A cold wave is a weather phenomenon that is distinguished by the cooling of the air. It is a rapid fall in temperature within a 24-hour period.
- The Indian Meteorological Department (IMD) marks a cold wave when -
  - **For plains:** The minimum temperature recorded must be 10 degrees Celsius(C) or less and is 4.5 degrees (C) less than normal for two consecutive days.
  - **For high-altitude hills:** The minimum must be below or at 0 degrees and the highest temperature must be 4.5-6.4 degrees Celsius below normal.
- A severe cold day occurs when the maximum decreases by 6.5 degrees or more below normal.

### What Are The Factors Contributing To Cold Wave In India?

- **Large scale Fog:** It prevents sunlight from reaching the surface and affects the radiation balance. There is no heating in the day time, and then there is the impact of the night.
  - Fog is caused by *light winds and high moisture content near the ground*.
  - Foggy or cloudy nights are usually associated with warmer nights, but if the fog remains for two or three days, cooling begins even at night.
- **Pressure differences** - A build-up of a ridge, or a protracted area of *relatively high atmospheric pressure*, in the jet stream across northwest Asia is one of the causes of cold waves in India.
  - Jet streams are narrow bands of high wind that travel across the globe from west to east.
- **Snow Cover** in the northwest Himalayas also contributes to the formation of a cold wave.
- **Western disturbances** - During the winter months, the passage of western disturbances causes dry, cold north-westerly winds to blow into north and central India, causing minimum temperatures.
- **La Nina** - Ongoing weaker La Nina phenomenon in the Pacific Ocean also contributes to cold waves.
  - La Nina is characterised by unusually cool ocean surface temperatures along the equatorial Pacific Ocean.
- **Non-seasonal rainfall** or non-monsoon rainfall is another major cause.

### Impact of Cold wave

- Our body's core temperature hovers at around 36.8 - 37.5°C. If we lose too much heat, we run the risk of **hypothermia** (body temperature much lower than normal), and in the worst case, frostbite.
  - Frostbite leads to your extremities turning **blue or pale** from a lack of blood circulation and this can very quickly lead to a life-threatening emergency.
  - Cold wave has caused 4,712 deaths from 2001 to 2019 across various states in India.
  - In 2020, human deaths due to cold waves were 76 times more than those due to heat waves, according to the IMD.
- It also affects crops, livestock, water supply, transport, tourism, social activities, the economy and other livelihood systems, causing significant economic losses.

## Steps Taken to Deal with Cold Wave

- Don't ignore shivering. Stay indoors and stay warm as far as possible.
- Avoid staying wet, and if you do get wet, change into dry clothes immediately.
- If you may suffer from frostbite, slowly warm the affected area with lukewarm water, avoid rubbing the skin, and speak to a medical professional as soon as possible.

### Extra Mile

The long cold wave spell in Delhi can be attributed to a **large gap between two western disturbances** which allowed the chilly north-westerly winds from the mountains to affect the plains for a longer-than-usual period. Mostly there is a gap of three to four days between two western disturbances but this time the period expanded to seven days.

## Environment Impact Assessment (EIA)

The Supreme Court has urged legislators and policy experts to ensure that Environment Impact Assessment (EIA) studies are done before giving the green signal for urban development projects.

- The judgment referred to a publication by the UNEP, which underscored that more than half of the world's population is now living in urban areas.

### About Environment Impact Assessment

- The UN Environment Programme (UNEP) defines it as a tool used to identify the environmental, social and economic impacts of a project prior to decision-making.
- It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts.
- It also shapes projects to suit the local environment and presents the predictions and options to decision-makers.
- In 1994, the Union Ministry of Environment, Forests and Climate Change (MoEFCC), under the Environmental (Protection) Act 1986, promulgated an EIA notification making Environmental Clearance (EC) mandatory for expansion or modernisation of any activity or for setting up new projects.

{For more about EIA, refer The Recitals-July 2022}

## Gandak River

Two shilas (stones), around seven feet long and weighing over 350 tones, from Nepal's Kali Gandaki River are set to arrive at Ayodhya. It will be used to carve the idol of Lord Ram.

### About Gandak River

- It is one of the major rivers in Nepal and India.
- A major tributary, **Trishuli**, joins it at Devighat just as the river exits the foothills of the Himalayas into the southern plains of Nepal.
  - From Devighat, the river flows southwest and is called Kali Gandaki, Narayani or Sapt Gandaki.
  - The river then meanders back towards the southeast and enters India.
- It is a north bank tributary of the Ganga River.
- The entry point of the river at the Indo-Nepal border is at the convergence of Gandak, known as **Triveni**.
  - Here, the rivers meet with Pachnad and Sonha also sliding into India from Nepal.
- The river is mentioned in the ancient Sanskrit epic Mahabharata.

- This river also provides water for a major Irrigation cum Hydroelectric power facility at the Indo-Nepal border at Valmiki Nagar.
  - Valmiki National Park & Tiger Reserve is located on the banks of this river.

### New Plateau Type Discovered From Maharashtra


- A rare **low-altitude basalt plateau** has been discovered in Thane region in Western Ghats.
- This is the 4<sup>th</sup> type of plateau to be identified in the region; the previous three are laterites at high and low altitudes and basalt at high altitudes.
- Plateaus are the dominant landscapes in the Western Ghats.
- They are classified as a type of rock outcrop.
  - Rocky outcrops are geological features that protrude above the surface of surrounding land.
  - It emerges when the surface soil and other materials wear off, exposing the parent rock surface.
- These outcrops have seasonal water availability, limited soil and nutrients, making them ideal laboratories to study the effects of climate change on species survival.
- Plateaus are thus a valuable source of insight into how species can survive in extreme conditions.

### Significance of This Discovery

- The authors believe this is an important discovery, as the plateau shares vegetation with the three other rock outcrops, simultaneously holding a few unique species.
- It can help study the effects of climate change on species survival.
- It can also raise awareness of the conservation needs of rock outcrops and their enormous biodiversity value in a global context.

#### Western Ghats

- Western Ghats are a mountain range running parallel along the western coast of India.
- It passes through the states of Gujarat, Maharashtra, Goa, Tamil Nadu, Karnataka and Kerala.
- It is often called the **Great Escarpment of India**.
- These mountain chains represent geomorphic features of immense importance with unique biophysical and ecological processes.
- The site's high montane forest ecosystems influence the Indian monsoon weather pattern.
- It is one of four global biodiversity hotspots in India. Other three are the *Himalayas*, the *Indo-Burma region* and the *Sundaland (includes the Nicobar Islands)*.
- It is recognized as a **UNESCO World Heritage Site**.
- Anamudi (Kerala) is the highest peak of Western Ghats.



### Project RE-HAB

KVIC (**Khadi and Village Industries Commission**) Chairman distributed live bee colonies, beekeeping equipment and 200 bee-boxes to the trained beneficiaries in Karnataka under RE-HAB project.

### About Project RE-HAB

- It stands for **Reducing Elephant-Human Attacks using Bees**.
- Under this project Bee fences are created. The honeybees thwart elephant attacks in human territories.
- It is scientifically recorded that elephants are annoyed by honeybees.
- It is a sub-mission of the **KVIC's National Honey Mission**.



## Why Is This Project Needed?

- According to the Union Ministry of Environment, Forest and Climate Change (MoEFCC), 1,160 elephants were killed in the country due to reasons other than natural causes in the past 10 years.
- Electrocutation took the lives of 741 elephants, train hits led to the death of 186 pachyderms (animal with a very thick skin), followed by poaching - 169, and poisoning – 64.
  - Among elephant casualties due to train hits, Assam stood first with 62 deaths, followed by West Bengal at 57.

## Significance Of This Project

- This is highly cost effective as compared to erecting fences or digging trenches.
- The project simultaneously increases honey production and increases farmer income.
- It helps in minimizing the loss of lives of both humans as well as elephants.
- It helps in maintaining a balance in nature, along with the conservation of biodiversity.

### Khadi and Village Industries Commission (KVIC)

- It is a statutory body established under Khadi and Village Industries Commission Act, 1956.
- It comes under the Ministry of Micro, Small and Medium Enterprises (MSME).
- The main function is to plan, promote, organize and implement programmes for the development of village industries in rural areas.



### Honey Mission:

- KVIC has launched the Honey Mission to provide awareness, training and 'Bee Boxes' along with Bee Colonies to the farmers.
- It was launched in August 2017 as a part of 'Sweet Revolution'.
- The 'Sweet Revolution' was launched in 2016 to promote beekeeping and associated activities

## Cloud Forest

According to a report, Cloud Forest Bonds can help capture the economic value of cloud forests in 25 countries.

### Location of Cloud Forest

- It is rare because the exceptional conditions that create these forests are found only in tropical areas with high mountains.
- The World Conservation Monitoring Centre has identified 736 cloud forests distributed in 59 countries. Of these 327 have been classified as protected areas since 2002.

### Characteristics Of Cloud Forests

- They are usually characterized by a persistent, frequent and seasonal low-lying layer of mist and cloud cover usually at the canopy level.
- It forms an ecosystem characterized by **dense forests and shorter trees**, coupled with increased stem density and a lower diversity of woody plants.
- The trees here are generally shorter and their leaves become thicker, harder, and smaller as the altitude increases.

## About Cloud Forest

- It refers to the vegetation of **tropical mountainous regions** where there is heavy rainfall and frequent condensation as a result of cooling of the moisture being pushed up by the mountains.
- Due to their unique characteristics, it is usually found along the sides of the mountains at elevations of between 3000 and 10000 feet.
- Only 1% of the global woodlands are considered cloud forests following a decline from 11% in the 1970s due to interferences by human activities and global warming.
- Just 25 countries hold 90% of the world's cloud forests



- The diffuse light, high humidity, and crooked tree trunks with twisting branches provide a conducive environment for the growth of **epiphytic** plants.
  - The most famous of the epiphytes include orchids.
- The tree crowns intercept the wind driven cloud moisture, which drops in the form of fog.

#### Impact Of Climate Change (Rising Temperatures)

- Cloud forests at higher altitudes are predicted to be replaced by **lower altitude ecosystems**.
- It can force the extinction of cloud forests found on mountain peaks.
- It can reduce the cloudiness at lower altitudes leading to reduced capture of water by the vegetation, with a consequent drying out of the ecosystem.

#### Difference Between Cloud Forests And Rainforests

- Rainforests refer to tropical forests with an annual rainfall of 100 inches with trees forming a canopy.
- Cloud forests are a type of rainforest but with altitudes generally higher than 3000 feet and characterized by an overwhelming number of epiphytes among the large trees.
- The distinguishing characteristics are the elevations at which each ecosystem thrives, and the cloud cover found in the cloud forests.
- Both rain forests and cloud forests produce their own precipitation.
  - The difference is that with cloud forests, much of that precipitation comes directly from the clouds that filter through the trees.

#### Significance of Cloud Forest Bond

- It will incentivize governments to protect their cloud forests.
- It will encourage carbon storage and provide funding to set up sovereign-level carbon finance schemes as well as payments for ecosystem services.
- It will allow the developing countries to improve their debt position and fund the creation of new, long-term income streams from services provided by nature.

### Eravikulam National Park

Eravikulam National Park (ENP), a natural habitat for the endangered Nilgiri tahr (*mountain goat*), has witnessed an early onset of the breeding season with two tahr births.

#### About Eravikulam National Park

- It is located in the high range (Kannan Devan Hills) of the southern Western Ghats in Idukki district, Kerala.
- It hosts the highest peak of South India, Anamudi (2695 m) in its southern region.
- It was designated as a sanctuary in 1975 to protect the indigenous Nilgiri Tahr population. And it was designated as a national park in 1978.
  - Half the world population of the **endangered** Nilgiri Tahr lives here.
- A major part of the park is covered with rolling grasslands, but several patches of **shola forests** are also found in the upper part of the valley.
- This Park is known for “Neelakurinji,” a flower that blooms only once every twelve years.

Neelakurinji blooms in altitudes between 1,600 and 2,695 meters in the Western Ghats and grows abundantly in the shola grass land above 1,800 meters. It is believed that the name Nilgiris (literally means Blue Mountains) itself came from the purplish-blue flowers of Neelakurinji.

## SAFAR System

- It is an air quality monitoring system, which stands for **System of Air Quality Forecasting and Research**.
- It is introduced by the Ministry of Earth Sciences (MoES) to provide **location specific** information on air quality in near real time and its forecast upto 3 days in India.
- It has been combined with the early warning system on weather parameters.
- It is developed by Indian Institute of Tropical Meteorology (IITM), Pune, along with India Meteorological Department (IMD) and National Centre for Medium Range Weather Forecasting (NCMRWF).
- Its objective is to increase *awareness among the general public* regarding the air quality changes in their city well in advance so that appropriate mitigation measures and systematic action can be taken up for betterment of air quality and related health issues.
- The World Meteorological Organization (WMO) has recognized SAFAR as a prototype activity on the basis of the high-quality control and standards maintained in its implementation.
- It disseminates the data in the form of *simplified and colour-coded information*.

### How is the Air Quality Index (AQI) calculated in India?

- It is calculated based on the average concentration of a particular pollutant measured over a standard time interval.
  - 24 hours for most pollutants, 8 hours for carbon monoxide and ozone.
- **Eight individual pollutants** are monitored for the calculation of AQI in India.
  - These are **PM10, PM2.5, nitrogen dioxide, Sulphur dioxide, carbon monoxide, ground-level ozone, ammonia, and lead**.
- To calculate AQI, data for a minimum of three pollutants must be present, of which one should be either PM10 or PM2.5.

AIR QUALITY INDEX (AQI)	CATEGORY
0-50	Good
51-100	Satisfactory
101-200	Moderate
201-300	Poor
301-400	Very Poor
401-500	Severe

## Kelp Forests

A study published in the journal Nature revealed that Kelp forests are declining because of climate change.

### About Kelp Forests

- Kelp are **large brown algae** that live in cool, nutrient-rich relatively shallow waters close to shore. Because of their dependency upon light for photosynthesis, kelp forests form in shallow open waters and are rarely found deeper than 49-131 feet.
- They grow in **dense groupings** much like a forest on land.
- They provide underwater habitats to hundreds of species of invertebrates, fish, and other algae and have great ecological value.
- It also has economical value like, used as a binding agent in products like ice cream, cereal, ranch dressing, yogurt, toothpaste, lotion and more.

### Threats To The Kelp Forests

- Water from melting glaciers will reduce salinity and increase turbidity, which affects young kelp.
- Destructive fishing practices, coastal pollution, and accidental damage from boat trawling.
- Sea urchins can destroy entire graze kelp forests at a rate of 30 feet per month by moving in herds.

The uncontrolled growth of sea urchins because of killing of their main predator, starfish, has contributed to the 95% decline in the kelp along the northern California coast.

- Sea otters, a type of dominant predator, play a key role in controlling population of prey like sea urchin so that kelp forests may thrive.

### Lachin Corridor

- It is a mountain road that connects Armenia and the enclave of Nagorno-Karabakh.
- It is often described as a lifeline for residents of Nagorno-Karabakh.
- It has been **blocked** by **Azerbaijani protesters** since December, 2022, protesting about the issue of alleged illegal mining of natural resources in Nagorno-Karabakh.
- The blocking halts the normal movement of people and goods in or out of the enclave, including food, fuel, and medical supplies.

### Global Overturning Circulation

- It is an ocean current system via which water is transported around the world's oceans. It is often referred to as the great ocean conveyor belt.
- It is responsible for the transport of carbon and heat among the ocean basins and between the ocean and the atmosphere.
- It influences climate by transporting heat northwards in the Atlantic Ocean and by supplying warm water to the Antarctic side of the planet.

### Sustainable Aquaculture In Mangrove Ecosystem (SAIME) Initiative

- Started in 2019, it is a community-based initiative of **sustainable shrimp cultivation**. It is being conceived by NGO Nature Environment and Wildlife Society (NEWS) and Global Nature Fund (GNF), Naturland Bangladesh Environment and Development Society (BEDS).
- Under the initiative, the farmers not only cultivate shrimp but also have come forward to do their parts to restore the mangrove.

### Green Urban Oases Programme

- It was Launched in 2021 by Food and Agriculture Organization (FAO) of the United Nations.
- It contributes to the **FAO Green Cities initiative**, which was launched in 2020.
- It aims to improve the resilience of dryland cities by tackling climate, health, food and economic challenges.
- It will support dryland urban communities in strengthening their policy and technical capacity to design and implement integrated urban forestry and urban greening strategies.

### Dobson Unit (DU)

- It is the most common unit for measuring ozone concentration.
- One Dobson Unit is the number of molecules of ozone that would be required to create a layer of pure ozone 0.01 millimetres thick at a pressure of 1 atmosphere and 0 degree C.

### Nalabana Bird Sanctuary

- It is located on Nalabana Island in the Chilika lagoon area in Odisha.
- It was declared a bird sanctuary in 1987.
- The island disappears during the monsoon due to inundation, only to re-emerge after the monsoon.
- It is home to many native and Migratory Birds and aquatic animals that thrive due to the endless flow of water in Chilika lake.

## Fenthion

- It is a synthetic organophosphate acetylcholinesterase inhibitor that is used as a pesticide.
- It is characterized as a volatile and persistent colourless or yellow to tan oily liquid with a slight garlic odour.
- It is very highly toxic to birds. The use of fenthion for control of mosquitos has been implicated in several bird kills.
- It is also very highly toxic to freshwater, estuarine, and marine invertebrates, and moderately to highly toxic to fish.

## Fugitive Dust

- It is defined as dust that is not emitted from definable point sources.
- Significant sources of fugitive dust include grain bins, quarries, haul roads and construction sites.
- It includes both the visible and non-visible particulate matter suspended in the air.
- Although generally it is not toxic, but it has been linked to a variety of health problems, ranging from nose and throat irritation to respiratory illnesses, such as lung-damage and asthma.
- It can also cause low visibility on unpaved roads, which can lead to accidents.

## St. Petersburg Declaration

- The Centre has told the Supreme Court that India had about 2,967 tigers (approx. 70% of global wild tiger population) in its wildlife as per the last count in 2018.
- It was revealed by National Tiger Conservation Authority (NTCA) in an affidavit filed in the court.

## Tiger Census 2018 Report








- On **International Tiger Day** July 29 (2019), a census report of tigers in India was launched.
  - It was observed for the first time in 2010 at the **St. Petersburg Tiger Summit in Russia**.
  - The summit finalized Global Tiger Recovery Plan known as **TX2 (doubling the tiger population by 2022)**.
- As per the report, the total population of Tiger in India is 2967.
  - In 2014, the count was 2,226 which reflected an increase of 741 individuals (aged more than one year), or 33%, in four years.
- India has achieved the target of doubling the tiger count four years ahead of the deadline of 2022.
- **The top Tiger States of India** (by Tiger population) - Madhya Pradesh (526); Karnataka (524); Uttarakhand (442).
- **Top states in terms of % increase in Tiger population:** MP (71%), Maharashtra (64%), Karnataka (29%).
- **Worst Performing States** - Chhattisgarh and Mizoram saw a decline in tiger population.
- The number of tiger reserves has gone up to 53 covering around 76,000 sq km
  - A new tiger reserve – Ranipur Tiger Reserve – has been declared in UP.







There is also another St Petersburg Declaration relating to Explosive Projectiles, 1868 which prohibited the use of certain weapons in warfare.

## Species In News

<b>Nilgiri Thar</b>	<ul style="list-style-type: none"><li>• It is an endangered species and found in the tropical mountains of south India.</li><li>• It is the state animal of Tamil Nadu.</li></ul>
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	<ul style="list-style-type: none"> <li>• Mukurthi National Park located in the Tamil Nadu was established to protect its keystone species, the Nilgiri Tahr.</li> <li>• It is listed as <b>Endangered</b> in the IUCN Red list and <b>Schedule I</b> in It Wildlife (Protection) Act, 1972.</li> </ul>
<p><b>Confuciusornis Shifan</b></p> 	<ul style="list-style-type: none"> <li>• Lived during the Early Cretaceous Period, around 119 million years ago in present-day China.</li> <li>• It belonged to the Confuciusornithidae family of the genus Confuciusornis, a groups of crow-sized beaked birds.</li> <li>• It represents the earliest toothless and beaked birds.</li> </ul>
<p><b>Garrarnawun Bush Tomato</b></p> 	<ul style="list-style-type: none"> <li>• It is currently found only in Judbarra/Gregory National Park in the Australia's Northern Territory.</li> <li>• It is a perennial pale green shrub about 30 cm tall.</li> <li>• Scientists are proposing to include the species in the "Data Deficient" category of the IUCN Red List.</li> </ul>
<p><b>Zebrafish</b></p> 	<ul style="list-style-type: none"> <li>• It is a tropical freshwater fish belonging to the minnow family, native to rivers and streams of South Asia.</li> <li>• It is a popular aquarium fish about 4 cm long.</li> <li>• It has dark-blue and silvery longitudinal stripes.</li> <li>• It is listed as Least concerned in the IUCN Red List.</li> </ul>
<p><b>Blackbuck</b></p> 	<ul style="list-style-type: none"> <li>• It is a diurnal antelope species native to India and Nepal.</li> <li>• It has been declared as the State Animal of Punjab, Haryana, and Andhra Pradesh.</li> <li>• It is listed as Least Concern in the IUCN red list and in Schedule I in Wildlife Protection Act 1972.</li> <li>• In 2017, the Uttar Pradesh approved the plan of setting up the Blackbuck Conservation Reserve in the trans-Yamuna belt</li> <li>• Territories are marked by males as per the distribution of female groups. And the presence of female herds itself is determined by the type of habitat.</li> </ul>
<p><b>White Tufted Royal Butterfly</b></p> 	<ul style="list-style-type: none"> <li>• It is also known as Pratapa deva.</li> <li>• It is found in Kerala's Kannur region.</li> <li>• It is rare species and protected under Schedule 2 of the Wildlife Protection Act 1972.</li> <li>• Its larvae feed on Scurrula parasitica, a plant belonging to the Loranthaceae family.</li> </ul>
<p><b>Great White Pelicans</b></p> 	<ul style="list-style-type: none"> <li>• It is a bird in the pelican family, mainly found in southeastern Europe, Asia and Africa.</li> <li>• It is also known as the eastern white pelican, rosy pelican.</li> <li>• They have feet with all 4 toes webbed which is known as 'totipalmate'.</li> <li>• The species is associated with relatively large, warm, shallow fresh, brackish, alkaline or saline lakes, lagoons, marshes, broad rivers, deltas, estuaries and coasts of landlocked seas.</li> <li>• It has been listed as least concern on the IUCN Red list.</li> </ul>

<p><b>Yangtze Finless Porpoise</b></p> 	<ul style="list-style-type: none"> <li>• It is known for its mischievous smile and has a level of intelligence comparable to that of a gorilla.</li> <li>• These are good indicators of the health of their environment.</li> <li>• The Yangtze finless porpoise belongs to the group of animals which also includes <b>dolphins and whales</b></li> <li>• It is listed as Critically Endangered in the IUCN Red list.</li> <li>• The Yangtze River, the longest river in Asia is home to these porpoises.</li> </ul>
<p><b>Sedge Warbler</b></p> 	<ul style="list-style-type: none"> <li>• It is a medium-sized bird with complex songs and interesting mating behaviour.</li> <li>• They have an extensive range that covers three continents and migrates long distances to their breeding and wintering grounds.</li> <li>• It is listed as Least concern in the IUCN Red list.</li> <li>• These are insectivores in nature.</li> </ul>
<p><b>Indian Star Tortoise</b></p> 	<ul style="list-style-type: none"> <li>• It is found in the central and Southern parts of India, Pakistan and Sri Lanka.</li> <li>• It is typically found in dry, open habitats such as scrub forests, grasslands, and rocky outcroppings.</li> <li>• It is listed as Vulnerable in the IUCN Red list and Schedule IV in Wild Life Protection Act 1972.</li> </ul>
<p><b>Spot Bellied Eagle Owl</b></p> 	<ul style="list-style-type: none"> <li>• It is also known as the forest eagle-owl.</li> <li>• They are large, very powerful and bold predatory birds.</li> <li>• It is a forest-inhabiting species found in the Indian Subcontinent and Southeast Asia.</li> <li>• It is called 'Ghost of the forest' in India</li> <li>• They are nocturnal in nature.</li> <li>• It listed as Least Concern the IUCN Red list and Schedule IV in Wildlife (Protection) Act, 1972.</li> </ul>
<p><b>Mahabali Frog</b></p> 	<ul style="list-style-type: none"> <li>• It is also known as the pignose frog or purple frog.</li> <li>• It is endemic to the Western Ghat.</li> <li>• Unlike other frogs, it has very short hind legs, which do not allow it to leap from one spot to another.</li> <li>• It buries itself all through the year and surfaces only one day to lay eggs.</li> <li>• It is listed as Near Threatened in the IUCN Red list.</li> </ul>
<p><b>Black Vulture</b></p> 	<ul style="list-style-type: none"> <li>• It is also known as American black vulture.</li> <li>• It is native to the north-eastern United States and a few South American countries like Peru, central Chile, and Uruguay</li> <li>• They typically avoid crossing large bodies of water and do not cover long distances.</li> <li>• They breed in dense woodlands but forage in open habitats, and they are most abundant at low elevations.</li> <li>• It is listed as Least Concern in the IUCN Red list.</li> </ul>

## SCIENCE AND TECHNOLOGY

### Yo-Yo Test and Dexa Scan

The Board of Control for Cricket in India (BCCI) has announced the **reintroduction** of the Yo-Yo Test and the introduction of Dexa scans for the purposes of selection to the team.

#### About Yo-Yo test

- It is a maximal aerobic endurance fitness test, involving running between markers placed **20 metres apart**, at increasing speeds, until exhaustion.
- Yo-Yo IR (intermittent recovery) level 1 test focuses on the capacity to carry out intermittent exercise leading to maximal activation of the **aerobic system**.
- Yo-Yo IR level 2 determines an individual's ability to recover from repeated exercise with a high contribution from the **anaerobic system**.

#### About Dexa Scans

- It is an **imaging test** that measures **bone density (strength)**.
- It can provide helpful details about your risk for osteoporosis (bone loss) and fractures (bone breaks).
- It can also measure your body composition, such as water content, body fat and muscle mass.
- It helps to understand where the fat is and whether the training methods are yielding the result.

### Virovore

- The 1<sup>st</sup> known virovore has been found in the United States.
- Virovore is an organism that obtains **energy and nutrients** by consuming viruses.
- Scientists found that a species of **Halteria, a microscopic ciliate**, can eat huge numbers of infectious chloroviruses that share their aquatic habitat.
  - They're made up of nucleic acids, nitrogen, and phosphorus.
- The new findings may change our understanding of the role viruses play in the food chain at a microscopic level.

### 108th Indian Science Congress

The Prime Minister of India addressed the 108th Indian Science Congress (ISC).

#### About Indian Science Congress

- The 1st session was held in 1914.
- It is organized by the Indian Science Congress Association (ISCA), an independent body functioning with the support of the Department of Science and Technology (DST).
- It brings together scientists and researchers from the premier institutions, laboratories, science teachers and professors from colleges and universities.
- It offers a platform for their interaction with students and the general public on matters related to science.

### Dieback Disease

Dieback disease hits neem trees in Telangana again. Earlier it was seen in 2019.

### About Dieback Disease

- It is mainly caused by the **fungi** *Phomopsis Azadirachtae*.
- Symptoms include the gradual death of leaves, branches, twigs or roots starting from the ends.
- It affects leaves, twigs and the inflorescence of neem trees of all ages and it causes almost 100% loss of fruit production in severely infected trees.
- The appearance of symptoms begins with the onset of the rainy season and becomes progressively severe during the later part of the rainy season and early winter.
- The disease was 1<sup>st</sup> reported in the country during the 1990s near Dehradun, Uttarakhand.

### Ways To Control This Disease

- Diseased shoots should be removed and after their removal sprayed with a mixture of fungicide and insecticide.
- Alternatively, a pit should be dug around an affected tree, and water mixed with fungicide and insecticide should be poured into it.

### Unexploded Ordnance (UXO)

An unexploded artillery shell was found near the official residence of Punjab Chief Minister in Chandigarh.

### About Unexploded Ordnance (UXO)

- A military ammunition or explosive device that remains **unexploded** even after it has been primed and fired is known as Unexploded Ordnance (UXO).
- It can be left over from a war, field firing exercises or even be part of military scrap that is often exported from one country to another to extract metal.
- All unexploded ammunitions are treated as potentially dangerous and capable of detonating till proven otherwise by military ammunition experts.
- UXO can always be used as an Improvised Explosive Device (IED) by connecting it to an explosive circuit.
- Whenever such an unexploded munition is found by civilians, it is always advised to maintain a safe distance and inform the nearest police or district administration official.
- This shell is also placed in a war zone, as the shell already contains the explosives, it just needs to be safely disposed of.

### Elimination of Kala Azar

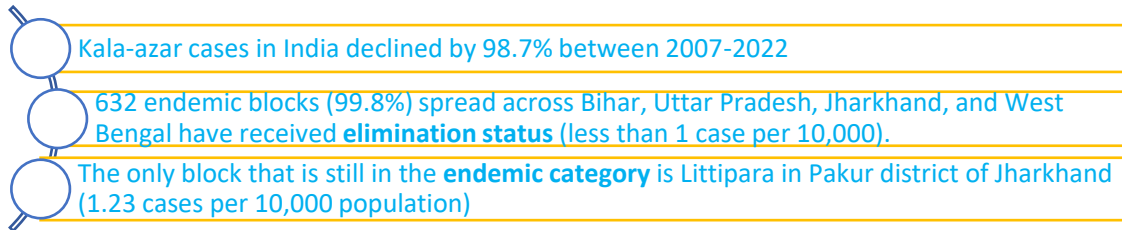
During the high-level meeting, the union Health minister assured the Centre's complete support in the fight against eliminating Kala Azar from the country by 2023.

### About Kala azar

- It is also known as Visceral Leishmaniasis or Black Fever or Dum Dum Fever.
- It is caused by a **protozoa parasite** called *Leishmania*, which is transmitted through the bite of female phlebotomine sandflies.
- It attacks the immune system and is almost always fatal if not treated.
- Symptoms may include fever, weight loss and swelling of the spleen or liver.
- It is the 2<sup>nd</sup> largest parasitic killer in the world after malaria and is also one of the most dangerous **neglected tropical diseases (NTDs)**.

## Initiative to Tackle Kala azar

- WHO has set the target to eliminate Kala-azar by 2017.
  - WHO's New Roadmap for 2021–2030: To prevent, control, eliminate and eradicate a set of 20 diseases, termed NTDs, by 2030
- Government of India launched a centrally sponsored Kala-azar control programme in the endemic states in the year 1990-91.
- **The National Health Policy, 2002** had set the goal of kala-azar elimination by the year 2010, which was revised to 2015. This deadline was later extended twice to 2017, and then to 2020.
- **Success:**



- Presently, all programme activities are being implemented through National Vector Borne Disease Control Programme (NVBDCP) which is an umbrella programme and is subsumed under National Health Mission (NHM).

## Generative Artificial Intelligence (AI)

There are rising applications and ethical concerns in Generative Artificial Intelligence (AI).

### About Generative AI

- It is a cutting-edge technological advancement that utilises machine learning (ML) and AI to create new forms of media, such as text, audio, video, and animation.
- It works by **training a model on a large dataset** and then using that model to generate *new, previously unseen content* that is similar to the training data.
  - **Example:** DALL.E, a generative **image generation service**, can generate original imagery to align with the branding. Many startups are exploring services like DALL.E2 to create their brand logo.

### Applications of Generative AI

- **Revenue Generation:** It can craft sales, marketing, and brand messaging.
- **Blogging and Reach:** Agencies can generate personalized social media posts, blogs, and marketing text and video copies by providing a text prompt to a Generative AI service, like ChatGPT.
- **Coding:** It can suggest entire functions, snippets, and even fully functioning modules and generate code in real-time right in your editor (eg GitHub)
- **Synthetic Data:** It can also be used for generating synthetic data for data augmentation and creating additional training data to train and test AI models to experiment at scale.
- **Summary of data:** It can sift through numerous legal research materials and produce a pertinent, specific, and actionable summary.

## American Foulbrood (AFB)

The United States Department of Agriculture (USDA) has granted a conditional license for a **vaccine** for honeybees to curb American foulbrood (AFB). Honeybee populations are declining sharply, spurred by habitat loss, pesticide use and the climate crisis.



### About American foulbrood (AFB)

- It is a fatal **bacterial** disease of honeybee brood caused by the spore forming bacterium *Paenibacillus larvae*.
- It can infect the *strongest to the weakest colony* in an apiary (*location where beehives are kept*) and infected brood usually dies at the pre-pupal or pupal stage.
- The disease is not able to be cured, meaning that destruction of infected colonies and hives or irradiation of infected material is the only way to manage AFB.

### C/2022 E3 (ZTF) Comet

Astronomers discovered a comet called C/2022 E3 (ZTF) in March 2022 using the **Zwicky Transient Facility's** wide-field survey camera at the Palomar Observatory, (California)

- At the time, the comet was just inside the orbit of Jupiter. Fast forward to today, the comet has already made its closest approach to the sun and in a few weeks will make its closest approach to the Earth

### About C/2022 E3 (ZTF) Comet

- It made an appearance in the night sky for the 1<sup>st</sup> time in 50,000 years.
- It has an orbit around the sun that passes through the outer reaches of the solar system, which is why it's taken such a long time to pass nearby Earth again.
- The comet is expected to be brighter than magnitude 6 and thus becomes visible to the naked eye.

### About Comet

- It is frozen leftovers from the formation of solar system composed of dust, rock, and ice.
- It can be distinguished from stars by its streaking tails of dust and energized particles, as well as the glowing green coma surrounding it.
- The coma is an envelope that forms around a comet as it passes close to the sun, causing its ice to sublimate, or turn directly to gas.
  - This causes the comet to look fuzzy when observed through telescopes.
- Billions of comets are orbiting our Sun in **Kuiper Belt** (called short-period comets which takes less than 200 years) and even more distant **Oort Cloud** (called long-period comets which takes over 200 years).

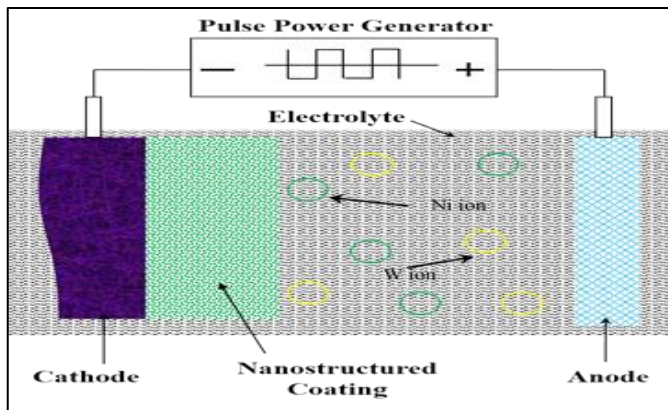
### New Technique of Corrosion-resistant Nickel Alloy Coatings

Scientists at the International Advanced Research Centre for Powder Metallurgy & New Materials (ARCI) have developed a **process** to deposit nanostructured Nickel alloy coatings to replace environmentally toxic chrome plating.

- Chrome plating: A thin layer of chromium is deposited on a metal surface using an electroplating process (using electricity).
- Chromium layer is highly reflective and provides a hard, durable surface that is **resistant to corrosion**. It is used on automotive parts, home appliances (door handles), and in industrial applications.
- However, it can cause respiratory problems, skin irritation, and an increased risk of lung cancer when inhaled

### About New Technique

- The process consists of **environment-friendly electrolyte** consisting of nickel (Ni) and tungsten ions (W).
- The pulsed current is applied between the components to be coated, acting as cathode and non-consumable anode.
- Unlike conventional direct current plating, the coating is virtually free of porosity, crack free with minimal hydrogen uptake.



**International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI)**  
AN AUTONOMOUS R&D CENTRE OF DEPARTMENT OF SCIENCE & TECHNOLOGY,  
GOVERNMENT OF INDIA

- A unique feature of ARCI's mandate relates to the fact that **application-oriented R&D** is carried out and is industry centric.
- It has formed Centres of Excellence (COEs) in many generic thrust areas related to materials and materials processing, like nanomaterials, ceramics, engineered coatings, fuel cells, etc.

### Advantages of New Technique

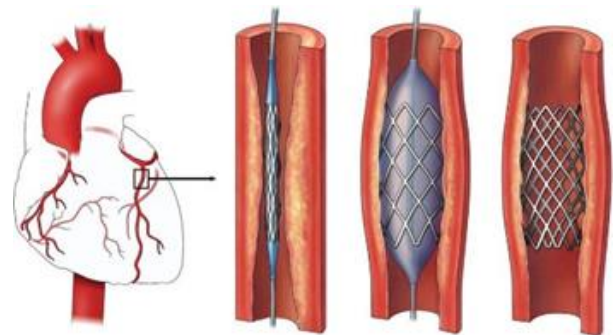
- It can replace environmentally toxic chrome coatings.
- The coatings obtained are also highly corrosion-resistant and useful for the plastic ware industry.
- The coatings can withstand temperatures up to 500°C without thermal softening.

### Coronary Stent

Delhi High Court asked the Central government to respond to a plea seeking sale and marketing of coronary stents in the country only after submission of adequate supporting clinical studies.

#### About Coronary Stent

- It is a tiny, expandable metal mesh coil.
- It is put into the newly opened area of the **artery** to help keep the artery from narrowing or closing again.
  - Arteries can become narrowed or blocked by deposits called plaque (deposits of cholesterol). And the blockage may lead to a heart attack.
- This revascularization procedure is called percutaneous coronary intervention (PCI) or coronary angioplasty with stent placement.
- People who get stents have less discomfort and a shorter recovery time, compared to coronary artery bypass surgery.



#### Angioplasty

- It is a procedure to open narrowed or blocked blood vessels (coronary arteries) that supply blood to the heart.
  - A stent is often placed during or immediately after angioplasty.
- Not every blockage can be treated with angioplasty. Some who have several blockages/blockages in certain locations may need coronary **bypass surgery**.

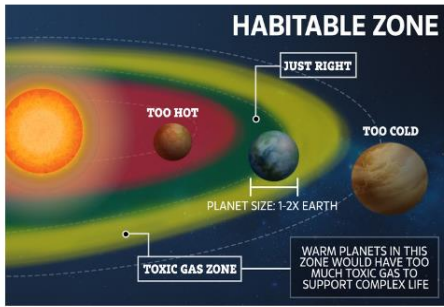
### TOI 700 e

NASA has discovered an **Earth-sized planet** called TOI 700 e orbiting in the habitable zone of its star.

#### About TOI 700 e

- It is probably rocky and is 95% the size of Earth and may contain liquid water.
- It takes 28 days to orbit its star.
- This is the 4th planet discovered in the TOI 700 system, the other planets are named TOI 700 b, c, and d, which is 100 light-years away.

- TOI 700 is a small, cool M dwarf star the planets orbit around, but **only d and e** orbit in the habitable zone.



- ▶ It is also known as **Goldilocks zone**
- ▶ Goldilock Zone is always defined with reference to a particular star. It can be different for different stars.
- ▶ It is an area that is just the right distance from a star where water can exist on a planet's surface and the conditions are neither too hot nor too cold for life.
- ▶ Our Earth is in the **Sun's Goldilocks zone**. If Earth were where Pluto is, all its water would freeze and if Earth were where Mercury is, all its water would boil off.

## Local Bubble

Researchers from the Center for Astrophysics (CfA) have generated a 3D magnetic map of the giant cosmic cavity called Local Bubble.

### About Local Bubble

- It is a great cavity (low-density region) in the **interstellar medium (ISM)**.
- It is about 1,000 light-years **wide cavity or a superbubble of our galaxy, the Milky Way**, within which the Sun and many nearby stars reside.
  - The interstellar medium refers to the tenuous gas and dust that fills the void between stellar systems in galaxies.
  - **Star system/ stellar system:** A small group of stars (and possibly smaller bodies such as planets or asteroids) that orbit one another.
  - A large group of stars bound by gravitation is generally called a star cluster or galaxy
- It is thought to have originated from supernovae roughly 14 million years ago.
  - Supernova is a cosmic explosion occurring when stars meet their end.
- Space is full of these **super-bubbles** that trigger the formation of new stars and planets and influence the overall shapes of galaxies.
- Mechanisms powering the formation and expansion of the Local Bubble are not well-understood until now.

## LHS 475 b

The NASA announced that the James Webb Space Telescope has discovered its 1<sup>st</sup> new exoplanet, labeling the planet as LHS 475 b. More than 4,400 exoplanets have been discovered till now.

### About LHS 475 b

- It is located just 41 light-years away in the **constellation Octans**.
- It is rocky and almost precisely the same size as Earth.
- The planet orbits very close to a red dwarf star and completes a full orbit in just two days.
- It is closer to its star than any planet in our solar system, its red dwarf star is less than half the temperature of the Sun, so researchers speculate it may still have an atmosphere.

{For more About James Webb Space Telescope (JWST), refer The Recitals- July 2022}

{For more About Exoplanet, refer The Recitals- August 2022}

## Gonorrhea

A strand of antimicrobial-resistant gonorrhoea outbreak has hit Kenya.

### About Gonorrhea

- It **sexually transmitted infection (STI)** caused by the bacterium *Neisseria gonorrhoeae*.
- It can affect people of any age or gender, but it's a particularly common trusted Source among teens and young adults between the ages of 15 and 24.
- It often affects the urethra, rectum or throat. In women it can also affect the cervix.
- If left untreated, it can cause serious health problems, including infertility and an increased risk of Human Immunodeficiency Virus (HIV) infection.
- According to WHO, it is the 2<sup>nd</sup>-most common disease to be sexually transmitted across the world after **Chlamydia**.
- It is usually treated with antibiotics, but the bacteria have become increasingly resistant to many of the drugs that were once effective.

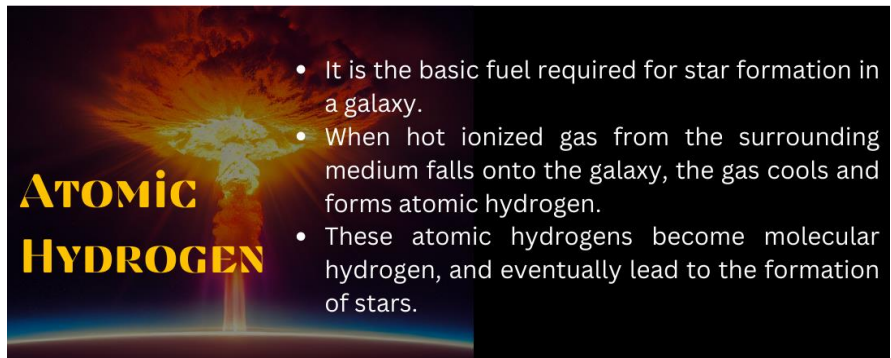
{For more about Antimicrobial-resistant, refer The Recitals- November 2022}

## Giant Metrewave Radio Telescope (GMRT)

Astronomers have used data from the Giant Metrewave Radio Telescope (GMRT) in Pune to detect a radio signal originating from **atomic hydrogen** in an extremely distant galaxy.

### About Giant Metrewave Radio Telescope (GMRT)

- It is an array of 30 fully steerable parabolic radio telescopes of 45-meter diameter.
- It is operated by the National Center for Radio Astrophysics of the Tata Institute of Fundamental Research (NCRA-TIFR), Pune.
- It is an indigenous project, and the design is based on the '**SMART**' concept - **Stretch Mesh Attached to Rope Trusses**.
- It functions at the meter wavelength part of the radio spectrum because man-made radio interference is considerably lower in this part of the spectrum in India and there are many outstanding astrophysics problems which are best studied at meter wavelengths.



## Planet Parade

- NASA shared a picture that captures a rare phenomenon: all the planets of our solar system witnessed from Earth simultaneously **in a linear pattern**.
- Planet parade is an astronomical phenomenon during which several planets may be observed in the sky by the **naked eye**.
  - These planets include Mercury, Venus, Mars, Jupiter, and Saturn.

## Air Independent Propulsion (AIP) System

DRDO and Naval Group France sign pact to fit indigenous AIP system on Kalvari class submarines.

### About AIP System

- Submarines are essential of two types:
  - **Conventional submarine** - It uses a diesel-electric engine and must surface almost daily for oxygen for fuel combustion.
  - **Nuclear submarine** - It is powered by a nuclear reactor this makes it completely independent of air, freeing the submarine from the need to surface frequently.
- AIP is any marine propulsion technology that allows a non-nuclear submarine to operate without access to atmospheric oxygen.
  - Thus, it can augment or replace the diesel-electric propulsion system of non-nuclear vessels.
- **Types of AIP:** Open-cycle systems, Closed-cycle diesel engines, Closed-cycle steam turbines, Stirling cycle engines, Fuel cells

### Advantages of AIP System

- It has a force multiplier effect on lethality of a diesel-electric submarine as it enhances the submerged endurance. If fitted with an AIP system, the submarine will need to take in oxygen only once a week.
- It decreases the noise levels made by the submarines. This makes it hard to detect submarines.

### Disadvantages of AIP System

- Installing AIP increases the length and weight of the boats, requiring pressurised liquid oxygen (LOX) storage on board.
- Currently AIP technology does not produce enough energy for higher speeds.
- Most AIP submarines also come with noisy diesel engines as backup.

### India's fuel cell-based AIP System

- While there are different types of AIP systems being pursued internationally, fuel cell-based AIP is unique.
- India (DRDO) uses a fuel-based AIP system which is unique as hydrogen is generated onboard from this type of system.
- In a fuel cell-based AIP, an electrolytic fuel cell releases energy by combining hydrogen and oxygen, with only water as the waste product ensuring less marine pollution.
- The cells are highly efficient, and do not have moving parts, thus ensuring that the submarine has a low acoustic emission of sound.
- This technology is being successfully developed with the support of industry partners L&T and Thermax.

## BharOS

Union Minister for Communications, Electronics and Information Technology tested BharOS.

### About BharOS

- It is an **indigenous mobile operating system**, like Android or iOS.
- It is developed by JandK Operations Private Limited, a non-profit organization incubated at IIT Madras.
  - It is funded by the Department of Science and Technology.
- It can be installed on commercial off-the-shelf handsets.
- BharOS is based on Android Open-Source Project (AOSP). It makes it similar to Google Android. However, it does not come preloaded with Google services



- It comes with **No Default Apps (NDA)**. This means that users are not forced to use apps that they may not be familiar with or that they may not trust.
- It comes with security protocols such as root of trust and chain of trust, which means that the operating system is designed to stop working if any change is made to its software.
- It will provide access to apps from organisation-specific **Private App Store Services (PASS)**.
  - A PASS provides access to a curated list of apps that have been thoroughly vetted and have met certain security and privacy standards.
- It also supports **Native Over The Air (NOTA)** updates, which would ensure that the device is always running the latest version of the OS (ie automatically installed), including security patches and bug fixes.

### Significance of BharOS

- It aims to reduce the dependence on foreign OS in smartphones and promote the use of locally developed technology.
- It is a huge leap forward to create an indigenous ecosystem and a self-reliant future.
- It aspires to put India on par with those few countries that currently possess such capabilities.

### Molecular Clouds

An international team of astronomers have announced the discovery of different ices in the darkest and coldest regions of a molecular cloud measured to date.

#### About Molecular clouds

- It is an accumulation of interstellar gas and dust, also called **dark nebula**.
  - They are generally dark because they contain mainly cold, high-density, opaque gas, as well as enough dust to quench the light from stars behind them.
- These clouds have very low temperatures of just 10 to 30 kelvin and therefore the hydrogen is primarily composed of **molecular hydrogen (H<sub>2</sub>)**.
- Compared to the ionized hydrogen in other areas of the interstellar medium, less than 1% of all hydrogen in the Milky Way is bound in molecular clouds.
  - The rest is in the form of atomic hydrogen which can become a molecular cloud at a later point in time.
- The size of these molecular clouds can be from a few light years up to 600 light years and their total mass can reach several million solar masses.
- The largest molecular clouds are visible to the naked eye, appearing as dark patches against the brighter background of the Milky Way Galaxy.
  - An example is the **Coal Sack** in the southern sky.
- The central regions of these clouds are completely hidden from view by dust. We can look into the core of these clouds using radio or infrared wavelengths.
- Molecular clouds with dimensions of more than about 15 light years are also called giant molecular clouds.
- These clouds are so important because they are the raw material of stars and planets.
- Stars are born within molecular clouds.

### M1 Abrams

United States announced that it would send 31 state-of-the-art M1 Abrams battle tanks to Ukraine to help its troops push back Russian forces.

## About M1 Abrams

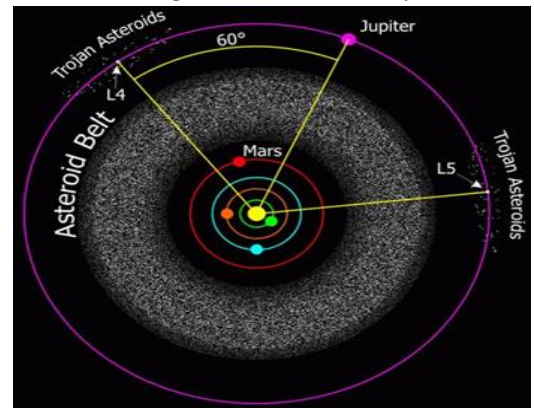
- It is the United States main battle tank.
- The 1<sup>st</sup> tank was manufactured in 1978 and was delivered to the US Army in 1980.
- The export version of this tank is used by the armies of Egypt, Iraq, Kuwait, Australia, and Saudi Arabia.
- It can destroy tank-size targets at a range of 2 km while firing on the move.

## Lucy Mission

- NASA announced that it is adding a *new target* for the Lucy mission as the spacecraft goes on its more than 6-billion-kilometre-long journey to study the Jupiter trojan asteroids.
  - The new target is a small main-belt asteroid and Lucy will get an up-close view to conduct an engineering test of the spacecraft's asteroid-tracking navigation system.

## About Lucy Mission

- It is the 1<sup>st</sup> spacecraft launched by NASA to explore the **trojan asteroids**, orbiting in tandem with Jupiter (one group preceding Jupiter and the other trailing behind it)
- The mission is estimated to be over 12 years long, during which the spacecraft will visit eight asteroids (one in the Main Belt between Mars & Jupiter and seven Trojans).
- The mission is named after 'Lucy', a 3.2-million-year-old ancestor who belonged to a species of hominins



## About Trojan Asteroids

- Asteroids sharing an orbit with a planet, but which are located at the leading (L4) and trailing (L5) Lagrangian points, are known as Trojan asteroids.
  - The Lagrange Points are positions where the gravitational pull of two large masses (e.g. sun and jupiter) precisely equals the centripetal force required for a small object to move with them.
- The main asteroid belt is between Mars and Jupiter.
- There are currently over 4,800 known Trojan asteroids associated with Jupiter.
- They are believed to be made of the same material that led to the formation of the planets about 4 billion years ago, when the Solar System was formed.

### Other Missions to Jupiter

- *Pioneer 10* - The 1st spacecraft to explore Jupiter was Pioneer 10, launched by NASA.
- *Voyager 1* - Launched by NASA to study the outer Solar System and interstellar space beyond the Sun's heliosphere.
- *Juno* - It is a space probe by NASA that is currently orbiting the planet Jupiter.
- *Galileo* - The 1st spacecraft to orbit Jupiter was the Galileo orbiter, sent by NASA.
- *Jupiter Icy Moon Explorer (JUICE)* - It was launched by the European Space Agency's in the year of 2022.

## Geospatial Technology

- It is a term used to describe the range of modern tools contributing to the geographic mapping and analysis of the Earth and human societies (objects, events and phenomena).
- It includes *Geographic Information System (GIS)*, *Remote Sensing (RS)*, and *Global Positioning System (GPS)*.
- It enables us to acquire data that is referenced to the earth and use it for analysis, modeling, simulations, and visualization. The location data may be Static or Dynamic.

## Platinum Drugs

- The platinum-based anti-cancer drugs, including cisplatin, carboplatin, nedaplatin, lobaplatin and oxaliplatin are widely used for chemotherapeutic eradication of cancer.
- They are coordination complexes of platinum.
- The side effects of platinum drugs-lack of selectivity, high systemic toxicity, and drug resistance-seriously limit their clinical application.

## African animal Trypanosomosis (AAT)

- Also known as nagana/ nagana pest/sleeping sickness, it is a disease of vertebrates.
- It affects cattle, water buffalo, sheep, goats, horses, pigs, dogs and other species.
- It is caused by several species of the genus *Trypanosoma*, a parasitic protozoan.
- It is transmitted by **tsetse flies**.
- It can be controlled by reducing tsetse fly populations with traps and insecticides.
- No vaccine is available to prevent trypanosomiasis.

## DNA Mitochondrial Profiling

- DNA mitochondrial profiling examines biological evidence when *nuclear DNA is present in very low quantities* or when *bones and hair are degraded*.
  - Mitochondrial DNA is the circular chromosome found inside the cellular organelles called mitochondria.
- It can be done where DNA extraction is difficult.
- It determines the mitochondrial DNA (mtDNA) sequence from samples such as hair, bones, and teeth.
- Mitochondria is extracted from the cell and genome sequence is then matched with the family to identify missing person.

## Electrochemical Ammonia Synthesis

- Scientists from the Institute of Nano Science and Technology (INST) Mohali have introduced a new electrolyte called (**NaBF<sub>4</sub>**),
- This electrolyte not only acts as an Nitrogen (N<sub>2</sub>)-carrier in the medium but also works as a full-fledged **co-catalyst** along with active material transition metal-doped nanocarbon (MnN<sub>4</sub>) to deliver a high yield of ammonia (NH<sub>3</sub>).
- It will be useful for industries producing green energy or hydrogen.
- The electrochemical ammonia synthesis is largely limited by the poor solubility of nitrogen (N<sub>2</sub>) in the aqueous electrolyte environment as well as the competitive hydrogen evolution reaction.

## Viscose Fibre

- It is a type of rayon, originally known as artificial silk, in the late 19th century.
- The name viscose is derived from the way this fibre is manufactured; a viscous organic liquid used to make both **rayon and cellophane**.
- Viscose is made from tree wood pulp, like beech, pine, and eucalyptus, but can also be made from bamboo
- As a manufactured regenerated cellulose fibre, it is neither truly natural (like cotton, wool or silk) nor truly synthetic (like nylon or polyester) – it falls somewhere in between.

## iKnife

- New research led by the Imperial College of London has recently found an intelligent knife (iKnife), which can be used to diagnose womb cancer within minutes.
- It uses electric currents on **biopsy tissue** and then analyses the **vapourised aerosols** from the tissue in a mass spectrometer to give real-time information about activity in the tissue.
- The study noted that the knife reliably diagnosed endometrial cancer in tissue within seconds with an accuracy of 89%.

## Doppler Weather Radar Network

- It is a system of **multiple radar stations** that work together to provide comprehensive coverage of a specific area.
  - The system uses the **Doppler effect** to detect and track moving objects, such as weather systems, aircraft, and vehicles.
- The Ministry of Earth Science is also preparing to cover the entire Country by the Doppler weather radar network by 2025 for more accurate forecasts related to extreme weather events.
- Doppler shift is a phenomenon that is observed whenever the source of waves is moving with respect to an observer.
- Doppler radar can be divided into several different categories according to different wavelengths.

## Halteria

- Researchers from the University of Nebraska-Lincoln have reported that a particular species of plankton, named Halteria, can grow and divide only when given a **virus to eat** (virovory).
- These microscopic ciliates, a single-celled organism with minuscule hairs populate freshwater worldwide
- They are heterotrophs meaning they can't produce their own food.
- They can each consume 10,000 to a million virus particles a day.

## Lymphatic Filariasis (LF)

- It is commonly known as elephantiasis, a neglected tropical disease.
- It occurs when filarial parasites are transmitted to humans through the bites of infected mosquitos.
- It impairs the lymphatic system and can lead to the abnormal enlargement of body parts, causing pain, severe disability and social stigma.
- WHO recommends drug treatments known as IDA to eliminate this disease, involves a combination of ivermectin, diethylcarbamazine citrate and albendazole.

## Amrit Udyan

- The iconic Mughal Gardens at Rashtrapati Bhavan were renamed to 'Amrit Udyan'.
- The cluster of about 15 gardens will collectively be known as Amrit Udyan.
  - Individual gardens within the sprawling Presidential Estate — Herbal Garden, Musical Garden and Spiritual Garden — will retain their names.
- Spread over 15 acres, the Mughal Gardens draw inspiration from the Mughal Gardens of Jammu & Kashmir, the gardens around the Taj Mahal and miniature paintings of India and Persia.

## Lutyens' Imprint

- Edwin Lutyens had finalised the designs of the Mughal Gardens in **1917**, but it was only during the year **1928-1929** that plantings were done.
- Director of horticulture William Mustoe, who planted the garden, was especially skilled at growing roses and is said to have introduced more than 250 different varieties of hybrid roses gathered from every corner of the world.
- Like the building of Rashtrapati Bhavan has two different styles of architecture, Indian and western, similarly, Lutyens brought together two different horticulture traditions together for the gardens — **the Mughal style and the English flower garden**.
- Mughal canals, terraces and flowering shrubs are beautifully blended with European flowerbeds, lawns and private hedges.

## Mughal Touch

- There are three gardens in the Rashtrapati Bhavan inspired by Mughal and Persian gardens. The one inspired from the garden in Srinagar is known as Mughal Garden.
- But the gardens were never officially named Mughal Gardens, they came to be known so owing to the style of architecture.
- The style was influenced by the Persian gardens, particularly the **charbagh structure**. In Babur Nama, Babur shared that his favourite kind of garden is the Persian charbagh style (literally, four gardens).
- The charbagh structure was intended to create a representation of an earthly heaven – jannat – in which humans co-exist in perfect harmony with all elements of nature.
- Defined by its rectilinear layouts, **divided in four equal sections**, these gardens can be found across lands previously ruled by the Mughals.
- From the gardens surrounding Humayun's Tomb in Delhi to the Nishat Bagh in Srinagar, all are built in this style – giving them the moniker of Mughal Gardens.
- A defining feature of these gardens is the **use of waterways, often to demarcate the various quadrants of the garden**.
- These were not only crucial to maintain the flora of the garden, they also were an important part of its aesthetic. Fountains were often built, symbolising the **"cycle of life."**

## Other Gardens In Rashtrapati Bhavan

- The Rashtrapati Bhavan houses a variety of gardens. Originally, they included East Lawn, Central Lawn, Long Garden and Circular Garden.
- Over time, Presidents have contributed to the gardens in their own ways for social or developmental works.



- For instance, **C Rajagopalachari**, the last Governor General of India, during a period of food shortage in the country, himself ploughed the lands and dedicated a section of the garden to foodgrains.
- Today, the Nutrition Garden, popularly known as **Dalikhana**, stands in that spot, organically cultivating a variety of vegetables.
- During the term of former Presidents APJ Abdul Kalam and Ram Nath Kovind, more gardens were developed – such as Herbal-I, Herbal-II, Tactile Garden, Bonsai Garden and Arogya Vanam.
- President R Venkatraman added a cactus garden and APJ Abdul Kalam added many theme based gardens- from the musical garden to the spiritual garden.

### SPIC MACAY

- The Society for the Promotion of Indian Classical Music And Culture Amongst Youth (SPIC MACAY) organized its popular 'Music in the Park' series this year under the name **Shruti Amrut**.
- This was done in collaboration with the Ministry of Culture and the New Delhi Municipal Council.
- Founded in **1977**, SPIC MACAY is a **non-profit and participatory student movement** registered under the **Societies Registration Act, 1860**.
- It is a voluntary youth movement that **promotes the tangible & intangible aspects of Indian & world heritage** and has chapters in over 850 towns across the world.
- It does so by organizing programs and workshops on Indian classical, folk music and dance, yoga, meditation, crafts, and other aspects of Indian culture.
- In 2011, SPIC MACAY was awarded the Rajiv Gandhi Sadbhavana award in recognition of its contribution to youth development.

### Ramcharitmanas

- **Ramcharitmanas an epic poem written by Goswami Tulsidas** was at the centre of a controversy, when Bihar's Education Minister claimed that Ramcharitmanas spreads hatred in society.
- The Ramcharitmanas is based on the **Ramayana, sage Valmiki's great epic**.
- The poem was **written in the 16th century in the Awadhi dialect** that is mainly spoken in the areas that are today's Lucknow, Prayagraj, and Ayodhya districts.
- It is divided into **seven chapters (Kand)** that tell the story of Lord Ram from birth to his becoming King of Ayodhya.
- It is the holiest book of the Indo-Gangetic region, and among the world's most read holy books. By an estimate, Geeta Press (Gorakhpur) has sold almost 7 crore copies.
- Across the Hindi heartland, a reference to "Ramayan" often actually means Ramcharitmanas.

### Goswami Tulsidas

- Tulsidas, a Brahmin whose original name was **Ram Bola Dubey**, is believed to have been born in Rajapur by the Yamuna in today's Banda district.
- He composed the Ramcharitmanas on the bank of the Ganga in Varanasi. He is said to have begun writing on Ram Navami day in 1574, and completed the poem over the next few years.
- Tulsidas made the story of Lord Ram popular among the masses because he wrote in the regional dialect that most people understood. However, this also angered the Sanskrit scholars of that time.
- Tulsidas lived in the time of Emperor Akbar, and some believe that he was in touch with Abdurrahim Khan-e-Khanan, the son of Akbar's commander Bairam Khan, and they possibly exchanged some poetic communication as well.

- Besides Ramcharitmanas, Ramlalla Nahachhu, Barvai Ramayan, Ramagya Prashna, Parvati Mangal and Janaki Mangal in the Awadhi language are some of Tulsidas' popular works.

### Savitribai Phule

- Recently, 192nd birth anniversary of Savitribai Phule, was celebrated. A pioneer who challenged oppressive social norms for women's education, equality and justice, Savitribai Phule is formally recognised as India's first woman teacher.
- A Dalit woman from the Mali community, Savitribai was born on January 3, 1831, in Maharashtra's Naigaon village.
- Married off at the age of 10, her husband Jyotirao Phule is said to have educated her at home. Later, Jyotirao admitted Savitribai to a teachers' training institution in Pune.
- At a time when it was considered unacceptable for women to even attain education, the couple went on to open a school for girls in Bhidewada, Pune, in 1848. This became the **country's first girls' school**.

### Opposition to Phule's schools

- The couple opened more such schools for girls, Shudras and Ati-Shudras (the backward castes and Dalits, respectively) in Pune, leading to discontent among Indian nationalists like Bal Gangadhar Tilak.
- They opposed the setting up of schools for girls and non-Brahmins, citing a loss of nationality, and believing not following the caste rules would mean a loss of nationality itself.
- Savitribai herself faced great animosity from the upper castes, including instances of physical violence.

### Phule's Role As A Social Reformer, Beyond Education

- Savitribai Phule also advocated inter-caste marriages, widow remarriage, and eradication of child marriage, sati and dowry systems, among other social issues.
- In 1873, the Phules set up the **Satyashodhak Samaj** ('Truth-seekers' society'), a platform open to all, irrespective of their caste, religion or class hierarchies, with the sole aim of bringing social equity.
- As an extension, they started **Satyashodhak Marriage** – a rejection of Brahmanical rituals where the marrying couple takes a pledge to promote education and equality.
- The couple also set up **Balyata Pratibandak Gruha**, a childcare centre for the protection of pregnant widows and rape victims.
- The Phules also adopted Yashwantrao, the child of a widow, whom they educated to become a doctor.
- Setting an extraordinary example of living a life of compassion, service and courage, Savitribai became involved in relief work during the 1896 famine in Maharashtra and the 1897 Bubonic plague.
- She herself contracted the disease while taking a sick child to the hospital, and breathed her last on March 10, 1897.

### Savitribai's Literary Works

- Savitribai Phule published her first collection of poems, called **Kavya Phule** ('Poetry's Blossoms'), at the age of 23 in 1854.
- She published **Bavan Kashi Subodh Ratnakar** ('The Ocean of Pure Gems'), in 1892.
- Besides these works, **Matushri Savitribai Phlenchi Bhashane va Gaani** (Savitribai Phule's speeches and songs'), and her letters to her husband have also been published.

## Sagol Kangjei

- The Union Home Minister unveiled a 122-foot-tall statue of a Sagol Kangjei (polo) player riding a pony at Marjing Polo Complex in **Manipur's Imphal East district**.
- **Sagol Kangjei** is the name of the game of polo played in Manipur. Sagol means pony/horse, kang means a ball or round object, and jei is a stick used for hitting.
- Modern polo is said to have originated from Sagol Kangjei, in which players ride horses, specifically the Manipur Ponies, which are referenced in records dating back to the 14th century.
- There are no goal posts in this game and goal lines determine the end of the two boundaries of the rectangular field. To score a goal the **ball (kangdrum)** must cross the line.
- The prominent patrons of the game were King Kyamba and King Khagemba (1597-1672 A.D.), and King Chandra Kirti (1850 - 1886 A.D.).
- The latter, especially, is credited with popularising the sport in other parts of the world.

## Manipur Pony

- The Manipur Pony is one of five recognised equine breeds of India, and has a powerful cultural significance for Manipuri society. The Marjing Polo Complex has been developed as a way to conserve the Manipur Pony.
- The Manipur Pony features in mythological stories, and is celebrated in oral tradition, ballads, and rituals.
- The mythology is that it was created as a winged beast that had to be controlled because of which its wings had to be chopped off and it fell to the ground.
- Historically an important part of Manipuri armies, it is used only for cavalry, rituals, and sport, not for working as a draught animal.
- The small and decreasing numbers of the Manipur Pony has been a cause for concern.
- The 17th Quinquennial Livestock Census 2003 had recorded 1,898 Manipur Ponies; later, the number fell to 1,101 in the 19th Quinquennial Livestock Census in 2012.

## Ottanthullal

- Recently, a traditional art Ottanthullal of Kerala which has a history of over 300 years was performed in Kerala School Kalolsavam 2023.
- Ottanthullal (or Thullal, in short) is recite-and-dance art-form of Kerala introduced by the renowned Malayalam poet Kunchan Nambiar (1705-1770).
- It follows the classical principles of Natyasasthra, a treatise on art compiled in the 2nd century BC.
- It is marked by its simplicity as opposed to more complex dance-forms like Kathakali and Koodiyattam.
- Three separate versions have arisen: Ottanthullal, Seethankan thullal, and Parayan thullal.
- Ottanthullal is the most popular of the three varieties and is characterized by its use of humor, satire, and social criticism.
- In a performance, elaborate expressions and verses are used to bring mythological tales and stories to life.
- The costume and makeup of the performer are similar to those of a Kathakali artist.
- Thullal is often performed at temple festivals and cultural programs and is accompanied by a singer who repeats the verses and an orchestra of mridangam or thoppimaddalam (percussions) and cymbals.

## VIRAASAT

- The second phase of the Sari Festival "VIRAASAT"- Celebrating 75 handwoven Saris of India was recently held in New Delhi. The festival has been organised by the **Ministry of Textiles**.

- The event is likely to bring renewed focus on the age-old tradition of Sari weaving and thereby improve earnings of the handloom community.
- Handloom sector is a symbol of the country's rich and varied cultural heritage, besides being one of the key sectors providing employment to a large number of people, especially women.
- Handloom saris drawn from some of the exotic locations of India are on display and sale at the exhibition. A brief list is given below: -

States	Prominent sari varieties
Andhra Pradesh	Uppada Jamdhani Sari, Venkatagiri Jamdani Cotton Sari, Kuppadam Sari, Chirala Silk Cotton Sari.
Kerala	Balaramapuram Sari and Kasavu Sari
Telangana	Pochampally Sari, Siddipet Gollabamma Sari and Narayanpet Sari
Tamilnadu	Kancheepuram Silk Sari, Arni Silk Saris, Thirubuvanam Silk Sari, Vilandai Cotton Sari, Madurai Sari, Paramakudi Cotton Sari, Aruppukottai Cotton Sari
Maharashtra	Paithani Sari, Karvath Kathi Sari.
Chhattisgarh	Tussar Silk Sari of Champa
Madhya Pradesh	Maheshwari Sari and Chanderi Sari
Gujarat	Patola Sari, Tangaliya Sari.
Rajasthan	Kota Doria Sari
Uttar Pradesh	Lalitpuri Sari, Banaras Brocade, Jangla, Tanchoi, Cutwork, and Jamdani
Jammu & Kashmir	Pashmina Sari
Bihar	Bhagalpuri Silk Sari and Bawan Buti Sari
Odisha	Kotpad Sari and Gopalpur Tassar Sari
West Bengal	Jamdani, Santipuri and Tangail
Jharkhand	Tussar and Gichha Silk Sari
Karnataka	Ilkal Sari
Assam	Muga Silk Sari, Mekhla Chadar (Sari)
Punjab	Embroidered & Croch (Phulkari)

### Swami Vivekananda

- January 12 this year marked the 161st birth anniversary of Swami Vivekananda, also observed as **National Youth Day**.
- Swami Vivekananda, known in his pre-monastic life as **Narendra Nath Datta**, was born in an affluent family in **Kolkata** on 12 January 1863.
- Born with a yogic temperament, he used to practise meditation from his boyhood, and was associated with **Brahmo Samaj**, dedicated to eliminating child marriage and illiteracy.
- In 1897 he founded a unique type of organization known as Ramakrishna Mission, in which monks and lay people would jointly undertake propagation of Practical Vedanta, and various forms of social service.
- Swami Vivekananda played a major role in the upliftment of the society by educating women and lower castes. He also highlighted the importance of unity among all the religions.

- Spiritual primacy is the central theme of Vivekananda's teachings, through which human beings can succeed in every sphere of their lives. Nevertheless, he urges people, especially the youth, to never let go of reason.
- Swami Vivekananda asserted that each soul is potentially divine. The goal of human beings should be to manifest this divinity within, which can be done by controlling nature, external and internal.

### **Vedantic Humanism**

- Swami Vivekananda believed that there is only one Self in the universe. There is only one Existence. He saw the entire universe as a manifestation of the absolute One.
- On the coexistence of various faiths, he believed religious acceptance, and not tolerance was important. He claimed that tolerance comes out of a superiority complex.
- For him, the most desirable path for self-realisation was the selfless service of man.
- He was an exponent of vedantic humanism. He did not propagate a world-negating concept of spirituality, rather he said that each and every task of one's life should be done with divinity.
- He articulated that external rituals of religion are of secondary importance but the spiritual essence of a religion should be preserved and accepted.