TATHASTU
Institute of Civil Services

MONTHLY CURRENT AFFAIRS

NOVEMBER
2023

JEWELS OF THE MONTH

ECONOMY:

ENVIRONMENT & GEOGRAPHY

TEST YOUR QUEST ✌

(A MYSTERY INSIDE!!!)

JEWELS OF THE MONTH

GAGANYAAN MISSION

SOURCE:THE HINDU

WHY IN NEWS?

➢ **ISRO's Crew Module Experiment:**
   ✓ *Objective: ISRO to experiment with **a crew module up-righting system** for post-space mission splashdown.*
➢ **TV-D1 Mission (October 21, 2023):**
   ✓ ***Basic crew module used, lacking the up-righting system**.*
   ✓ *Module recovered **upside-down by naval divers in the Bay of Bengal**.*
➢ **TV-D2 Test Mission (Scheduled Next Year):**
   ✓ *Testing multiple systems, **including the crew module up-righting system**.*
   ✓ *Aims to **prevent inversion during splashdown**, ensuring stability.*
➢ **Gaganyaan Mission (2024-25):**
   ✓ *TV-D1 mission part of preparations **for India's first human spaceflight**.*
   ✓ *Up-righting system critical for crew module **recovery in sea after Gaganyaan mission**.*
➢ *Next Steps:*
   ✓ ***TV-D2 mission in the first quarter of next year** for comprehensive system testing.*
   ✓ ***Unmanned test flight into space on the LVM3 rocket** as part of Gaganyaan*

ABOUT GAGANYAAN MISSION:

➢ **Objective:**
   ✓ Demonstrate **India's human spaceflight capability.**
   ✓ Launch a crew of **3 members to a 400 km orbit for a 3-day mission.**
   ✓ Demonstration of **human spaceflight to Low Earth Orbit (LEO).**
   ✓ Foundation for a sustained Indian human space exploration program.
   ✓ Safely return the **crew by landing in Indian sea waters**.
➢ **Strategic Approach:**
   ✓ Utilizes in-house expertise, **Indian industry experience**, and international technology collaboration.
   ✓ Involves academia, research institutions, and **cutting-edge technologies**.
➢ **Critical Technologies:**
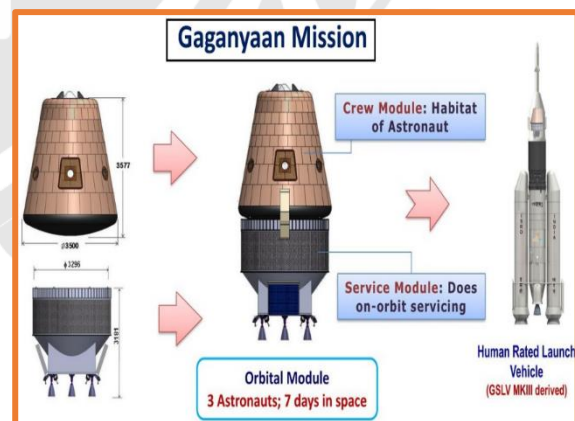
- ✓ **Human-rated launch vehicle** for safe crew transport.
- ✓ **Life Support System** for creating a habitable space environment.
- ✓ **Crew emergency escape provision** and management aspects.
- ➢ **Precursor Missions:**
  - ✓ Integrated Air Drop Test **(IADT)**
  - ✓ Pad Abort Test **(PAT)**
  - ✓ Test Vehicle **(TV)** flights
  - ✓ Ensures Technology Preparedness Levels before the manned mission.
- ➢ **Safety Measures:**
  - ✓ **Unmanned missions to validate system** safety and reliability.
  - ✓ Focus on **crew training, recovery, and rehabilitation** for a comprehensive approach.
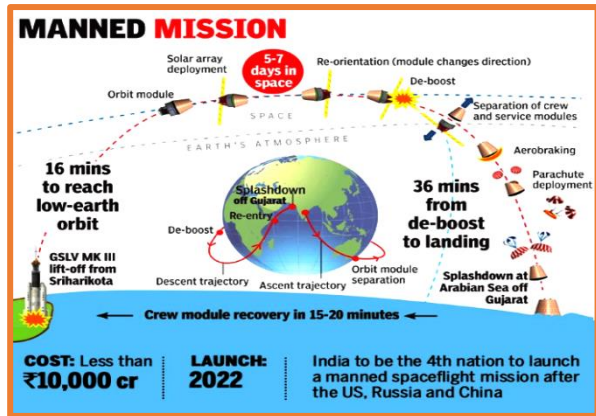
COMPONENTS:

Consists of Crew Module (CM) and Service Module (SM).

- ➢ **Crew Module:**
  - ✓ Habitable space with Earth-like environment, pressurized metallic inner structure, external structure with Thermal Protection System (TPS).
- ➢ **Service Module:**
  - ✓ Unpressurized structure with thermal system, propulsion, power, avionics, and deployment mechanisms.
- ➢ **New Technologies for Gaganyaan:**
  - ✓ *Focus:* Development of engineering and human-centric systems.
  - ✓ Prioritizing human safety.
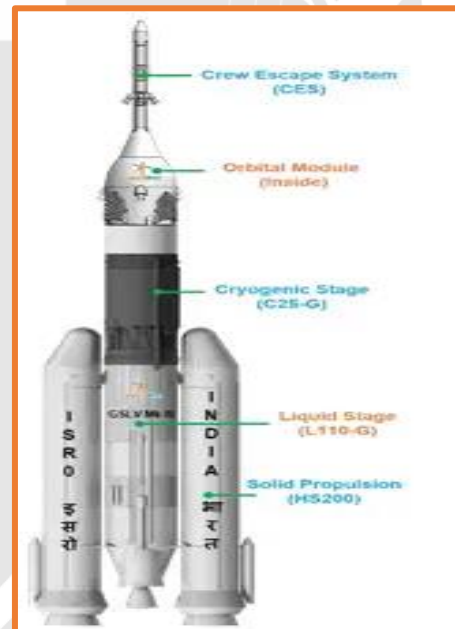
Crew Training for Gaganyaan

- ➢ **Training Facility in Bengaluru:**
  - ✓ Offers classroom, physical fitness, simulator, and flight suit training.
  - ✓ Covers academic courses, Gaganyaan Flight Systems, microgravity familiarization, aero-medical training, recovery, survival training, and more.
- ➢ **Modules Include:**
  - ✓ Crew Training Simulators.
  - Periodical flying practice and Yoga.
  - ✓ Aero-medical training.
- ➢ **Milestones Achieved:**
  - ✓ *Test Vehicle:* Characterization of Crew Escape System ready at **Satish Dhawan Space Centre (SDSC).**

SIGNIFICANCE OF GAGANYAAN'S TV-D1 TEST FLIGHT:

- ➢ **Abort Scenario Simulation:**
  - ✓ The **test flight simulates an abort scenario**, replicating conditions during the ascent phase of the **Gaganyaan mission at a Mach number of 1.2.**

- ➢ **Crew Escape System (CES) Functionality:**
  - ✓ Demonstrates the functionality of the **Crew Escape System (CES), including CES separation** and the deployment of multiple parachutes.

TEST VEHICLE ABORT DEMONSTRATION MISSION PROFILE

- ➢ **Safe Crew Module (CM) Landing:**
  - ✓ Initiates an **autonomous abort sequence leading to the safe landing of the Crew Module in the sea**, showcasing the system's reliability.

- ➢ **Integration and Testing Progress:**
  - ✓ Represents a significant **achievement in the Gaganyaan program** by integrating an almost complete system for a flight test.

- ➢ **Recovery Operations Practice:**
  - ✓ Indian Navy personnel **conduct mock operations for the recovery of the CM** from the Bay of Bengal, ensuring preparedness.

- ➢ **CM Development Stages:**
  - ✓ Highlights the **progress of Crew Module development through integration**, testing, and preparations for transport to the launch site.

- ➢ **Comprehensive Safety Measures:**
  - ✓ Describes the **components within the CM, including parachutes, Recovery Aids Actuation Systems, pyrotechnic devices**, and redundant avionics systems.

- ➢ **Dual Redundancy for Reliability:**
  - ✓ **Avionics systems** within the CM configured with **dual redundancy for critical functions,** enhancing reliability and safety.

- ➢ **Pyrotechnic Devices in Aerospace:**
  - ✓ Explains the **role of pyrotechnic devices** in initiating specific actions crucial for precise and timely tasks in aerospace systems**.**

- ➢ **Achieving Program Milestones:**
  - ✓ Success in the **TV-D1 mission sets the stage for qualification tests and unmanned missions,** progressing towards the **first Gaganyaan mission with Indian astronauts.**
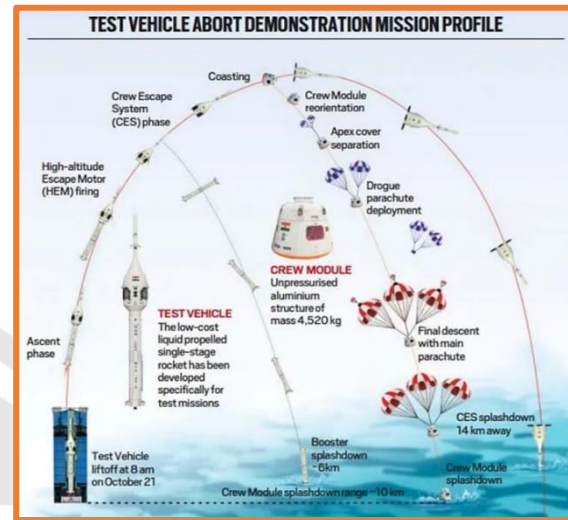
IMORTANCE OF THE GAGANYAAN MISSION:

- ➢ **Advancing Space Exploration:**
  - ✓ Progress **towards sustained and affordable human** and **robotic programs** for exploring the solar system and beyond.

- ➢ **Technological Advancements:**
  - ✓ Development of advanced technology **capabilities for human space exploration**, sample return missions, and **scientific exploration.**

- ➢ **Global Collaboration:**
  - ✓ Future capability to actively collaborate in the **development of global space stations** and **conduct scientific experiments** of national interest.

- ➢ **Academia-Industry Partnership:**
  - ✓ Creation of a broad framework for **wider academia-industry partnerships**, fostering development activities for national development.
- ➢ **Employment Generation and Skill Development:**
  - ✓ Ample scope for **employment generation and human resource** development in **advanced science and research and development (R&D)** activities.
- ➢ **Youth Inspiration and Education:**
  - ✓ Unique opportunity to **inspire and excite Indian youth**, encouraging careers in science and technology.
  - ✓ Encouragement for students to pursue **challenging jobs that foster knowledge, innovation, and creativity.**
- ➢ **International Partnerships:**
  - ✓ **Strengthening international partnerships** in space exploration.
  - ✓ Contribution to global security through the **sharing of challenging and peaceful goals.**
- ➢ **Foreign Policy Leveraging:**
  - ✓ A **vibrant human spaceflight program** can serve as a potent foreign **policy tool, enhancing India's diplomatic influence.**
- ➢ **Nation's Prestige:**
  - ✓ **Elevates the nation's prestige** in the global space community.
  - ✓ Demonstrates India's commitment to **cutting-edge space exploration and technology**.

DEEPFAKE TECHNOLOGY

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

- ➢ *Recent viral video of Actress is a deepfake, highlighting **the spread of deepfakes using AI tools**. The **ease of creating and disseminating deepfakes through social media** is a **global concern**, especially in polarized political environments.*

ABOUT DEEP FACE TECHNOLOGY:

- ➢ **Introduction:**
  - ✓ Deepfake technology is a **method that leverages powerful computers** and deep learning to **manipulate videos, images, and audios.**
  - ✓ Its applications include **generating fake news, committing financial fraud,** and various illicit activities.

  - ✓ **Cybercriminals utilize Artificial Intelligence** technology to create deceptive content.
- ➢ **Origin of the Term:**
  - ✓ The term "deepfake" **originated in 2017** when an **anonymous Reddit user self-identified as "Deepfakes."**
    This user **harnessed Google's open-source deep-learning technology** to produce and share pornographic videos.

KEY ASPECTS OF DEEPFAKE TECHNOLOGY INCLUDE:

- **Face Swapping:**
  - ✓ Deepfake technology **can swap one person's face onto another person's body** in videos or images.
  - ✓ This involves training a neural network on **large datasets of the target person's face and then superimposing it onto the source video.**
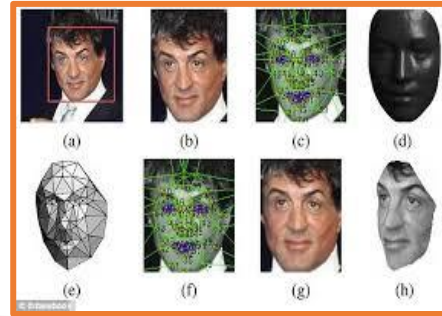
- **Voice Synthesis**:
  - ✓ Deepfake technology can **also be used to synthesize human-like voices**.
  - ✓ By training on an **individual's voice data, it can create audio that mimics the target's** speech patterns.

- **Realistic Results:**
  - ✓ One of the notable features of **deepfakes is their ability to produce highly realistic** and convincing content.
  - ✓ These **manipulations can be challenging to detect** with the **naked eye or ear**.

- **Potential Uses:**
  - ✓ While deepfake technology has raised concerns **about misuse for deceptive purposes**, it has some legitimate applications.
  - ✓ For example, it can be used in the **film industry for special effects** and in **voice assistants to generate more natural-sounding interactions.**
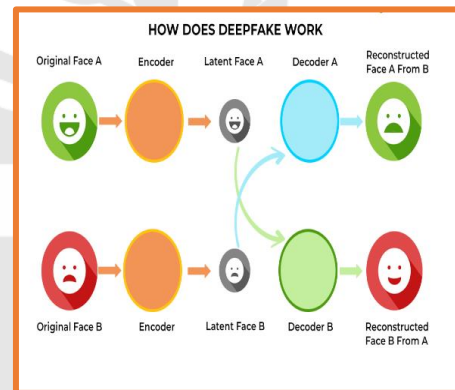
ACKNOWLEDGING CONCERNS:

- The **Bletchley Declaration**, signed by **28 countries**, including the **US, UK, France, China, Japan, and India, acknowledges the risks posed by deepfakes** and calls for global action.
- Different countries have **different approaches to regulating AI,** with some favoring strict oversight while others opt for a lighter touch.
- **Challenges in Deepfake Life Cycle:**
  - ✓ Deepfake life **cycle consists of creation, dissemination, and detection**.
  - ✓ Regulation can **mitigate the creation of unlawful or non-consensual deepfakes.**
  - ✓ Countries like **China require consent, identity verification, and recourse for deepfake technology providers.**
  - ✓ Canada focuses on awareness campaigns and possible legislation to combat malicious deepfakes.
- **Challenges in Content Moderation:**
  - ✓ Vague terms in content moderation **like "making reasonable efforts"** and **"acting on"** user complaints pose challenges for platforms.
  - ✓ Clear definitions and actions are needed **to avoid platforms' liability for non-compliance.**
- **Detecting Deepfakes:**
  - ✓ Detecting deepfake videos is **increasingly difficult due to AI advancements.**
  - ✓ A **multi-pronged regulatory approach engaging** with **both AI and platform regulation is needed**.
  - ✓ **Upcoming Digital India Act to regulate AI,** emerging technologies, and online platforms provides an opportunity to address these issues.

ARE DEEPFAKES ALWAYS MALICIOUS?

- ➤ **Not All Deepfakes Are Malicious:**
  - ✓ Deepfakes **serve a variety of purposes**, not all of which are harmful.
  - ✓ They can be **entertaining and even helpful,** such **as restoring lost voices due to illness or animating art exhibitions.**
  - ✓ In the **entertainment industry,** they can improve **dubbing in films and even resurrect deceased** actors.
- ➤ **Misuse of Deepfake Technology**:
  - ✓ Deepfake technology is increasingly **misused for malicious purposes**, such as **scams, hoaxes, celebrity pornography, election manipulation, social engineering, automated disinformation campaigns, identity theft,** and financial fraud.
  - ✓ Notable personalities, including former U**.S. Presidents like Barack Obama and Donald Trump, as well as India's Prime Minister Narendra Modi,** have been **impersonated** using deepfakes.

WHAT DOES THE LAW SAY?

- ➤ *Regulations in India:*
  - ✓ **India currently lacks specific legal rules addressing deepfake technology**.
  - ✓ However, legal action can be taken under existing laws if the **technology is misused,** including laws related to –
    - • **Infringe copyright.**
    - • **Breach data protection laws.**
    - • **Be defamatory if they expose the victim to ridicule**.
  - ✓ Violate laws related to sharing sexual and private images without consent, such as "revenge porn," which can result in up to two years in jail for offenders.
- ➤ **Laws related to deep fake in India:**
  - ✓ *IT Act of 2000 – Section 66E:* Addresses **deepfake crimes involving capturing, publishing, or transmitting a person's images in mass media**, potentially resulting in imprisonment or fines.
  - ✓ IT Act of 2000 – Section 66D: Allows **prosecution of individuals who maliciously use communication** devices or computer resources to cheat or impersonate someone, with penalties including imprisonment and fines.
  - ✓ **Copyright Protection under the Indian Copyright Act of 1957: Safeguards works like films** and music, allowing **copyright owners to take legal action against unauthorized use** of their content, with penalties outlined in Section 51.
  - ✓ The Ministry of Information and Broadcasting issued an **advisory on January 9, 2023,** recommending **media organizations to label potentially manipulated content as "manipulated" or "modified" for viewer awareness.**

GLOBAL RESPONSE TO COMBAT DEEPFAKES:

- ➤ Various countries are **taking measures to address the challenges posed by deepfake technology**.
- ➤ Regulatory responses may include **explicit labeling and traceability for manipulated content**, as seen in China's approach.
- ➤ Other nations are exploring **regulations and safeguards to curb the harmful impact** of deepfakes on society.
- ➤ Deepfake technology's misuse **raises concerns globally,** necessitating coordinated efforts **to combat its detrimental effects and protect individuals from deception and fraud.**

SOLUTIONS FOR DEEPFAKE CHALLENGES:

- ➢ **Social Media Platform Responsibility:**
  - ✓ Social media platforms have a **responsibility to prevent misleading advertisements** featuring deepfakes, whether of celebrities or ordinary citizens.
  - ✓ **Cases like Karen Hepp v Facebook highlight** the need for **stricter regulation on deepfake content** in advertisements to protect individual rights and reputation.
- ➢ **Government Regulations:**
  - ✓ Governments **should implement preventive measures to mandate advertisers** to disclose the use of deepfake content in advertisements.
  - ✓ **Similar to the EU's AI Act, regulations can ensure transparency and accountability** in advertising practices.
- ➢ **Proposed Legislation:**
  - ✓ The US government has **proposed the Deep Fakes Accountability Bill, 2023**, which **aims to address deepfake issues.**
  - ✓ Legal frameworks, such as the **Digital Personal Data Protection Act, 2023, and the Consumer Protection Act, 2019**, may require harmonization and cross-referencing to effectively regulate AI and its use cases in the consumer market.
- ➢ **Definition Clarification:**
  - ✓ Clear definitions of **terms like consent, personality rights, deep fakes, dark patterns, AI,** and their limits are essential for protecting consumers and data principals.
- ➢ **Comprehensive Guidelines:**
  - ✓ Issuing **comprehensive guidelines under the Consumer Protection Act** to **mandate advertisers and social media platforms** to disclose the usage of deepfakes in advertisements.
  - ✓ Inclusion of AI-based deepfakes in the **guidelines on dark patterns to address emerging trends**.
- ➢ **Single Regulation:**
  - ✓ In the long run, a **unified regulatory framework is essential to cover the potential implications** of AI's adverse use across various sectors, including the consumer market.
  - ✓ **Delhi High Court's order is a step in the right direction, emphasizing the government's role in safeguarding consumers** from sophisticated deepfake advertisements.

UNESCO NAMES KOZHIKODE 'CITY OF LITERATURE': WHAT THIS TAG MEANS

SOURCE: THE HINDU

WHY IN NEWS?

- ➢ *Kozhikode in Kerala and Gwalior in Madhya Pradesh* have recently joined UNESCO's Creative Cities Network (UCCN) in recognition of their contributions to distinct creative fields.

UNESCO CREATIVE CITIES NETWORK (UCCN):

- ➢ **About:**
  - ✓ The **UCCN was established in 2004** to **encourage collaboration among cities that recognize creativity** as a vital element for sustainable urban development.
  - ✓ It **encompasses 350 cities in over a hundred countries** and aims to harness the **potential of cultural industries for creative, social, and economic growth.**

✓ This initiative aligns with UNESCO's **objectives related to cultural diversity, resilience against challenges** like climate change, inequality, and urbanization, and fosters a culture of creativity in urban planning.

➢ **Objectives of the CCCN:**

✓ The **UNESCO Creative Cities Network** encourages member cities to **acknowledge the significance of creativity in urban development through partnerships involving public and private sectors** and civil society.

✓ It seeks to **establish hubs of creativity and innovation, offering opportunities for cultural sector** professionals while aligning with the UN's sustainable development goals.

➢ **Areas of Action:**

✓ The **network's objectives are pursued both within member cities and internationally**, involving **sharing experiences, knowledge, best practices, artistic and professional exchanges, research,** and evaluations.

✓ A noteworthy event is the **annual conference of mayors and stakeholders from network cities**, which promotes collaboration between creative cities worldwide.

✓ The last **conference took place in Istanbul**, with the **next one scheduled for July 2024 in Braga, Portugal.**

KOZHIKODE AND GWALIOR JOIN UNESCO'S CREATIVE CITIES NETWORK

*These cities were chosen to represent **different creative fields, with Kozhikode** falling under **the category of literature** and **Gwalior** in the category of music.*

➢ **Kozhikode's Literary Tradition:**

✓ Kozhikode, located in **North Kerala**, boasts a **rich literary and cultural heritage**.

✓ The city has been home to **numerous prominent figures in the state's literary** and cultural scene.

✓ Kozhikode houses major media organizations, numerous publishing houses, and libraries that contribute to its literary legacy.

✓ It's also where the **first Malayalam novel, "Kundalatha" by Appu Nedungadi,** was penned in 1887.

> ### *Indian cities in UCCN*
>
> The Indian cities already on the **UCCN list include:**
>
> ☞ **Srinagar for Crafts and Folk Arts (2021)**
> ☞ **Mumbai for Film (2019)**
> ☞ **Hyderabad for Gastronomy (2019)**
> ☞ **Chennai for Music (2017)**
> ☞ **Jaipur for Crafts and Folk Arts (2015)**
> ☞ **Varanasi for Music (2015).**

✓ The city has nurtured celebrated writers such as **S K Pottekkatt, Vaikom Muhammad Basheer, and MT Vasudevan Nair, as well as talents in film and theater.**

➢ **Gwalior's Music Tradition:**

✓ Gwalior serves as an exemplary example of **living cultural heritage** and it houses **one of the biggest annual music festivals of India** - The **Tansen Sangeet Samaroh** to celebrate the rich culture of Madhya Pradesh.

- ✓ It is often referred to as the "**City of Music"** and has made **significant contributions to classical Indian music**, particularly in the **field of Hindustani classical music**.
- ✓ The city's **historic Gwalior Gharana**, a prominent school of music, has produced many celebrated musicians over the years.

- ➢ **Cultural Significance:**
  - ✓ Gwalior's music tradition has **deep cultural roots and continues to thrive**.
  - ✓ The city has been a **hub for various musical genres**, including **dhrupad and khayal**, and has played a **pivotal role in preserving and propagating India's classical music heritage**.

SIGNIFICANCE:

- ➢ **Promoting Cultural Significance:**
  - ✓ Kozhikode's selection in the literature category and Gwalior in music underscores the cultural and artistic significance of these cities.
  - ✓ This **showcases India's diverse and thriving cultural landscape** on a global platform.

- ➢ **Fostering Urban Development**:
  - ✓ The UCCN was established to **emphasize the role of creativity in sustainable urban development**.
  - ✓ By joining this network, Kozhikode and Gwalior are **committing to enhancing their cities through cultural initiatives and innovation**.

- ➢ **UNESCO's Goals:**
  - ✓ The UCCN aligns with UNESCO's objectives **related to cultural diversity, environmental resilience, and societal challenges**.
  - ✓ It serves as a means to promote these **goals through creativity, addressing issues like climate change and inequality**.

- ➢ **Global Collaboration:**
  - ✓ The network includes cities from **around the world, providing opportunities for cross-cultural exchange and collaboration.**
  - ✓ This inclusion enables **Kozhikode and Gwalior to engage with creative cities globally**, sharing experiences and best practices.

- ➢ **Supporting Cultural Industries:**
  - ✓ Both cities can **leverage their newfound status to boost their cultural industries**, including literature and music.
  - ✓ This support can **lead to economic growth and social development within these sectors.**
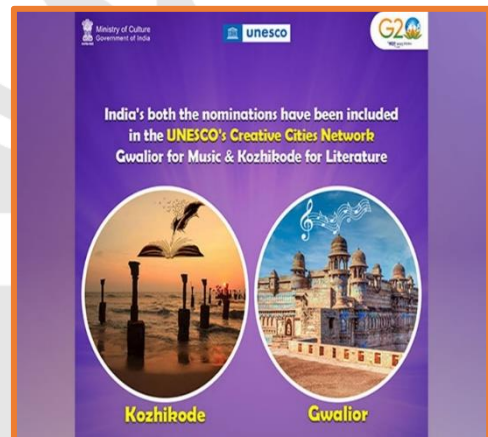
Polity & Governance

ETHICS, PARLIAMENTARY CONDUCT AND THE INDIAN MP

SOURCE: THE HINDU

WHY IN NEWS?

➤ *The case involves allegations that an **MP from West Bengal** accepted money in exchange for raising questions in Parliament, **raising concerns about ethical conduct and parliamentary integrity.***

WHAT IS LOK SABHA'S ETHICS COMMITTEE?

➤ **Introduction:**
  ✓ Established over 20 years ago, the **Ethics Committee of Lok Sabha carries the crucial responsibility** of monitoring the **behavior of its members and addressing instances of unethical conduct** among Parliamentarians.
  ✓ While it often deals with relatively minor offenses, its role in upholding ethical standards within the Parliament is of great importance.

➤ **Composition of the Committee:**
  ✓ This Committee **consists of 15 Members nominated by the Speaker.**
  ✓ The members of the Ethics Committee are selected by the Speaker for a **one-year term**.
  ✓ Its function is **to examine every complaint relating to unethical** conduct of a Member of Lok Sabha referred to it by the Speaker and **make such recommendations as it may deem fit** and formulate a code of conduct for Members and **suggest amendments or additions** to the code of conduct from time to time.

➤ **History of Ethics Committees:**
  ✓ The concept of ethics committees for both Houses was **first proposed during a conference for Presiding Officers in Delhi in 1996.**
  ✓ In March 1997, **the Ethics Committee for the Upper House was officially inaugurated**, with Shri K R Narayanan, who was concurrently serving as Rajya Sabha Chairman and Vice President, leading the initiative.
  ✓ Its **primary objective was to ensure the ethical conduct of members and investigate** reported instances of **impropriety, applying the same regulations** that govern the Committee of Privileges.
  ✓ For instance, **in 1951, H.G. Mudgal, an MP from the Provisional Parliament**, was found guilty of **promoting a business association's interests** in exchange for financial benefits by introducing questions and amendments.
  ✓ A **special committee of the House determined that his behavior** was derogatory to the House's dignity and inconsistent with the standards expected of members.

ETHICS COMMITTEE'S FUNCTIONS:

- ➤ **Role:**
  - ✓ It primarily **examines complaints related to unethical conduct by Members of Parliament (MPs)** and **provides recommendations for action.**
  - ✓ The committee also **plays a pivotal role in developing a code of conduct for MPs.**
  - ✓ Notably, the term **'unethical conduct'** is **not specifically defined**, and its **interpretation falls to the committee.**
  - ✓ Past cases offer insights into identifying unethical behavior, such as an **MP taking an unauthorized companion on a parliamentary tour, falsely claiming** them as a spouse.
  - ✓ In such cases, the ethics committee has recommended suspending the MP from

  House sittings and imposing travel restrictions for the remainder of the Lok Sabha's term.
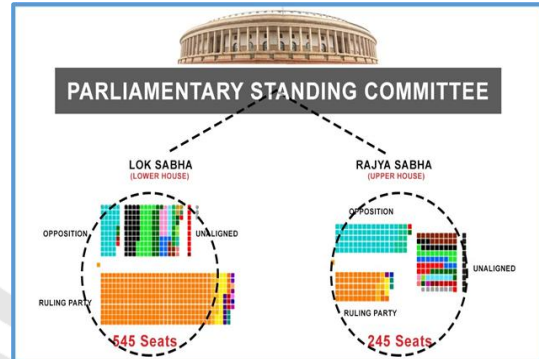
- ➤ **Criminal Offenses and Parliamentary Investigation:**
  - ✓ In cases related to **criminal offenses**, like a **public servant accepting a bribe**, government criminal **investigative agencies typically handle the investigations.**
  - ✓ Parliamentary committees are responsible for **determining whether an MP's conduct amounts** to a **breach of privilege or** contempt of the House.
  - ✓ Sanctions imposed by these committees pertain to the MP's functioning within the House.
  - ✓ Any **criminal offenses are subject to investigation** and **legal consequences under the relevant laws**.
  - ✓ Importantly, the **ten MPs expelled from the Lok Sabha** are **still facing trial under the Prevention of Corruption Act.**

OVERLAP WITH PRIVILEGES COMMITTEE:

- ➤ There is often an **overlap in the responsibilities of the Ethics Committee** and the **Privileges Committee**, with both having roles in addressing allegations against MPs.
- ➤ Allegations of **corruption involving an MP can be referred to either committee**, but **more serious** charges typically go to **the Privileges Committee.**
- ➤ The Privileges Committee is primarily tasked with safeguarding the **"freedom, authority, and dignity of Parliament."**
- ➤ These **privileges extend to individual Members of Parliament (MPs)** as well as the House as a whole.
- ➤ An **MP can face examination for Breach of Privilege**, and **even non-MPs can be accused of breaching privilege** if their actions undermine the authority and dignity of the House.
- ➤ It's important to note that the **Ethics Committee's jurisdiction is limited to cases of misconduct involving MPs.**

ACTION RECOMMENDED BY ETHICS COMMITTEE:

- ➤ Lok Sabha's Ethics Committee **examines and suggests actions on MPs' ethical conduct**.
- ➤ It reviews the code of conduct expected from MPs.
- ➤ Actions recommended include:
  - ✓ *Admonition:* A warning or admonishment for conduct or ethics breaches.
  - ✓ *Suspension:* Temporarily suspending an MP for serious misconduct.

✓ **Expulsion:** Removing an MP for severe misbehavior.
- Lok Sabha considers these suggestions, **but they aren't legally binding.**
- A **majority Lok Sabha vote** is needed to **implement expulsion or suspension**.
- Upholding parliamentary **integrity depends on adhering to ethical standards** and the Ethics Committee's recommendations.

Challenging Ethics Committee Actions:

- Generally, Ethics Committee **actions are part of Parliament's internal processes.**
- Courts usually **do not review these decisions**, respecting **the separation of powers**.
- However, **exceptions exist to protect the Constitution** and **fundamental rights**.
- If Parliament **exceeds its authority or violates rights, courts can intervene.**
- Legal challenges are rare, **requiring specific legal** and **constitutional considerations**.
- Seek **redress within the parliamentary system** before turning to the courts.
- Court challenges can be **based on natural justice denial, illegality, or unconstitutionality**.
- **High Court writ petitions** are suitable for state-level matters; **Supreme Court for national issues**.
- **Ensure fundamental rights align with Ethics Committee** or Parliament actions to warrant court intervention.

WAY FORWARD

- **Advancing the Role of Lok Sabha Ethics Committee:**
  - ✓ Despite its recent origin, the Ethics Committee is **vital for upholding high moral standards**.
  - ✓ It serves as a **guardian of parliamentary ethics**, preserving Lok Sabha's integrity.
  - ✓ MPs **sharing online question submission credentials** with assistants is a growing concern.
  - ✓ The Lok Sabha **lacks specific rules for online submissions**.
  - ✓ MPs can **engage assistance without disclosing information sources**.
  - ✓ **Article 105 grants MPs freedom** to access diverse sources for parliamentary work.
  - ✓ **Investigations into information sources** may lack legal sanction, as Parliament can discipline its members.

GOVERNORS MUST ACT ON BILLS; DON'T BRING GOVTS TO SC, SAYS CJI

SOURCE: THE ECONOMICS TIMES

WHY IN NEWS?

- The Supreme Court has **made a significant statement, stressing that Governors of Indian states should promptly act on Bills** passed by their respective state assemblies. This development comes in response to the delay in Governors granting assent to Bills, which has led to legal challenges by state governments.

CONSTITUTIONALITY OF GOVERNOR'S ACTIONS:

- **Constitutional position of Governor:**
  - ✓ **Article 154** of the Indian constitution **grants executive powers** to the Governor.
  - ✓ **Article 153** specifies that each state **should have a Governor appointed by the President**, following the procedures outlined in Article 155.
  - ✓ The Governor's role **includes safeguarding the constitution and law**, as well as ensuring the efficient functioning of the state.

✓ The Governor **primarily exercises nominal powers and typically acts on the advice of the Chief Minister**.
✓ The Governor appoints key **state officials as part of their executive powers**.

The Process of Granting Assent:

➢ **Article 200 of the Constitution:**
  ✓ Options available to the **Governor when a Bill is presented.**
  ✓ **Governor can declare assent**, **withhold assent (if not a Money Bill),** or reserve the law for the President's consideration.
➢ **Withholding Assent:**
  ✓ If **Governor withholds assent**, the Bill **should be returned to the Legislative Assembly** for reconsideration.
  ✓ The Assembly will **reconsider and pass the Bill.**
  ✓ The Governor is **expected to bow to the decision of elected representatives**.

Roles and Responsibilities of the Governor:

➢ **Constitutional Head:**
  ✓ **Appoints the Chief Minister** and other officials of the **state under Article 164.**
  ✓ Exercises **executive, legislative, financial, and judicial powers**.
➢ **Governor's Limited Discretion:**
  ✓ **Cannot exercise powers at sole discretion.**

Supreme Court Observations

➢ **Shamsher Singh & Anr vs State of Punjab (7 Judges):**
  ✓ Governor and President are like **the Constitutional heads of England**.
  ✓ **Custodians** of executive, legislative, judicial, and financial powers.
  ✓ Shall **strictly act upon the advice of their Ministers,** except **under extraordinary circumstances**.
➢ **U.N.R. RAO vs Indira Gandhi:**
  ✓ The position of President or Governor is a **formal title without pure authority.**
  ✓ **Real power vests in the council of ministers**.

CONSTITUTIONAL POWER OF THE GOVERNOR:

➢ **Executive Powers of the Governor:**
  ✓ Powers exercised on **advice of the council of ministers.**
  ✓ Board of Ministers is the true executive, **acts in the name of Governor under Article 166.**
  ✓ Governor appoints various **state officials on the advice of the Chief Minister**.
➢ **Legislative Powers of the Governor:**
  ✓ *Article 200:* Governor's **role when a bill is passed by the legislative assembly**.
  ✓ **Governor can assent, withhold assent**, or reserve the bill for the President's consideration.
  ✓ **"As soon as possible"** in Article 200 is a mandate, and Governor's role is mostly formal.
  ✓ Governor has **no veto powers**.
➢ **Financial Powers of the Governor:**
  ✓ *Article 202:* Governor lays **annual financial statement** before the state legislature.
  ✓ Money bills require **Governor's recommendation under Article 207.**
  ✓ Governor appoints a Finance Commission **every 5 years under Article 243I**.

- ✓ Governor can withhold assent on a money bill with the lack of confidence.
- ➢ **Judicial Powers of the Governor:**
  - ✓ *Article 217:* President appoints **High Court Judges after consulting with the Governor.**
  - ✓ Governor plays a **role in judicial appointments.**
  - ✓ Immunity from court **proceedings under Article 361,** except if the grounds are **malafide or ultravires.** *(Rameshwar Prasad case)*
- ➢ **Discretionary Power:**
  - ✓ Reservation of a bill for **the consideration of the President** *(Article 200)*.
  - ✓ Recommendation for the **imposition of President's Rule (Article 356) in the state.**
  - ✓ Exercising functions as the **administrator of an adjoining union territory** (in case of additional charge).
  - ✓ Determining **royalty payable by Assam, Meghalaya, Tripura, and Mizoram governments** to a Tribal District Council from **mineral exploration licenses.**
  - ✓ Seeking information from the chief minister regarding state administrative and legislative matters.
- ➢ **Situational Discretion:**
  - ✓ Appointment of a chief minister **when no party has a clear majority in the state legislative assembly** or when the **incumbent chief minister dies suddenly** without an obvious successor.
  - ✓ Dismissal of the council of ministers when it **loses the confidence of the state legislative assembly**.
  - ✓ Dissolution of the state legislative assembly if the **council of ministers no longer holds the majority**.

REASONS FOR GOVERNOR'S AUTHORITY:

- ➢ **Ensuring Checks and Balances:**
  - ✓ Governor's power **allows for a thorough review of bills and orders**, ensuring their alignment with the constitution and the state's best interests.
  - ✓ This **reinforces the system of checks and balances.**
- ➢ **Preventing Hasty Decision-Making:**
  - ✓ Governor's authority **prevents the passage of rushed or poorly considered legislation**, mitigating the potential for unintended adverse consequences**.**
- ➢ **Safeguarding Minority Rights:**
  - ✓ The **Governor serves as a safeguard against potentially oppressive decisions** made by the majority, protecting the rights and interests of minority groups.
- ➢ **Supporting Parliamentary Democracy:**
  - ✓ The **delay in decision-making provides time for public discourse**, expert insights, and consultations with stakeholders, essential components of parliamentary democracy.
- ➢ **Facilitating Conflict Resolution:**
  - ✓ In **cases of disputes between the state government and the central authority or among various state institutions**, the Governor's role can help in conflict resolution.

RECENT CASES AND RECOMMENDATIONS:

Key Supreme Court Decision and Commission Recommendations

- ➢ **Nabam Rebia and Bamang Felix vs Dy.Speaker (2016):**
  - ✓ The Supreme Court **clarified that a Governor's discretion under Article 200 is limited** to deciding whether a bill should be reserved for the President's consideration.

- ✓ The Court **emphasized that the Governor's actions or inactions concerning bill approval are subject to judicial review.**
- ➢ **Punchhi Commission (2010):**
  - ✓ The Punchhi Commission recommended **setting a time limit for Governors** to decide on granting assent or reserving a bill for the President's consideration.
- ➢ **National Commission to Review the Working of the Constitution (NCRWC):**
  - ✓ The **NCRWC proposed a four-month time limit for Governors** to decide a bill's fate.
  - ✓ It also **suggested the removal of the Governor's authority to withhold assent**, except in cases explicitly mentioned in the Constitution.

WAY FORWARD:

*The role of a state governor is **multifaceted, encompassing constitutional and executive duties** that significantly influence the state's administration. While many of the governor's powers are **largely symbolic, some discretionary powers, like assent withholding and election-related timelines**, have a meaningful impact. It is essential to consider the **following aspects for the future:***

- ➢ **Governor's Neutrality and Responsibilities:**
  - ✓ Chief Justice Chandrachud emphasized that **Governors should not delay or obstruct state government bills for political reasons** and should act in a neutral and responsible manner.
  - ✓ This raises questions about the neutrality of Governors and **their adherence to their constitutional responsibilities.**
- ➢ **Constitutional Compliance:**
  - ✓ The Supreme Court is **determined to ensure that constitutional compliance** is upheld in the interaction between Governors and Chief Ministers.
  - ✓ The delays in Bill **approvals and the mechanism for addressing such issues are subjects of judicial scrutiny.**
- ➢ **Role Clarification:**
  - ✓ The precise role of the **governor should be clearly defined in the context of India's evolving political landscape to eliminate ambiguities.**
- ➢ **Review of Discretionary Powers:**
  - ✓ A comprehensive **review of the governor's discretionary powers** should be conducted to ensure that they align **with the principles of democracy and justice.**
- ➢ **Timely Decisions:**
  - ✓ Setting reasonable timeframes for the governor to decide on bills and other critical matters would promote efficient governance.
- ➢ **Governor Selection:**
  - ✓ A re-evaluation of the **governor selection process, emphasizing impartiality and suitability**, can enhance the effectiveness of the position.
- ➢ **Constitutional Amendments:**
  - ✓ Consideration of constitutional amendments to **redefine the scope of the governor's powers** and promote greater harmonization between the center and the states.

'CRIME' OF ADULTERY

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

- ➤ *The **Parliamentary Committee on Home Affairs** has recommended **reinstating adultery as a criminal offense in the proposed Bharatiya Nyaya Sanhita (BNS), 2023.***
- ➤ *This recommendation follows the **Supreme Court's 2018 decision to strike down Section 497 of the Indian Penal Code (IPC),** which **criminalized adultery**.*

LEGAL POSITION ON ADULTERY:

- ➤ **Background:**
  - ✓ The **Indian Penal Code (IPC) until 2018 contained Section 497,** making adultery a **criminal offense.**
  - ✓ **Section 497 was struck down** by the **Supreme Court in Joseph Shine vs Union of India in 2018** on grounds of discrimination.
- ➤ **Previous Law (Section 497 of IPC):**
  - ✓ Section 497 only **punished men for adultery, not women.**
  - ✓ It was **deemed discriminatory and violative of constitutional rights.**
- ➤ **Supreme Court's Ruling:**
  - ✓ The Supreme Court ruled in Joseph Shine case that **Section 497 violated Articles 14, 15, and 21** of the Constitution.
  - ✓ **Emphasized the autonomy of women,** human dignity, and the **intrusion into marital privacy if adultery is treated as a crime.**
  - ✓ Declared that treating **adultery as a criminal offense offends the Constitution.**

> *Adultery and Section 497:*
>
> *Adultery Defined:*
>
> - ▪ Involves **voluntary sexual intercourse** between a married person and **someone other than their current spouse or partner.**
>
> *Section 497 of the IPC:*
>
> - ▪ Declares that engaging in sexual intercourse with another man's wife, **without his consent, is punishable as adultery.**
>
> *Gender-Specific Punishment:*
>
> - ▪ Penalizes only the man involved, assuming men are the seducers, while the law does not punish the unfaithful wife.

PROPOSED CHANGES IN BHARATIYA NYAYA SANHITA (BNS), 2023:

- ➤ **House Committee's Recommendations (BNS, 2023):**
  - ✓ The Parliamentary Committee on Home Affairs suggests **reinstating adultery as a criminal offense in the proposed BNS, 2023.**
  - ✓ **Recommends making adultery gender-neutral,** applying to **both men and women.**
  - ✓ Argues that **marriage is considered sacred and needs protection.**
- ➤ **Concerns with the Recommendations:**
  - ✓ The Supreme Court's decision was **based not only on discrimination**

Three bills introduced in Lok Sabha

Indian Penal Code (IPC), 1860
TO BE REPLACED BY
Bharatiya Nyaya Sanhita Bill, 2023
- It will have **356 sections** (instead of 511 sections in IPC)
- 175 sections have been amended
- 8 sections have been added, and 22 sections have been repealed

Code of Criminal Procedure (CrPC), 1973
TO BE REPLACED BY
Bharatiya Nagarik Suraksha Sanhita, 2023
- It will have **533 sections** (instead of 478 sections in CrPC)
- 160 sections have been changed
- 9 sections have been added, and 9 sections have been repealed

Indian Evidence Act, 1872
TO BE REPLACED BY
Bharatiya Sakshya Bill, 2023
- It will have 170 sections (instead of 167 sections in IEA)
- 23 sections have been changed
- 1 section has been added, and 5 sections have been repealed

"From 1860 to 2023, the country's criminal justice system functioned as per the laws made by the British. I can assure the House that these bills will transform our criminal justice system. The aim will not be to punish, it will be to provide justice."
— AMIT SHAH

WHAT NEXT
The three bills will be studied by the standing committee on home affairs, which is chaired by BJP MP Brijlal (who is a retd IPS officer).

but also on broader constitutional principles.
- ✓ The court viewed **adultery as unsuitable for criminalization**, suggesting it **should remain a ground for divorce.**
- ✓ The Committee's focus on **making it gender-neutral may not address the fundamental issues** raised by the Supreme Court.

WHY WOMEN WERE EXEMPT FROM ADULTERY PUNISHMENT:

➤ **Historical Context:**
- ✓ Adultery laws **historically did not punish women due to prevalent polygamy.**
- ✓ Women, **often deprived of love and affection in polygamous marriages,** were considered victims rather than offenders.
- ✓ The provision **aimed to restrict men from engaging with other men's wives** and limit extramarital relations to unmarried women.

➤ **Adultery as an Offense Against the Husband:**
- ✓ Adultery is an offense against the husband, **akin to trespass.**
- ✓ The analogy is drawn between e**ntering someone's property without consent and engaging in sexual relations with someone's wife** without the husband's consent.
- ✓ Section 497, therefore, **treats women as the husband's chattel.**

➤ **Changing Social Conditions:**
- ✓ Polygamy has **become illegal in most religions**, and men are legally restricted to one wife.
- ✓ The personal laws have evolved, **offering a more level playing field for both spouses**.
- ✓ The original purpose of Section 497 is argued to be obsolete in the current social context.

➤ **Reasons Against Punishing Women:**
- ✓ It contends that **punishing women for adultery lacks a clear objective.**
- ✓ Changing the definition may **either result from outdated justifications** or **an attempt to achieve gender parity.**

➤ **Potential Horrific Consequences:**
- ✓ There will be a **concern against amending the law to punish women**, as it could have severe consequences.
- ✓ **Allegations of unfaithfulness**, even false ones, can **damage a woman's social status significantly**.
- ✓ Making women punishable **may become a tool for husbands and in-laws seeking to harm women's reputations.**

➤ **Societal Imbalance and Reputation:**
- ✓ **Society's unequal treatment of women**, evident in the aftermath of adultery allegations, is highlighted.
- ✓ The proposed amendment **may lead to societal defamation of women**, worsening existing disparities.
- ✓ Changing definitions **cannot equalize what is inherently unequal**.

➤ **Impact on Women's Reputation:**
- ✓ Making women punishable under **adultery laws would harm women's reputation irreparably**.
- ✓ Such a provision **could be misused to defame and exploit women**, defeating the purpose of the proposed amendment.

CHALLENGES:

➢ *Is it possible to reverse or overturn the Supreme Court's ruling in this case?*
   ✓ A ruling of the **Supreme Court is the law of the land.**
   ✓ Parliament **cannot directly contradict the Supreme Court** but **can pass a law that removes the basis of the court's judgment.**
   ✓ Such a law can be both retrospective and prospective, according to the **decision in Madras Bar Association vs. Union of India (2021).**

➢ **Potential Challenges:**
   ✓ The proposed changes **may face challenges as the Supreme Court's ruling was not solely based on gender discrimination** but on the broader principles of constitutional **rights and privacy.**
   ✓ A new law may **need to address these foundational concerns** to withstand legal scrutiny.

➢ **Marriage as Personal Contract:**
   ✓ Marriage is **both sacrament and civil contract**, allowing spouses to set their own terms.
   ✓ National Commission for Women **recommends treating adultery as a civil wrong, not a criminal offense.**

ADULTERY CAN TAKE YOU TO COURT, **NOT TO JAIL**

What's struck down: Section 497 of Indian Penal code that said: "Whoever has sexual intercourse with a person who is... the wife of another man, without the consent...of that man, such sexual intercourse not amounting to the offence of rape, is guilty of the offence of adultery"

The problem: It treated woman as victim of the offence and as 'property' of her husband. It was not an offence if a man had sexual intercourse with a woman after getting her husband's consent

After the judgment: Adultery can be a ground for divorce but it's no more a criminal offence attracting up to 5 years' jail term

Govt's problem: Centre in its affidavit before the apex court had said that it would be against the sanctity of marriage to dilute the offence of adultery

Keep in mind: Though adultery per se is no longer a crime, if any aggrieved spouse commits suicide because of partner's adultery, it could be treated as an abetment to suicide—a crime

Making adultery a crime is retrograde and would mean punishing unhappy people... any law which dents individual dignity and equity of women in a civilised society invites the wrath of the Constitution
—CJI Dipak Misra

Ostensibly, society has two sets of morality for judging sexual behaviour. One set for its female members and another for males... A society which perceives women as pure and an embodiment of virtue has no qualms of subjecting them to virulent attack: to rape, honour killings, sex-determination and infanticide
—Justice D Y Chandrachud

➢ **Unwarranted Regulation:**
   ✓ **Penal law intervention in personal contracts**, especially marriage, is deemed unwarranted.
   ✓ Autonomy in defining **relationship terms should be respected without legal intrusion**.

➢ **Ineffectiveness of Criminal Punishment:**
   ✓ Criminal punishment for **adultery is seen as an ineffective remedy for the aggrieved party**.
   ✓ Prosecution often seeks **financial settlement rather than imprisonment**, making criminal punishment unnecessary.
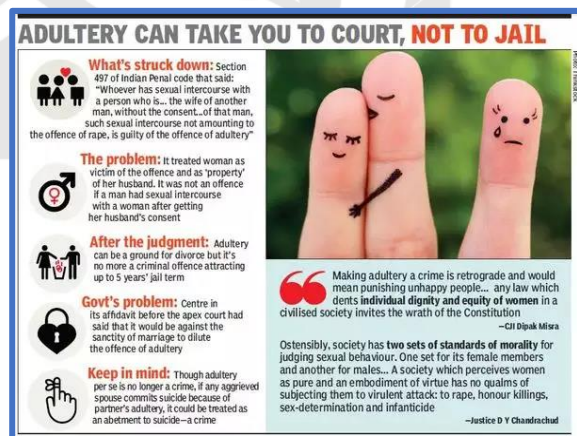
WAY FORWARD:

➢ **Original Object of Adultery Laws:**
   ✓ Adultery laws were **initially designed to deter men from taking advantage of women deprived of love and affection,** treating women as victims rather than offenders.
   ✓ Section 497, **enacted in a time of unequal and inoperative laws**, addressed societal imbalances.

➢ **Changing Legal Landscape:**
   ✓ Polygamy, **once socially sanctioned, is now illegal, and monogamy is prevalent.**
   ✓ Today's personal laws are equal, operative, effective, and efficient**, marking a significant shift from the past.**

➢ **Transformation in Matrimonial Laws:**
   ✓ Matrimonial laws now **have a broader definition of adultery compared to criminal laws**.

- ✓ Practicing polygamy or engaging in **extramarital relationships without facing civil consequences** has become nearly impossible.

➢ **Empowerment of Women:**
- ✓ Women have **transcended the role of mere chattels** and have established their own identity in society.
- ✓ Changes in societal norms have **empowered women, challenging the need to treat them as victims in adultery cases.**

➢ **Redundancy of Adultery as a Criminal Offense:**
- ✓ With the **evolution of personal laws and societal attitudes, there is no compelling reason to retain adultery** as a criminal offense in the penal code.
- ✓ Personal laws are **now equipped to address adultery as a civil wrong**, rendering the criminalization obsolete**.**

➢ **Global Trends in Decriminalization:**
- ✓ Many **Western countries, including Britain, Austria, and Belgium, have decriminalized adultery**.
- ✓ Acknowledging global shifts, the **article suggests aligning with evolving societal norms**.

➢ **Adequacy of Personal Laws:**
- ✓ The existing personal laws provide a **comprehensive framework to address and remedy cases of adultery.**
- ✓ Civil actions are **more appropriate and effective in dealing with issues related to marital fidelity**.

➢ **Contemporary Perspective:**
- ✓ Considering the contemporary legal and societal landscape, **retaining adultery as a criminal offense is unnecessary.**
- ✓ Adultery can be **adequately addressed and adjudicated** within the framework of evolving personal laws.

➢ **Conclusion:**
- ✓ The **evolution of laws and societal norms suggests that the time has come to reconsider the criminalization of adultery.**
- ✓ A forward-looking approach involves **relying on existing personal laws to address adultery cases** as civil wrongs.

ALL-INDIA JUDICIAL SERVICE

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

➢ *Constitution Day Address:* President Draupadi Murmu delivered the **inaugural address at the Supreme Court's Constitution Day celebrations.** Murmu emphasized the **need for diversity in the judiciary,** especially in terms of **gender and caste representation.**

➢ *Identified cost and language as significant barriers* to accessing justice for the majority of citizens.

➢ Proposed the **establishment of an all-India judicial service to recruit judges** from varied **backgrounds through a merit-based, competitive, and transparent process.**

HISTORICAL BACKGROUND OF ALL-INDIA JUDICIAL SERVICE (AIJS):

➢ **Law Commission's 14th Report (1958):**
   ✓ The concept of AIJS **was initially introduced** in the **14th report of the Law Commission in 1958.**

➢ **Centralized Recruitment for District Judges:**
   ✓ AIJS proposed a **system where the recruitment of district judges** would be **conducted centrally through an all-India examination.**

➢ **State Allocation:**
   ✓ **Selected candidates would be allocated to states based on the AIJS model,** resembling the structure of All-India Civil Services.

➢ **Aim of AIJS Creation:**
   ✓ The primary objective was **to eliminate the involvement of the judiciary and executive in the appointment of judicial officers,** ensuring a more independent and transparent selection process.

➢ **Constitutional Amendments and Law Commission's Recommendations:**
   ✓ *Amendment to Article 312:* The Constitution was amended under **Article 312 to accommodate the creation of AIJS,** reflecting the significance and seriousness of the proposal.
   ✓ *Law Commission's Support*: The Law Commission, in **alignment with the need for AIJS,** recommended its **establishment to enhance the efficiency and independence of the judicial system.**

ARGUMENTS IN FAVOR OF AIJS:

➢ **Judicial Vacancies:**
   ✓ **Law Commission reports**, including the **1987 report, emphasized the need for an increased judge-to-population ratio (50 judges per million)** compared to **the existing ratio (20 judges per million).**
   ✓ The surge in **pending cases,** especially **post-COVID-19,** underlines the **demand for swift and routine filling of judicial vacancies.**

CASES PENDING IN HIGH COURTS	ALL INDIA: 59,57,454		
High Court	Pending cases*	High Court	Pending cases*
Allahabad	10,26,417	Telangana	2,58,932
Rajasthan	6,05,215	Patna	2,20,403
Bombay	5,92,583	Andhra Pradesh	2,35,482
Madras	5,63,595	Calcutta	2,15,859
Punjab & Haryana	4,50,527	Odisha	1,85,567
Madhya Pradesh	4,17,003	Gujarat	1,58,512
Karnataka	2,96,965	Delhi	1,05,814

*As of July 22, 2022

- ➢ **Reduction in Pendency:**
  - ✓ **Timely filling of vacancies** through AIJS is seen as a solution to **the issue of pending cases**, contributing to a more expedited judiciary.
- ➢ **Addressing Vacancies:**
  - ✓ AIJS could help address the significant **number of vacancies, approximately 5,000, across** the country, leading to a more robust judiciary.
- ➢ **Transparency and Efficiency:**
  - ✓ The establishment of AIJS promises a **transparent and efficient recruitment process for judicial officers.**
- ➢ **Just and Fair Recruitment:**
  - ✓ A competitive recruitment process under **AIJS is expected to ensure a just and fair selection** of the best talents across the nation.
- ➢ **Combating Malpractices:**
  - ✓ AIJS is seen as a means to **curb malpractices such as corruption and nepotism** in the recruitment process.
- ➢ **Restoring Public Faith**:
  - ✓ A transparent recruitment system is **believed to restore public faith in the judiciary of the country**.
- ➢ **Merit-Based Recruitment:**
  - ✓ The **proposal for an all-India judicial service based on merit**, **competition, and transparency reflects a commitment** to ensuring that the judiciary comprises individuals chosen for their **capabilities and talents**, **fostering a more competent and effective legal system**.
- ➢ **Social Empowerment**:
  - ✓ The suggestion to recruit judges from va**ried backgrounds and promote talent from lower levels to higher levels** is a step towards **empowering individuals from less-represented** social groups, contributing to a **more equitable legal landscape**.

CHALLENGES AND CONCERNS:

- ➢ **Federalism and Basic Structure Doctrine:**
  - ✓ Critics view AIJS as a **challenge to federalism and the basic structure doctrine**, considering it an encroachment on states' powers granted by the Constitution.
- ➢ **Dichotomy Between Articles 233 and 312:**
  - ✓ AIJS **raises concerns about the potential conflict between Article 233**, **granting states the power to appoint district judges**, and Article 312, **enabling the creation of All India Services**.
- ➢ **Language and Cultural Concerns**:
  - ✓ There is apprehension about **outsiders lacking familiarity** with **local customs and languages**, potentially affecting the quality of judicial decisions, **especially in culturally sensitive cases**.
- ➢ **Non-Uniform Vacancies:**
  - ✓ The **non-uniform distribution of vacancies across states**, with most at the **subordinate level,** raises questions about the **effectiveness of AIJS,** which primarily focuses on district judge recruitment.
- ➢ **Commercialization of Education:**
  - ✓ The potential proliferation of **coaching institutes could lead to the commercialization** of legal education.

➢ **Impact on State Quotas:**
  ✓ **Communities benefiting from state quotas** may **lose reservation opportunities** under the central government after the implementation of AIJS.
➢ **Recent Discussions and Challenges:**
  ✓ *Ministerial Meetings (2017):* Points like **eligibility, age, selection criteria, qualification, and reservations for AIJS were discussed in meetings** chaired by the **Minister of Law and Justice.**
  ✓ *Parliamentary Consultative Committee (2017) and Committee on SCs/STs (2021):* AIJS was deliberated in parliamentary meetings, **indicating ongoing consideration**.
  ✓ *Lack of Consensus (Current Status):* The ex**isting divergence of opinions among major stakeholders** has prevented a consensus on the establishment of AIJS.

WAY FORWARD FOR AIJS:

➢ **Systemic Reforms:**
  ✓ **States should focus on cleaning up systemic issues** within their **respective judicial systems**, addressing concerns **related to delegated authorities**, **uniform exam conduct**, and providing grievance redressal mechanisms.
➢ **Transparency and Accountability:**
  ✓ Implementing **transparent and accountable recruitment mechanisms**, restructuring delegated authorities, and ensuring uniformity in examination conduct can restore faith in the lower judiciary.
➢ **Localized AIJS Entrance Exams:**
  ✓ **Address language and cultural concerns by conducting AIJS entrance exams** at **zonal levels**, allowing judges to be posted closer to their places of origin.
➢ **Focus on State-specific Solutions:**
  ✓ Instead of **relying on a centralized solution**, states should id**entify and address their unique challenges** in judicial recruitment to improve efficiency.
➢ **Reconsideration of Centralization:**
  ✓ **Reconsider the centralization of services**, taking into account the **recurring vacancies in various central services like IAS, IPS, and armed forces.**
➢ **Evidence-Based Approach:**
  ✓ **Instead of relying on unproven solutions**, base decisions on an e**vidence-based approach that considers the specific challenges** faced by the lower judicial system.
➢ **Collaboration and Dialogue:**
  ✓ **Foster collaboration and open dialogue between the central government, state governments**, and High Courts to collectively work towards enhancing the **efficiency of the judiciary**.

FINANCE COMMISSION OF INDIA

SOURCE:THE HINDU

WHY IN NEWS?

➢ *Union Cabinet Approves Terms of Reference for the Sixteenth Finance Commission:*
  ✓ *The Union Cabinet has given its approval for **the terms of reference (ToR)** of the Sixteenth Finance Commission.*
  ✓ *This commission is tasked with suggesting the **formula for sharing revenues between the Central government and the States** for the **upcoming five-year period beginning on April 1, 2026**.*

➢ *Submission Deadline and Key Recommendations:*
  ✓ *The government has **set a deadline of October 31, 2025**, for the commission to submit its recommendations.*
  ✓ *The primary focus includes the **distribution of net proceeds of taxes between the Centre and States,** as well as the **allocation among States of their respective share of such proceeds**.*

Fresh formulation

The 16th Finance Commission will have time until Oct. 31 2025, to recommend the tax sharing math between Centre and States

- Panel will also prescribe measures to augment Consolidated Fund of a State to supplement resources of panchayats, local bodies

- An Advance Cell was set up in the Finance Ministry last November to oversee preliminary work

- Panel may review existing arrangements on financing Disaster Management initiatives

FINANCE COMMISSION OF INDIA:

➢ **Introduction:**
  ✓ The Finance Commission of India, **operating under the provisions of Article 280 of the Indian Constitution**, serves as a **constitutional body with over 50 years of existence**.
  ✓ Established as a **quasi-judicial body**, its **primary function is to determine methods and formulas** for the equitable **distribution of tax proceeds** between the Central government and the states.

सत्यमेव जयते
Finance Commission Of India

➢ **Historical Background of the Finance Commission:**
  ✓ The Finance Commission's origins trace back to its **establishment in 1951 by Dr B.R. Ambedkar**, the then law minister, addressing **fiscal imbalances between the Centre and States**.
  ✓ The Constitution of India, **through various articles like 268, 269, 270, 275, 282, and 293**, provided provisions for resource-sharing mechanisms.

➢ **Roles and Responsibilities of the Finance Commission:**
  ✓ The **Commission plays a pivotal role in determining the allocation of tax revenues among states**, ensuring compliance with the constitutional framework and meeting current requirements.
  ✓ Additionally, it is **responsible for defining taxes and grants allocated to local bodies** within states, essential for their effective functioning.

FUNCTIONS OF FINANCE COMMISSION:

➢ **Distribution of Tax Proceeds:**
  ✓ The Finance Commission is tasked with recommending the f**air distribution of net proceeds of taxes between the Union and the states**, as well as determining the **inter-state distribution of these proceeds.**

➢ **Principles Governing Grants-in-Aid:**
  ✓ The Commission **formulates and recommends principles that govern grants-in-aid to states** and Union Territories **from the Consolidated Fund of India**.
  ✓ This ensures a systematic and **equitable allocation of financial resources**.

➢ **Measures for Augmenting State Consolidated Funds:**
  ✓ To **facilitate the functioning of panchayats and local bodies within a state**, the Finance Commission suggests measures to augment the consolidated fund of a state.
  ✓ These recommendations are **based on inputs from state finance commissions**, aligning with the **specific needs of each state**.

➢ **Presidential Mandate and Reporting:**
  ✓ **Under Article 281 of the Constitution**, the **President** of India is mandated to **present the Finance Commission's report to each House of Parliament**.
  ✓ This report includes a **comprehensive note explaining the government's actions** based on the Commission's recommendations.

COMPOSITION OF THE FINANCE COMMISSION:

➢ **Composition:**
  ✓ The Finance Commission **consists of five members**, including **one Chairman and four other members.**
  ✓ The **President of India appoints all members**, and their terms are determined by the President, with the possibility of reappointment as needed.

➢ **Appointment and Qualification Determination:**
  ✓ The **Parliament is responsible for determining the qualifications** and the manner of appointment for the Finance Commission's members, as outlined in the Indian Constitution.
  ✓ The **Chairman and members must meet specific qualifications**, ensuring a diverse and knowledgeable composition.

➢ **Qualifications for Four Members:**
  The four members of the Commission are chosen from a pool with diverse expertise:
  ✓ A **high court judge** or an individual qualified for such a position.
  ✓ An **expert in finance** and government accounts.
  ✓ Someone with **varied experience in financial and administrative matters**.
  ✓ An **individual with special knowledge of economics** and related studies.

➢ **Grounds for Disqualification:**
  A member may face disqualification if:
  ✓ They are **mentally unsound**.
  ✓ They are an **undischarged insolvent**.
  ✓ They have been **convicted of an immoral offense**.
  ✓ Their financial and other interests **hinder the smooth functioning of the commission**.

15TH FINANCE COMMISSION & ITS RECOMMENDATIONS:

- ➢ **Overview:**
  - ✓ The 15ᵗʰ Finance Commission, **chaired by Mr. N. K. Singh,** is a constitutional body formed by the President of India.
  - ✓ **Two reports were submitted**, with recommendations for the **financial year 2020-21** and the **period 2021-26**.

HOW **THE BOOTY** IS DIVIDED

FORMULA THAT DECIDES A STATE'S SHARE

- ➢ **Share of States in Central Taxes:**
  - ✓ The recommended **share of states** in central taxes for **2021-26 is 41%, a slight decrease** from the **42% suggested by the 14th Finance Commission** for 2015-20.
  - ✓ The adjustment accounts for the **creation of the union territories of Jammu and Kashmir** and Ladakh.

- ➢ **Criteria for Devolution:**
  - ✓ The criteria for the **distribution of central taxes** among states include income **distance, area, population, demographic performance, forest cover, and tax and fiscal efforts.**
  - ✓ The 15th Finance Commission maintained the **criteria for 2021-26**, with adjustments in the reference periods.

- ➢ **Grants:**
  - ✓ **Over the 2021-26 period**, grants from the center include **revenue deficit grants, sector-specific grants, state-specific grants, and grants to local bodies.**
  - ✓ Performance-linked grants for health, education, agriculture, and other sectors are emphasized.

GRANTS TO CITIES ARE NOW BASED ON POPULATION (2021-22 TO 2025-26)

- ➢ **Fiscal Roadmap:**
  - ✓ The Commission recommends a **fiscal deficit target of 4% of GDP** for the centre by 2025-26.
  - ✓ For states, fiscal deficit limits are suggested **as 4% in 2021-22, 3.5% in 2022-23,** and **3% during 2023-26.**
  - ✓ States undertaking power sector reforms are allowed extra **annual borrowing of 0.5% of GSDP.**

- ➢ **Disaster Risk Management:**
  - ✓ The Commission suggests retaining **existing cost-sharing patterns between the center and states for disaster management funds.**
  - ✓ State disaster management funds will **have a corpus of Rs 1.6 lakh crore**, with defined sharing ratios.

- ➢ **Financial Management Practices:**
  - ✓ Recommendations include **strengthening income and asset-based taxation**, addressing issues in GST, and developing a comprehensive **framework for public financial management**.
  - ✓ The Commission proposes the establishment of an independent Fiscal Council.
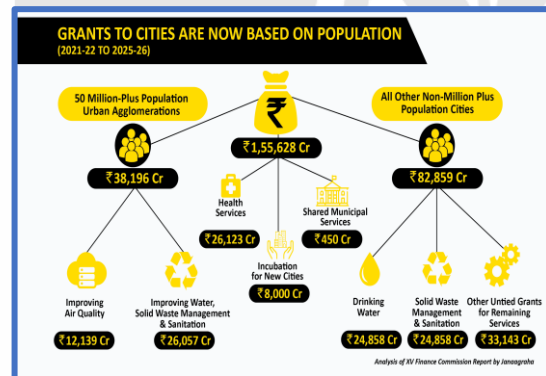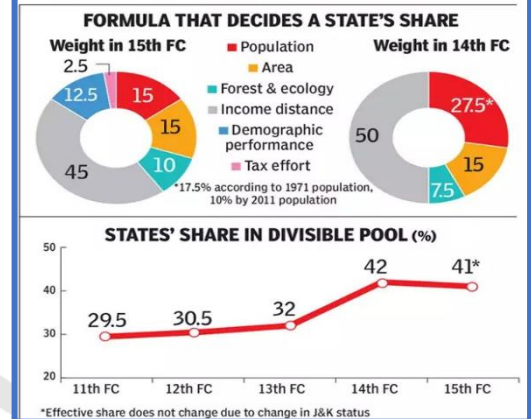
- ➤ **Other Recommendations:**
  - ✓ Emphasis on **increasing health spending, restructuring CSS, and creating a Modernisation Fund for Defence and Internal Security.**
  - ✓ Suggestions for **improving fiscal responsibility legislation**, adopting standard-based accounting, and streamlining property valuation.
- ➤ **State-wise Details of Grants:**
  - ✓ A breakdown of **grants for individual states,** including revenue d**eficit grants, grants to local bodies, disaster management, and sector-specific grants.**
  - ✓ Focus on **health grants, rural and urban local bodies, and specific sectors**.

CHALLENGES FOR 16TH FINANCE COMMISSION:

- ➤ **Global Macroeconomic Uncertainty and Policy Considerations:**
  - ✓ Reflection on observations from previous commissions regarding **macroeconomic uncertainty's impact on fiscal assessments.**
  - ✓ 15th FC recognition of the **complications in fiscal management due to the pandemic**, emphasizing the **need for a fiscal stimulus and a credible exit plan**.

  - ✓ Past instances of relaxing fiscal deficit targets during the global financial crisis and the FC-XIII's formulation of a fiscal consolidation strategy.
- ➤ **Normalization of the Base year:**
  - ✓ Advocating for a **normalized base year for projections**, considering global macroeconomic uncertainties, fiscal **shocks from COVID, and emerging scenarios' impact**.
  - ✓ Suggestion **not to specify a base year in the Terms of Reference**, allowing **flexibility for the 16th FC.**
- ➤ **Policy Changes and Comparability of Data:**
  - ✓ Highlighting **important policy changes during COVID** and the **need for comparable data** across states and time.
  - ✓ Adjustments required for **revenue side data, including GST compensation** and COVID fiscal stimulus.
- ➤ **Assumption about Growth:**
  - ✓ Stressing the **importance of a realistic growth assumption** for predictable resource availability.
  - ✓ **Proposing a mechanism to estimate growth for 2026-27 to 2030-31**, considering economic uncertainty and fiscal prudence.
- ➤ **Framework for Fiscal Sustainability:**
  - ✓ Addressing the **rise in public debt**, the **need for fiscal restructuring, and a conditional mechanism** for reducing revenue deficit.
  - ✓ Emphasizing the **importance of a credible and implementable fiscal restructuring plan** considering the post-COVID fiscal landscape.
- ➤ **Welfare Schemes Vs Freebies:**
  - ✓ **Arguing against mandating the Finance Commission** to suggest what states should do regarding redistributive fiscal interventions.
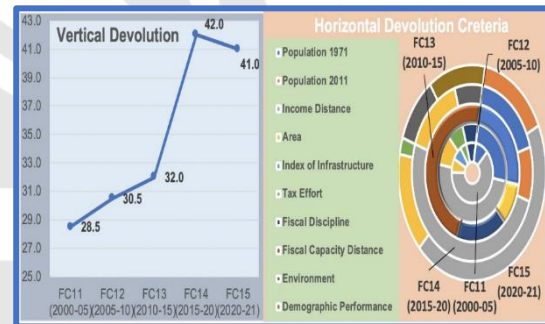
- ✓ **Acknowledging the need for the right balance and mix of transfers and subsidies** in a multilevel government system.
- ➤ **Off-Budget Borrowing and Fiscal Responsibility:**
  - ✓ Cautioning against **merging budget and off-budget borrowing** without revising deficit targets appropriately.
  - ✓ Advocating for a **symmetric treatment of off-budget** operations for the Union and States.
- ➤ **Restructuring of Centrally Sponsored Schemes:**
  - ✓ Recognizing the **progress in reducing the number of centrally sponsored schemes**.
  - ✓ Highlighting the **complexity of managing CSS** and suggesting greater state involvement in design, flexibility, and implementation.
  - ✓ **Proposing an expenditure council with symmetric power for Union and States** in the management of CSS.

WAY FORWARD:

- ➤ **A Forward Path:**
  - ✓ **Advocating for strict fiscal deficit limits for states**, incentivizing compliance with fiscal performance criteria.
  - ✓ **Balancing stringent guidelines** with simplicity and practicality in implementation.
  - ✓ Recommending **guidelines for the imposition of Cess and Surcharges**, including a formula for capping the amount raised.
  - ✓ **Proposing the establishment of a loan council**, following the **Twelfth Finance Commission's recommendation,** to oversee **central and state government loan magnitudes** and profiles.
- ➤ **Cess and Surcharges:**
  - ✓ The **decline in States' effective share** in the Center's **gross tax revenues (GTR),** attributed to a rise in **non-shareable Cess** and surcharges, requires attention.
- ➤ **Horizontal Distribution:**
  - ✓ Addressing historical challenges in **determining a state's deficit due to fiscal capacity or irresponsibility.**
  - ✓ **Recognizing criticisms of horizontal distribution formulas and ensuring equitable compensation** without deepening the divide between rich and poor states.
- ➤ **Per Capita Income Criteria:**
  - ✓ Considering **per capita income as a determinant for a state's share** in divisible pool taxes.
  - ✓ Weighing the **need for a lower criterion weight**, as desired by **richer states, against the contribution of lower-income** states to India's future **'demographic dividend.'**
- ➤ **Freebies:**
  - ✓ Emphasizing the 16th Finance Commission's role in **setting stringent guidelines for state spending on freebies, aligning with long-term fiscal sustainability.**
- ➤ **Equalization Principle:**
  - ✓ Prioritizing equal **provision of education and health services** in resource transfers.
  - ✓ Guiding resource allocation based on criteria such as **population, area, and distance, emphasizing the equalization principle.**

FINANCIAL ACTION TASK FORCE (FATF)

SOURCE: THE HINDU

WHY IN NEWS?

➢ *In preparation for India's upcoming **mutual evaluations by the Financial Action Task Force (FATF),** the Indian government has **implemented measures based on the FATF's 2010 recommendations**, including the notification of chartered accountants, company secretaries, and cost and management accountants as reporting entities.*

ABOUT FINANCIAL ACTION TASK FORCE (FATF)

➢ **FATF Overview:**
   ✓ The Financial Action Task Force (FATF) is a **global watchdog against money laundering** and **terrorist financing.**
   ✓ It was **established in 1989** by the G7 Summit in Paris.
   ✓ Initially **focused on combating money laundering**, it e**xpanded its mandate in 2001 to include efforts against terrorist financing,** and in 2012, it **added counter-financing** of Weapons of Mass Destruction (WMD).

➢ **FATF Recommendations**:
   ✓ In 1990, FATF issued the **"Forty Recommendations"** to combat money laundering.
   ✓ In 2004, it published the **"40+9 Recommendations,"** further strengthening standards.
   ✓ In 2012, the recommendations were **revised to address new threats**.

➢ **FATF Sessions:**
   ✓ The FATF Plenary is its **decision-making body**, meeting **three times annually.**

OBJECTIVES & STATUS OF FATF

➢ **Objective:**
   ✓ FATF's **primary goal is to establish international standards** and **promote policies at national and international levels** to fight **money laundering and terrorism financing**.

➢ **FATF Membership:**
   ✓ FATF **comprises 39 member countries**, including major nations like the **United States, India, China, Saudi Arabia, and the EU.**
   ✓ *India became a FATF member in 2010.*

➢ **Observers Members:**

- ✓ Indonesia is the **only observer country of FATF**.
- ✓ Some important organizations that have observer status with the FATF include:
  - Asian Development Bank (ADB)
  - International Monetary Fund (IMF)
  - International Organization of Securities Commissions (IOSCO)
  - Interpol
  - Organization for Economic Co-operation and Development (OECD)
  - United Nations Office on Drugs and Crime (UNODC)
  - United Nations Counter-Terrorism Committee Executive Directorate (UNCTED)
  - World Bank
  - World Customs Organization (WCO)

FATF LISTS AND ITS CONSEQUENCES

- ➢ **FATF Lists:**
  - ✓ **Black List:** Consists of countries involved in **supporting terror funding** and money laundering.
  - ✓ **Grey List:** Encompasses countries **identified as potential safe havens for such illicit activities**, serving as a warning.

- ➢ **Consequences of Blacklist:**
  Countries placed on the **FATF blacklist face several** significant **consequences, including:**
  - ✓ **No access** to financial **aid from institutions like the IMF, World Bank, ADB, and EU.**
  - ✓ Imposition of international **economic and financial restrictions** and sanctions.
- ➢ **Current Blacklisted Countries:**
  - ✓ The nations currently blacklisted by FATF include **North Korea, Iran, and Myanmar.**

INDIA'S RELATIONSHIP WITH FATF:

- ➢ India gained **'observer' status in FATF in 2006** and became a **full-fledged member in 2010.**
- ➢ India is **also a part of regional bodies such as the Asia Pacific Group (APG)** and the **Eurasian Group (EAG)** associated with FATF.
- ➢ **Key Indian Legal Frameworks:**
  - ✓ **Unlawful Activities (Prevention) Act, 1967 (UAPA):** Special provisions **for addressing terrorist financing are included in this act.**
  - ✓ **The Foreign Contribution (Regulation) Act, 1976:** This act is c**oncerned with regulating foreign contributions** and hospitality in areas critical to national interests.
  - ✓ **The Narcotic Drugs and Psychotropic Substances Act, 1985:** Stringent provisions are laid out in this act to **regulate narcotic drugs and psychotropic substances.**

- ✓ *The Prevention of Money Laundering Act, 2002 (PMLA):* This act was introduced to counter money laundering.
- ✓ *The Financial Intelligence Unit-India (FIU-IND):* Established in 2004 under **the** Ministry of Finance, FIU-IND deals with suspected cases of money laundering and terrorist financing, **sharing information** with intelligence and enforcement agencies and regulatory authorities.

- ➢ **India, Pakistan, and FATF Grey listing:**
    - ✓ FATF **recently removed Pakistan from its grey list**, commending **"Pakistan's significant progress."**
    - ✓ Pakistan's inclusion in the grey list, its removal in 2009, and **re-inclusion in 2018** had been part of FATF's monitoring efforts.
    - ✓ **India supported Pakistan's removal from the grey list** after Pakistan provided "documentary evidence" of actions taken against designated terrorists.
    - ✓ This removal from the **grey list signifies Pakistan's improved reputation and international endorsement** of its efforts against terrorist financing.
- ➢ **Government's recent FATF Measures:**
    - ✓ Designating Financial Professionals as **"Persons Carrying on a Designated Business".**
    - ✓ Effectiveness of Recommended Actions
    - ✓ **India's On-Site Assessment in November**
    - ✓ Reporting Entity Obligations Under PMLA
    - ✓ Transaction **Record Maintenance for 5 Years**
    - ✓ Client and **Beneficial Owner Identification**
    - ✓ Enhanced Due **Diligence for Specific Transactions**
    - ✓ Non-Compliant Clients Have Transactions Disallowed
    - ✓ Suspicious or **Crime-Related Transaction Monitoring for 5 Years**

CHALLENGES WITH FATF:

- ➢ *Voluntary Implementation:* FATF relies on members to implement recommendations.
- ➢ *Lack of Transparency:* Meetings are secretive.
- ➢ *Emerging Challenges:* Addressing new threats like cyber currencies.
- ➢ *Regulation vs. Innovation:* Balancing financial crime prevention with innovation.
- ➢ *Global Coordination:* Consistent standards across diverse jurisdictions.
- ➢ **Innovation in Criminal Tactics:** Criminals adapt to regulations.
- ➢ *Political Considerations:* Balancing international cooperation with political interests.
- ➢ *Money Laundering Control:* Difficulty preventing cross-border money laundering.

WAY FORWARD

- ➢ **Building Capabilities:**
    - ✓ Extend technical **assistance and capacity-building** support to developing nations to help them effectively implement and enforce FATF standards.

- ➢ **Embrace Technology Expertise:**
  - ✓ Incorporate **experts knowledgeable in emerging technologies** such as **cryptocurrencies and artificial intelligence** to counter evolving risks effectively.
- ➢ **Regular Revisions and Adaptations:**
  - ✓ Consistently review and update **FATF standards to ensure they remain relevant in combating evolving financial crimes**.
- ➢ **Strengthened Collaborations:**
  - ✓ Foster **increased collaboration with international bodies** like Interpol and the United Nations to bolster global efforts against financial crimes.
- ➢ **Transparent Evaluations:**
  - ✓ **Sustain transparency in the evaluation processes** by offering member countries insights into criteria, methodologies, and areas needing improvement.

INDIA-US 2+2 MINISTERIAL DIALOGUE

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

*India's Defense Minister Rajnath Singh and External Affairs Minister S Jaishankar **engaged in the fifth 2+2 Ministerial Dialogue with their US counterparts**, Secretary of Defense Lloyd Austin and Secretary of State Antony Blinken, in New Delhi. These meetings have been an **annual occurrence since 2018**, representing a **platform for high-level discussions**.*

ABOUT 2+2 MINISTERIAL DIALOGUE:

Key aspects of the 2+2 Ministerial Dialogue include:

- ➢ **Participants:**
  - ✓ **Two high-level representatives from each country**, usually the **Foreign Minister and the Defence Minister.**
- ➢ **Objectives:**
  - ✓ Facilitate in-depth discussions **on strategic and security issues**.
  - ✓ Strengthen diplomatic **ties and mutual understanding.**
  - ✓ Enhance cooperation on **defense and security matters**.
- ➢ **Scope:**
  - ✓ Covers a wide range of topics, including **defense collaboration, security challenges, geopolitical developments,** and diplomatic initiatives.
- ➢ **Frequency:**
  - ✓ Typically held annually, these dialogues provide a **regular platform for high-level engagement**.
- ➢ **Countries Engaging in 2+2 Dialogues with India:**
  - ✓ **United States:** The U.S. was the first country with which India initiated the 2+2 format.

- ✓ **Australia:** Engaged in 2+2 talks with India, reflecting the growing importance of their strategic partnership.
- ✓ **Japan:** Dialogue aimed at enhancing bilateral security and defense cooperation.
- ✓ **Russia:** Dialogue focuses on a wide range of regional and international issues to deepen mutual understanding.
- ✓ **United Kingdom:** Inaugural 2+2 meeting took place in 2023.
- ➤ **Achievements:**
  - ✓ The 2+2 dialogues have led **to significant agreements and collaborations**, such as **foundational pacts on defense cooperation.**
- ➤ **Strategic Partnerships:**
  - ✓ Aims **to strengthen strategic partnerships and align national interests**.
  - ✓ In the case of India, these dialogues have **become an integral part of its diplomatic strategy**, providing a platform for engaging with **key partners on various fronts and addressing contemporary geopolitical challenges.**
  - ✓ The format allows for a comprehensive and nuanced **discussion on issues of mutual concern,** contributing to the development of **robust and multifaceted bilateral relations**.

MAJOR HIGHLIGHTS OF RECENT DIALOGUE:

- ➤ **India's Stance on Israel-Palestinian Crisis:**
  - ✓ Support for **Two-State Solution**
  - ✓ Call for **Humanitarian Pauses**
  - ✓ Emphasis on **Immediate Release of Hostages in Gaza Strip**
  - ✓ Joint Statement on India and U.S.'s **Stand Against Terrorism.**
  - ✓ Urging Adherence to **International Humanitarian Law.**

- ➤ **'2+2' Ministerial Meeting Highlights:**
  - ✓ Involvement of Foreign and Defence Ministers showcased **Evolving Strategic Partnership.**
  - ✓ Emphasis on **Mutual Trust, Shared Values, and Common Interests**.
  - ✓ Focus on Maritime Security in **Indo-Pacific Region**.
  - ✓ Collaboration in **Undersea and Space Technologies**.
- ➤ **Indo-Pacific and Quad:**
  - ✓ Commitment to a **free, open, and inclusive Indo-Pacific.**
  - ✓ Reaffirmed importance of the Quad; India to host **next Quad leaders' Summit in 2024.**
- ➤ **Defense Partnership:**
  - ✓ Deepening defence partnership through **dialogues and joint projects.**
  - ✓ Accelerated joint projects, including space and **artificial intelligence collaborations.**
  - ✓ **Satisfaction with pace of cooperation in Maritime Domain Awareness.**
- ➤ **Defense Industrial Cooperation:**
  - ✓ **Reaffirmation of commitment to the Roadmap** for India-U.S. Defence Industrial Cooperation**.**
  - ✓ Purchase of **MQ-9B Unmanned Aerial Vehicles**.
  - ✓ **Licensed Manufacture of F-414 Jet Engine** in India.
  - ✓ Significance in **Powering the LCA-MK2**

- ➢ **Science and Technology Collaboration:**
  - ✓ Progress under the India-U.S. **Initiative on Critical and Emerging Technology (iCET).**
  - ✓ Collaboration in emerging technologies **like quantum, telecom, biotechnology, AI, and semiconductors.**
- ➢ **Health and Trade Dialogues:**
  - ✓ Collaboration in **health, pandemic preparedness, and response.**
  - ✓ Growing trade and commercial partnership; potential for **bilateral trade to cross US$ 200 billion.**
- ➢ **People-to-People Ties:**
  - ✓ Launch of a pilot program for visa renewals for certain Indian nationals.
  - ✓ Opening of **new Indian Consulate in Seattle.**
- ➢ **Multifaceted Cooperation:**
  - ✓ Diplomatic, Security, and Technological Collaboration.
  - ✓ **Not Limited to Concerns about China.**
  - ✓ Call for Adherence to International Humanitarian Law.
  - ✓ **Support for India's G20 Presidency; welcome for India's UNSC candidature.**

SIGNIFICANCE OF THE INDIA- US 2+2 MINISTERIAL DIALOGUE:

- ➢ **Diplomatic Significance:**
  - ✓ The **meeting underscores the ongoing diplomatic engagement between India and the United States at the highest levels.**
  - ✓ Such high-level dialogues highlight the commitment of **both countries to strengthen their strategic partnership.**
- ➢ **Regional and Global Relevance:**
  - ✓ The discussions are crucial in the context of regional and global security dynamics**, especially given the geopolitical challenges in the Indo-Pacific region.**
  - ✓ The emphasis on collaborations with **key partners like the U.S., Japan, Australia, the UK, and Russia reflects India's efforts to foster cooperative approaches** to shared challenges.
- ➢ **Addressing Security Concerns:**
  - ✓ The 2+2 format allows for comprehensive discussions on **defense and security issues, including the evolving threat landscape in the region.**
  - ✓ India's engagements with the U.S., Russia, and other partners **aim to address security concerns and promote stability in a rapidly changing global environment.**
- ➢ **Strengthening Defense Ties:**
  - ✓ The **ongoing negotiations and collaborations** discussed within the 2+2 framework, such as the purchase of military equipment and technology, showcase the intent to enhance defense ties.
  - ✓ **Agreements like LEMOA, COMCASA, and BECA with the U.S.** highlight the deepening military cooperation between the two nations.
- ➢ **Balancing Alliances:**
  - ✓ India's approach of **engaging with a diverse set of countries**, including t**raditional allies and historical partners like Russia,** demonstrates a nuanced and balanced foreign policy.
  - ✓ The 2+2 meetings **contribute to building multifaceted alliances** in the face of evolving geopolitical challenges.
- ➢ **Focus on Quad and Indo-Pacific:**

- ✓ References to the **Quadrilateral Security Dialogue (Quad)** and the Indo-Pacific region in the dialogues underscore the **shared commitment to a free, open, and prosperous Indo-Pacific.**
- ✓ The collaboration within the **Quad framework is highlighted as a strategic pillar in addressing common challenges.**

WAY FORWARD:

- ➢ **Achievements and Future Prospects:**
  - ✓ Tangible Results: **2+2 meetings contribute to tangible and far-reaching outcomes**, enhancing India's strategic depth and bilateral relations.
  - ✓ **Ongoing Collaborations:** Negotiations and dialogues continue **with various partners**, reflecting **India's commitment to a multipolar and equitable world order**.
- ➢ **Conclusion:**
  - ✓ **India's 2+2 Ministerial Dialogues serve as a crucial diplomatic tool** to strengthen strategic partnerships, **foster understanding, and address regional and global challenges**.
  - ✓ The engagements **encompass a range of countries**, reflecting India's commitment **to a nuanced and balanced approach in international relations.**

ASIA-PACIFIC ECONOMIC COOPERATION (APEC)

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

- ➢ *The **Asia-Pacific Economic Cooperation (APEC)** grouping is meeting in **San Francisco** in the United States for the Leaders' Week which began on November 11 and will conclude with the **Economic Leaders' Retreat on November 17, 2023***

APEC Background:

- ➢ **Founding and Purpose:**
  - ✓ **Established in 1989,** the Asia-Pacific Economic Cooperation (APEC) serves as a **regional economic forum.**
  - ✓ The primary **goal is to enhance regional economic integration and foster prosperity** across the Asia-Pacific region.
- ➢ **Member Economies:**
  - ✓ **Comprising 21 economies**, APEC includes nations like the **United States, China, Japan, Russia, and others.**

APEC Member Economies (21)

  - ✓ Unique to APEC, **Taiwan and Hong Kong participate as distinct entities**, emphasizing its economic focus.
- ➢ **APEC's Role Over the Years:**
  - ✓ *Advocacy of Free Trade:* APEC has consistently **championed free trade, tariff reduction, and economic liberalization.**
  - ✓ The **Seoul Declaration in 1991 highlighted the ambition to establish** a liberalized free trade area around the Pacific Rim.
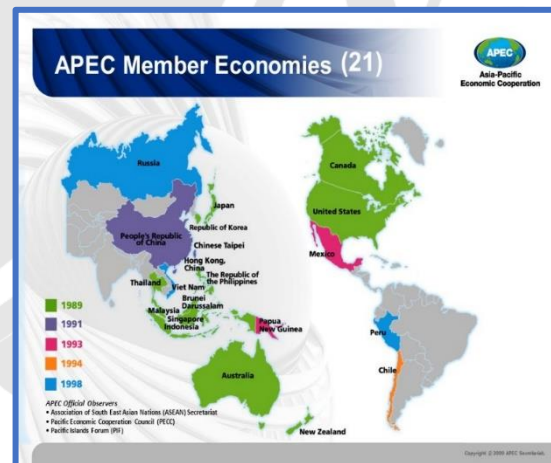
- **Economic Impact:**
  - ✓ APEC **initiatives contributed significantly to dynamic growth**, fostering a growing middle class in the Asia-Pacific.
  - ✓ APEC **economies represent 60% of global GDP and 48% of global trade.**

HIGHLIGHTS OF APEC SUMMIT 2023:

- **Biden-Xi Meeting:**
  - ✓ US President Joe Biden and China's President Xi Jinping's in-person meeting amid US-China tensions takes centre stage.
- **Focus on Trade Relations:**
  - ✓ With US-China relations strained, trade-related issues are major points of discussion, reflecting the prolonged tensions.
- **Indo-Pacific Economic Framework (IPEF):**
  - ✓ President Biden aims to highlight progress on the IPEF, initiated after the US withdrawal from the Trans-Pacific Partnership. India and APEC: Membership Dynamics

INDIA AND APEC:

India's aspirations for APEC membership have been met with several considerations and developments:

- **Membership Request:**
  - ✓ **India formally requested APEC membership**, garnering initial support from **key economies like the United States, Japan, Australia, and Papua New Guinea.**
- **Geographical Constraint:**
  - ✓ **India's bid faced a hurdle as APEC traditionally consists** of economies bordering the Pacific Ocean.
  - ✓ This geographical constraint led to reservations about India's eligibility for full membership.
- **Observer Status:**
  - ✓ Despite not securing full membership, India was granted **observer status in 2020,** marking its increased engagement with the forum.
- **Benefits for India:**
  - ✓ **Joining APEC would offer India enhanced integration with the global economy**, given APEC's status as a crucial trading bloc.
  - ✓ It could **empower India in negotiations and collaborations within the Asia-Pacific region**.
- **Potential Benefits for APEC**:
  - ✓ APEC, in accepting India, **would gain access to a significant market for labour, consumers, and investments.**
  - ✓ India's inclusion could **provide a counterbalance to unilateral economic ambitions** in the region and align **APEC with the evolving concept of the 'Indo-Pacific.**'
- **India's Presence:**
  - ✓ **Piyush Goyal's Attendance:** India's Union Minister for Commerce and Industry, Piyush Goyal, participates in **the forum despite India not being a member, showcasing active engagement**.

Way Forward for India and APEC Membership:

➢ **Diplomatic Engagement:**
  ✓ India should **continue diplomatic efforts to showcase the strategic and economic benefits** of its APEC membership.
  ✓ Engaging with **member economies and addressing concerns about geographical constraints** can strengthen its case.

➢ **Regional Collaboration:**
  ✓ **Emphasizing the shared goals of regional stability, economic growth**, and inclusive development can enhance India's appeal as a valuable partner within the APEC framework.

➢ **Customized Cooperation:**
  ✓ Proposing specific areas of collaboration where **India can contribute significantly to APEC objectives, such as technology, innovation, and sustainable development, can make its inclusion more compelling.**

➢ **Trade and Economic Reforms:**
  ✓ Undertaking **internal reforms to align with APEC's principles of free and open trade can demonstrate India's commitment to the forum's core values**, making it a more attractive candidate for membership.

➢ **Observer Participation:**
  ✓ **Actively participating as an observer, India can leverage this status to showcase its commitment to APEC's goals,** build rapport with member economies, and gradually pave the way for full membership.

➢ **Strengthening Indo-Pacific Relations:**
  ✓ Given the **increasing focus on the Indo-Pacific region, India should intensify efforts to align its foreign policy with the evolving dynamics**, demonstrating how its inclusion in APEC contributes to the broader Indo-Pacific narrative.

➢ **Public Diplomacy:**
  ✓ Engaging in **public diplomacy campaigns to raise awareness about the benefits of India's APEC membership** can garner support from **within the country and showcase the positive impact** on India's economic and strategic interests.

INDIA-UK FREE TRADE AGREEMENT (FTA)

WHY IN NEWS?

*External Affairs Minister **S Jaishankar engaged in discussions regarding the India-UK Free Trade Agreement (FTA)** with **Britain's Prime Minister Rishi Sunak** and Foreign Secretary David Cameron.*

FREE TRADE AGREEMENT (FTA):

➢ **Definition:**
  ✓ An **agreement between two or more nations** aiming to **reduce barriers to imports and exports**.
➢ **Objective:**
  ✓ Facilitate the **exchange of goods and services** across borders by **minimizing government interventions like tariffs, quotas, subsidies, and prohibitions**.
  ✓ Stands in contrast to trade protectionism or economic isolationism, **promoting open markets** and international collaboration.
➢ **Key Characteristics:**
  ✓ **Tariff Reduction:** Involves lowering or **eliminating tariffs on traded goods**.
  ✓ **Quota Elimination:** Removes restrictions on the quantity of goods that can be traded.
  ✓ **Subsidy Restrictions:** Addresses government financial support to domestic industries.
  ✓ **Prohibition Reduction:** Lessens or eliminates bans on certain products or services.
➢ **Categories of FTAs:**
  ✓ **Preferential Trade Agreement (PTA):** Grants preferential access to specific products or services between member nations.
  ✓ **Comprehensive Economic Cooperation Agreement (CECA):** Encompasses a broader scope of economic cooperation than PTAs.
  ✓ **Comprehensive Economic Partnership Agreement (CEPA):** Represents a comprehensive and extensive form of economic collaboration.

INDIA-UK FREE TRADE AGREEMENT (FTA) OVERVIEW:

➢ **Initiation:**
  ✓ **Launched in early 2022**, aiming for conclusion by the end of the same year.
➢ **Objective:**
  ✓ Striving for a "**fair and balanced" FTA covering over 90% of tariff lines**, targeting **$100 billion bilateral commerce by 2030.**
➢ **Comprehensive Scope:**
  ✓ **Envisions a "new-age FTA"** encompassing intellectual property rights, geographical indications, sustainability, digital technology, and anti-corruption, besides products, services, and investments.
➢ **Innovation Focus:**
  ✓ Discussions span transitions from fintech to **green-tech, and automation to Artificial Intelligence**.
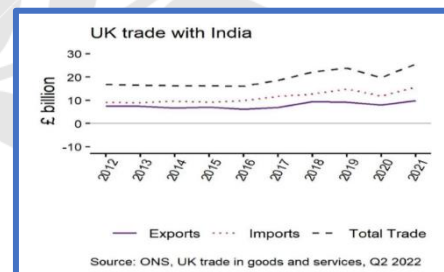
- ➢ **Economic Impact:**
    - ✓ Expected to stimulate growth, **enhance employment, and diversify supply chains for businesses operating across borders.**
- ➢ **Bilateral Trade Target:**
    - ✓ **Aims to double bilateral trade by 2030**, fostering a partnership rooted in shared history and cultural ties.

INDIA – UK BILATERAL RELATIONS:

Aspect	Details
Political Relations	✓ India-UK **Strategic Partnership since 2004.** ✓ Key agreements in **civil nuclear energy, space, defense, counter-terrorism, and economic ties.** ✓ UK **supports India's bid for UNSC permanent membership.** ✓ Regular Prime Ministerial and Ministerial visits enhance cooperation.
Educational and Cultural Ties	✓ **India-UK Education and Research Initiative (UKIERI)** focuses on higher education and research. ✓ India-UK Education **Forum promotes bilateral cooperation in education.** ✓ Nehru Centre in London organizes cultural events; **celebrated Tagore's 150th Birth Anniversary.**
Defence Cooperation	✓ Institutionalized defence **dialogue at Defence Secretary level.** ✓ Regular exchanges between services, joint exercises, and procurement of defense equipment. ✓ **Civil Nuclear Cooperation Declaration signed in 2010** for collaboration in the nuclear field.
Economic Relations	✓ **Joint Economic and Trade Committee (JETCO)** established in 2005. ✓ Bilateral trade growing despite global economic slowdown. ✓ Merchandise trade in 2011-12 reached USD 16.19 billion, with a 29% growth. ✓ **UK is India's 3rd largest FDI investor; around 700 Indian companies in the UK.**
Indian Community in the UK	✓ Indian-origin population **estimated at 1.8 - 2 million**, the **largest ethnic segment**. ✓ Indians excel in various fields, with significant representation in Parliament and local councils. ✓ **Strong educational and professional presence**, contributing to the UK's diversity.
Tourism and People-to-People Contacts	✓ **UK ranks second globally in tourists visiting India**. ✓ Approximately **500,000 Indians visit the UK annually.** ✓ Over 100 weekly flights between India and the UK by various airlines.
Parliamentary Relations	✓ Close relations between **Indian and UK Parliaments.** ✓ Friends of India Groups in major UK political parties. ✓ **All-Party Parliamentary Group on India** and Trade and Industry linkages established.
Science and Technology Cooperation	✓ Science and Innovation **Council facilitates India-UK S&T collaboration**. ✓ Joint initiatives in **Nano Science, Biotechnology, telecom, solar energy, and weather forecasting.** ✓ Continued cooperation with the **2nd phase of UKIERI launched in 2011.**

SIGNIFICANCE OF INDIA-UK FTA:

➢ **FTA as a Template:**
  ✓ Once signed, the India-UK FTA is expected **to serve as a template for a subsequent agreement with the European Union (EU)**, India's second-largest trade partner.

➢ **Divergence from Look East Policy:**
  ✓ The government has **shifted its focus from the earlier "look east" policy** for trade deals and is now emphasizing **economic integration with Western and African nations to boost export growth**.

➢ **Boosting Exports of Goods:**
  ✓ FTA with the UK can **significantly enhance exports in job-intensive sectors** such as textiles, leather, and footwear.
  ✓ **Recognition of 56 marine units is expected to lead to a substantial increase in Marine Products exports.**

INDIA-UK TRADE
(in $billion)
Export   Import   Total trade
Trade balance

	FY19	FY20	FY21	FY22	FY23*
Export	9.30	8.73	8.15	10.46	4.53
Import	7.56	6.71	4.95	7.01	4.32
Total trade	16.87	15.45	13.11	17.47	8.85
Trade balance	1.74	2.02	3.20	3.44	0.21

*Apr-Aug Source: Department of Commerce

➢ **China Factor:**
  ✓ **Disruption in supply chains during the pandemic** prompted Western companies to reassess their dependence on China.
  ✓ **The UK, along with Australia, seeks a trade deal with India** as part of a broader strategy, especially given Australia's tensions with China.

➢ **Brexit Implications:**
  ✓ For the UK, a trade deal with India holds significant importance as the **country grapples with the aftermath of Brexit.**
  ✓ While there is **hesitation to offer work permits to Indian service sector workers**, the potential of the Indian market becomes a compensatory factor for the loss of access to the European Single Market.

➢ **Potential Gains for India:**
  ✓ **India's labour- intensive sectors, including apparel and gems and jewelry**, have witnessed a decline in market share.
  ✓ A trade deal could **rejuvenate textile exports, potentially putting India on par with competitors like Bangladesh.**

CHALLENGES:

➢ **Concerns Raised:**
  ✓ A report warns the **British Parliament that providing zero-duty access to Indian textiles** could negatively **impact Least Developed Countries like Bangladesh.**

➢ **Challenges for the UK:**
  ✓ Past deals with **Japan and ASEAN countries indicate that eliminating duties** does not automatically result in export growth.
  ✓ **British exports to India face considerable tariffs**, and tariff reductions will be crucial for deeper access to Indian markets.

➢ **Non-Tariff Barriers (NTBs):**
  ✓ India could **use negotiations to address non-tariff barriers**, a historical concern for exporters.

- ✓ These barriers **include regulations, standards, testing, certification, and pre-shipment inspection**, impacting various sectors, including agriculture.
- ➤ **Carbon Tax Issue:**
  - ✓ The UK, similar to the EU, is considering a **carbon border adjustment mechanism (CBAM)** that may affect **India's exports, even with tariff removal**.
  - ✓ The **UK's carbon tax, aimed at reducing dependence on Russian energy imports**, could be stringent, impacting sectors like cement, chemicals, and metals.

WAY FORWARD:

- ➤ **Clarity on Services Trade:**
  - ✓ The FTA is **anticipated to bring certainty and transparency**, fostering a more liberal and competitive services regime.
  - ✓ **Opportunities for growth in service sectors like IT/ITES,** nursing, education, healthcare, AYUSH, and audio-visual services.
- ➤ **Trade Diversification and Exit from RCEP:**
  - ✓ India's withdrawal from RCEP **underscores the importance of seeking trade deals with key markets like the US, the EU, and the UK.**
  - ✓ **Diversification of sourcing becomes crucial,** especially with partners keen on robust economic ties.
- ➤ **Leveraging Strategic Advantage:**
  - ✓ The **UK's status as a permanent UN Security Council member position it strategically**.
  - ✓ **Strengthening trade bonds enhances diplomatic leverage**, seeking UK support on global issues, **including the Ladakh standoff with China and India's claim for a permanent UNSC seat**.

India-Maldives Relations

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

- ➤ *Mohamed Muizzu, the newly elected President of Maldives, "formally requested" the Indian government to "withdraw its military personnel" from the country, according to a statement from his office issued on November 18.*

INDIA-MALDIVES RELATIONS:

- ➤ **Enduring Cultural and Historical Affinity:**
  - ✓ The historical tapestry between India and the Maldives, woven **since the 12th century, forms the foundation of their enduring relationship.**
  - ✓ **During the British protectorate (1887-1965),** India's pivotal role in **supplying essential goods and facilitating communication** underscored the depth of their connections.
- ➤ **Geographical Destiny and Climate Imperatives:**
  - ✓ The geographical proximity between India and the Maldives takes **on heightened significance as both nations grapple with the impending challenges of climate change**.
  - ✓ With predictions indicating the **potential loss of 80% of the Maldives by 2050,** India's support becomes crucial in addressing environmental crises.

- ➢ **Strategic Partnership for Security:**
  - ✓ The **alliance extends beyond rhetoric, encompassing joint exercises**, training initiatives, and **India's pivotal role in the Maldivian National Defence Force's development**.
  - ✓ **Operation Cactus in 1988** exemplifies India's commitment to upholding the stability of the Maldivian government.
- ➢ **Guardians of Maritime Frontiers:**
  - ✓ **India's role as the Maldives' first line of defense against maritime threats is pivotal**, fostering collaboration in **counterterrorism, anti-piracy endeavors, and combating drug trafficking.**
  - ✓ Collaborative efforts extend to critical infrastructure projects, **including the establishment of a rehabilitation centre in Addu.**
- ➢ **Economic Synergy and Collaborative Ventures:**
  - ✓ The economic landscape sees India and the **Maldives engaged in vibrant sectors such as tourism**, **trade, and transformative infrastructure** endeavours.
  - ✓ **Emerging as the third-largest trade partner in 2021**, India's contributions span diverse sectors, from healthcare to fisheries and tourism.
- ➢ **Architects of Infrastructure Development:**
  - ✓ Infrastructure projects, such as the **Hanimaadhoo International Airport Development** and the National College for Policing and Law Enforcement, exemplify India's commitment to enhancing the Maldives' capabilities.
  - ✓ The **landmark Greater Male Connectivity Project (GMCP),** financed by India, signifies a paradigm shift in Maldives' infrastructure development.
- ➢ **Responsive Aid in Times of Crisis:**
  - ✓ India's proactive stance during crises, **exemplified by Operation Neer (2014**) addressing a drinking water crisis and Operation Sanjeevani providing essential medicines during the Covid-19 pandemic, highlights the resilience of their collaboration.
- ➢ **Negotiating Challenges and Setbacks:**
  - ✓ Despite the resilience of the relationship, **challenges emerged, notably with the Maldives entering into a Free-Trade Agreement (FTA) with China in 2017.**

IMPACT OF THE REQUEST:
- ➢ **Geopolitical Significance:**
  - ✓ The move **reflects the evolving geopolitical dynamics in the Indian Ocean region**, with Maldives being a key player.
  - ✓ It highlights the **shifting alliances and foreign policy priorities of small island nations**, influenced by major powers.

- ➢ **Historical Alignment:**
  - ✓ Maldives has a **history of aligning with either India or China**, and Muizzu's victory on an **"India Out" campaign signals a potential policy shift.**
- ➢ **India-Maldives Relations:**

- ✓ The request impacts India-Maldives relations, **which historically considered Maldives as part of its regional sphere of influence.**
- ✓ Cooperation in areas **like medical evacuation and counter-drug trafficking is crucial for regional stability.**

➢ **Democratic Mandate:**
- ✓ President Muizzu's assertion that the request is based on **the democratic mandate received in the September elections adds a democratic legitimacy dimension** to the issue.

➢ **Cooperative Solutions:**
- ✓ The agreement between the two governments **to discuss workable solutions for continued cooperation indicates a diplomatic effort** to address the concerns.

➢ **Strategic Concerns:**
- ✓ The presence of Indian military personnel in the Maldives has strategic implications**, especially in the context of counter-drug operations and medical emergencies.**

➢ **Regional Competition:**
- ✓ The **development is part of the larger regional competition**, where major powers vie for influence in strategically important regions.

➢ **Global Attention:**
- ✓ The **request has attracted global attention**, given the importance of the Indian Ocean in international geopolitics.

WHAT IS 'INDIA OUT' CAMPAIGN AND THE 'INDIA FIRST' POLICY?

➢ **India Out Campaign:**
- ✓ Political movement **against Indian military presence in Maldives.**
- ✓ **Intensified during key events like the UTF harbor deal** and India's consulate announcement.
- ✓ Supported by **ex-President Yameen,** aligning with pro-China policies.

➢ **Challenges and Ultimatums by Yameen:**
- ✓ Yameen's presidency **marked a pro-China shift**, signing an FTA and demanding Indian military withdrawal.
- ✓ **Actively endorsed the 'India Out' campaign**, diverging from the historical India-Maldives partnership.

➢ **India First Policy:**
- ✓ **Initiated by President Solih in 2018** to **reverse anti-India sentiments**.
- ✓ Prioritizes India in security, **socio-development, and COVID response.**

➢ **Dr. Mohamed Muizzu's Stance:**
- ✓ **Continues to rally 'India Out' support, reflecting sustained anti-India sentiments**.
- ✓ Believes democratic mandate supports the withdrawal of Indian military personnel.

➢ **Dynamic Geopolitical Shifts:**
- ✓ **'India Out' aligns with China's increasing influence** in the Indian Ocean.
- ✓ **Maldives faces the challenge of balancing historical ties with India** and new collaborations with China.

INDIA'S STANCE IN RECENT REQUEST:

➢ **Indian Response:**
- ✓ **Both governments agree to discuss workable solutions** for continued cooperation.
- ✓ Focus **on cooperation through platforms like aircraft for medical evacuation** and counter-drug trafficking.

➢ **Commitment to Strong Relations:**
- ✓ India **maintains a consistent commitment to building robust ties** with the Maldives.
- ✓ Focus on comprehensive cooperation, **security, and infrastructure development underscores dedication.**

➢ **Resilience Amid Challenges:**
- ✓ Despite challenges like **the 'India Out' campaign and pro-China policies**, India **remains steadfast.**
- ✓ Demonstrates resilience in **upholding the historical partnership.**

➢ **Strategic Importance in SAGAR Policy:**
- ✓ India views Maldives as **integral to its 'Security and Growth for All in the Region' (SAGAR) policy**.
- ✓ Recognizes Maldives as a crucial component for regional security and prosperity.

➢ **First Line of Defense:**
- ✓ **Maldives holds a pivotal role as India's first line of defence** against various threats.
- ✓ Collaboration includes **countering terrorism, piracy, drug trafficking, and maritime crimes**.

➢ **Contrast with China's Agenda:**
- ✓ India's engagement in **Maldives is based on mutual interests and regional stability**.
- ✓ Unlike China, **India's involvement aims at fostering shared security and growth rather than advancing individual interests.**

WAY FORWARD:

➢ **Development-Oriented Approach:**
- ✓ India should **adopt a strategic and development-oriented approach in light of changes in the Maldives' political landscape.**
- ✓ Emphasis on **national interests and addressing issues like high youth unemployment** can strengthen bilateral ties.

➢ **Youth Employability Projects:**
- ✓ Given the **Maldives' challenge of high youth unemployment, India's High Impact Community Development Project (HICDP)** should prioritize initiatives enhancing youth employability.
- ✓ Focusing on job creation aligns with the Maldives' developmental needs.

➢ **Accelerated Infrastructure Development:**
- ✓ Prioritizing the **timely completion of the Greater Male Connectivity Project** is essential for India's influence in the region.
- ✓ The project, **supported by grants and a substantial Line of Credit, surpasses China's initiatives** and bolsters India's presence.

➢ **Balanced Relations and Governance:**
- ✓ Post-election, the **Maldives is likely to seek balanced relations with India and China**.
- ✓ Practical governance **considerations and understanding the repercussions** of undermining ties with India should guide diplomatic efforts.

➢ **Indo-Pacific Security Role:**

- ✓ **India must actively contribute to the Indo-Pacific security space**, ensuring regional stability in South Asia.
- ✓ The **evolving security dynamics**, especially in response to external influences, require India to play a key role.
- ➢ **Recent Request Implications:**
  - ✓ **Acknowledge and address the recent request** from the Maldives to withdraw military personnel.
  - ✓ **Engage in diplomatic discussions** to understand concerns **and work towards mutually agreeable solutions.**

INDIA-AUSTRALIA RELATIONS

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

*Defence Minister Rajnath Singh and Australian Deputy Prime Minister Richard Marles discussed enhanced **cooperation in information exchange and Maritime Domain Awareness (MDA)** during the **second India-Australia 2+2 Ministerial Dialogue, which also involved External Affairs Minister S Jaishankar.***

BACKGROUND OF INDIA-AUSTRALIA RELATIONS:

- ➢ **Overview:**
  - ✓ India and Australia share commonalities as **vibrant democracies with secular, multicultural societies**.
  - ✓ The relationship has **strengthened since India's economic reforms in the 1990s**, spanning trade, energy, science, technology, education, and defence.
  - ✓ Both nations have historical commercial **ties dating back to the 18th century.**

- ➢ **Historical Contacts:**
  - ✓ Commercial ties between India and Australia date back to the 18th century, with **India playing a vital role in supporting the young Australian colony.**
  - ✓ India was a **crucial source of food and provisions for Australia** in the 19th century.
  - ✓ Diplomatic offices, including the Consulate General of India in Sydney and Melbourne, were established in the mid-20th century.
- ➢ **Diplomatic Relations:**
  - ✓ Diplomatic ties between India and Australia were initiated **in the pre-Independence era, marked by the establishment of the India Trade Office in Sydney in 1941.**

NARROWING GAP
India-Australia trade ($bn)
■ Import ■ Export ■ Total trade ▪ Trade balance

-9.61	-6.93	-4.2	-1.02
13.13	9.78	8.25	
3.52	2.85	4.04	1.88 0.86
16.65	12.63	12.29	2.74
FY19	FY20	FY21	FY22*

*Till May   Source: Dept of Commerce

- ➢ **Strategic Partnership:**
  - ✓ In 2009, **India and Australia elevated their relationship to a 'Strategic Partnership'** and later to a **'Comprehensive Strategic Partnership' (CSP)** in **2020.**
  - ✓ The **CSP involves regular '2+2'** meetings between Foreign and Defence Ministers.
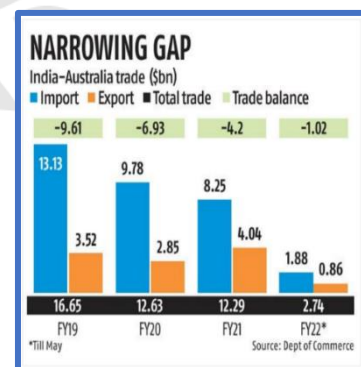
- ➢ **Economic and Trade Relations**:
  - ✓ **Australia's India Economic Strategy to 2035**, commissioned in 2018, aims to strengthen economic ties.
  - ✓ Bilateral trade, with **India as the 8th largest partner, witnessed a deficit of $8.5 billion in FY22**.
  - ✓ The **Economic Co-operation and Trade Agreement (ECTA),** signed in April 2022, **targets doubling trade to $50 billion.**
- ➢ **Civil Nuclear Cooperation:**
  - ✓ The **Civil Nuclear Cooperation Agreement signed in 2014** facilitates substantial energy trade between India and Australia.
- ➢ **Defence Collaboration:**
  - ✓ Defence cooperation **expanded after PM Modi's 2014 visit**, covering research, development, and industry engagement.
  - ✓ **Agreements like Mutual Logistics Support (MLSA)** and cooperation in Defence Science and Technology were finalized.
  - ✓ **Bilateral naval exercise 'AUSINDEX'** commenced in 2015, showcasing joint maritime capabilities.
- ➢ **Cultural Artifact Repatriation:**
  - ✓ India and Australia have successfully repatriated several cultural artifacts in recent years, including the **Bronze Idol of Nataraja and Dwarpala stone sculptures**, reflecting a commitment to preserving cultural heritage.
- ➢ **Indian Community in Australia:**
  - ✓ The Indian community in Australia, **numbering around seven hundred thousand**, plays a significant role.
  - ✓ India is a **major source of skilled immigrants,** with a growing population of Indian students, reaching **approximately 105,000 in Australian universities**.
  - ✓ In 2020, **India became the second-largest migrant group in Australia after England.**

INDIA-AUSTRALIA 2+2 MINISTERIAL DIALOGUE:

- ➢ **Dialogue Overview:**
  - ✓ Defence Minister Rajnath Singh and External Affairs Minister S Jaishankar held the **second India-Australia 2+2 Ministerial Dialogue.**

- ➢ **Key Agendas:**
  - ✓ Discussions focused on **deepening bilateral ties in defence, security, trade, investment, critical minerals, energy, climate change, science and technology, space, education, and people-to-people linkages.**
  - ✓ Regional and global issues were also part of the agenda.
- ➢ **Military History Connection:**
  - ✓ Acknowledgment of the **longstanding military relations**, highlighting instances of Australian soldiers fighting alongside **Indian troops, including at Gallipoli**.
- ➢ **Crucial for the Region:**
  - ✓ Emphasis on India being central and crucial to the region, **working towards a peaceful, stable, and prosperous environment with respect for sovereignty.**
- ➢ **Bilateral Achievements:**

- ✓ Mention of **collaborative efforts in economic ties, trade, investment, climate initiatives**, and people-to-people links, with a commitment to furthering cooperation.
- ➢ **Open Discussions:**
  - ✓ **Open discussions on recent Indo-Pacific strategic developments**, **West Asia dynamics**, and even sharing a light moment about the recent cricket match.

SIGNIFICANCE OF AUSTRALIA:

- ➢ **Indo-Pacific Stability:**
  - ✓ Both India and Australia **advocate for a free, open, and prosperous Indo-Pacific**, evident in their **active participation in the QUAD grouping**, aimed at addressing regional challenges, particularly in response to China's actions.
- ➢ **Gateway to Pacific Countries:**
  - ✓ Strengthening cooperation provides India enhanced **access to Pacific Island nations**, leveraging **Australia's influence over countries like Kiribati and Solomon Islands**.
- ➢ **Indian Diaspora Influence:**
  - ✓ The sizable Indian diaspora in Australia, **constituting 2.8% of the population**, underscores the **importance of collaborative efforts to ensure their well-being and development**, fostering stronger ties.
- ➢ **Geo-Strategic Collaboration:**
  - ✓ **Australia's geographical proximity to the Indian Ocean** makes active engagement crucial for India's strategic positioning.
  - ✓ Collaboration is sought for **India's strength in the Indian Ocean and support for initiatives like NSG membership and UNSC reforms.**
- ➢ **Energy Security Through LNG:**
  - ✓ **Australia's secure and long-term LNG supply offers India a strategic opportunity** to diversify its energy sources, reducing dependence on the Middle East.
- ➢ **Balancing China and Defying Coercion:**
  - ✓ Both countries recognize and **respond to China's ambitions in the Indo-Pacific**, with Australia actively seeking to balance and restrain China.
  - ✓ India is seen as a **pivotal partner in countering China's economic coercion** and regional dominance.

CHALLENGES IN INDIA AUSTRALIA RELATIONS:

- ➢ **Shifting Dynamics:**
  - ✓ **Deterioration of Australia-China ties** mirrored India's challenges.
  - ✓ Led to forging a **Comprehensive Strategic Partnership in 2020.**
- ➢ **Quad Cooperation:**
  - ✓ **Quad (India, Australia, Japan, U.S.)** pivotal in current geopolitics.
  - ✓ Joint statements and expanded **agendas foster closer alignment**.
- ➢ **Economic Challenges:**
  - ✓ Economic ties limited; **coal exports dominate.**
  - ✓ Plans for Indian-controlled **global supply chains face setbacks**.
- ➢ **Security Cooperation Hurdles:**
  - ✓ India's reliance on **Russian weapons hinders deeper cooperation**.
  - ✓ **India's stance on Ukraine adds complexity to strategic alignment.**
- ➢ **Trade Agreement and Technology**:

- ✓ Negotiating full **free trade agreement faces hurdles**.
- ✓ Divergent approaches to **technology policies pose challenges**.
- ➢ **Cognitive Dissonance:**
  - ✓ Promotion of India as a **vibrant liberal democracy faces challenges**.
  - ✓ Trivialization and **avoidance strategies in political discourse**.
- ➢ **Future Outlook:**
  - ✓ Relationship no longer neglected but faces ongoing complexities.
  - ✓ **Divergences in geopolitical and economic interests persist**.

WAY FORWARD:

- ➢ **Enhancing Economic Competitiveness:**
  - ✓ To compete effectively, **India must enhance competitiveness**.
  - ✓ Notable competition from **countries with existing FTAs with Australia.**
- ➢ **Mitigating Religious Polarization**:
  - ✓ **Addressing religious polarization** crucial for internal harmony.
  - ✓ Similar to **concerns raised by India about religious tensions in Australia**.
- ➢ **Diplomatic Outreach for Tax Reform:**
  - ✓ Actively engage diplomatically **to ensure Australia amends tax laws**.
  - ✓ Focus on **preventing taxation of offshore income** from Indian technical services.
- ➢ **Promoting Science & Tech Collaboration:**
  - ✓ **Leverage existing collaborations** for mutual benefit in innovation.
  - ✓ Align **with Australia's National Innovation and Science Agenda**.
- ➢ **Space Cooperation Opportunities:**
  - ✓ Explore collaborations in **the commercial space sector.**
  - ✓ India well-positioned **to support Australia's space initiatives**.
- ➢ **Strategic Dialogue on Shared Interests:**
  - ✓ Regular strategic discussions **crucial for addressing shared concerns**.
  - ✓ **Prioritize collaboration on issues related to China, Pakistan, Afghanistan, terrorism, and maritime security.**
- ➢ **Bilateral Security Declaration:**
  - ✓ **Formalize security commitments** through a bilateral declaration.
  - ✓ **Reciprocal engagement as a priority maritime partner** urged by Australia.

Economy & Agriculture

IN FSSAI INDEX, NEARLY ALL MAJOR STATES SLIP ON FOOD SAFETY COMPARED TO 2019

WHY IN NEWS?

*The decline in food safety **scores across 19 out of 20 large Indian states,** as reported by **the Food Safety and Standards Authority of India (FSSAI),** has garnered attention.*

THE STATE FOOD SAFETY INDEX (SFSI):

➢ **Background:**
  - ✓ The **Food Safety and Standards Authority of India (FSSAI)** published **a state-wise index in 2019** to drive food safety improvements.
  - ✓ **In 2023, 19 out of 20 large Indian states,** including Maharashtra, Bihar, Gujarat, and Andhra Pradesh, **recorded lower scores than in 2019.**
  - ✓ After adjusting for a **new parameter introduced in the 2023 index**, 15 out of 20 states still showed **lower scores than in 2019.**
  - ✓ The **steepest score decline over five years** was observed in **Maharashtra, followed by Bihar** and **Gujarat.**
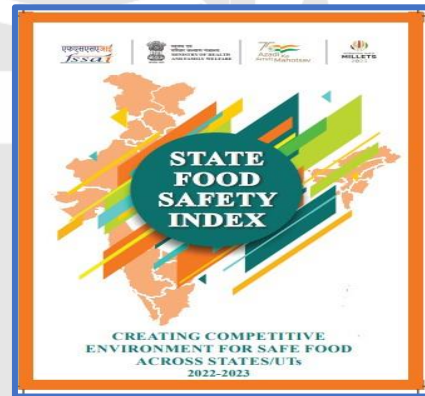
➢ **The State Food Safety Index (SFSI):**
  - ✓ The SFSI is released each year on **World Food Safety Day,** providing **scores out of 100 based** on five parameters:
    - • *Human Resources and Institutional Data, Compliance, Food Testing Infrastructure, Training and Capacity Building, and Consumer Empowerment*.
  - ✓ A new parameter, **'Improvement in SFSI Rank,'** was **added in the 2023 index** to assess rank improvements from the previous year.

RECENT FINDINGS OF THE REPORT:

➢ **Key findings:**
- ✓ The **'Food Testing Infrastructure'** parameter saw the most significant **drop in scores over five years.**
- ✓ The average score for all **large states in this parameter dropped to 7 out of 17 in 2023** from 13 out of 20 in 2019.
- ✓ 'Compliance' had the **highest weightage in 2023 (28%);** the average score in this category for all states was **11 out of 28**, compared to **16 out of 30 in 2019.**

STATES WITH STEEPEST INDEX FALL

State	2019	2023
Maharashtra	74	45
Bihar	46	20.5
Gujarat	73	48.5
Andhra Pradesh	47	24
Chhattisgarh	46	27

Source: SFSI reports; all scores out of 100

SAFETY MEASURE

Parameter	Weight
Compliance	28
Consumer Empowerment	19
Human Resources and Institutional Data	18
Food Testing Infrastructure	17
Improvement in SFSI Rank *(added in 2023)*	10
Training and Capacity Building	8
TOTAL	**100**

➢ **Specific State Findings:**
- ✓ **Maharashtra, Bihar, and Gujarat** witnessed a **substantial decline in food safety scores**.
- ✓ **Andhra Pradesh received the lowest score** in the 'Food Testing Infrastructure' parameter in 2023.
- ✓ **Punjab and Himachal Pradesh** received the **highest 'Compliance' scores in 2023**.
- ✓ **Gujarat and Kerala** were the **best performers in 2023** for **'Food Testing Infrastructure.'**

CHALLENGES:

➢ **Food Safety Concerns:**
- ✓ The decline in food safety scores raises concerns about the **safety of food products consumed** by **the Indian population**.
- ✓ It **highlights potential risks associated** with **foodborne illnesses** and the **need for stringent food safety measures.**

➢ **State-wise Disparities:**
- ✓ The **varying scores among states indicate disparities** in food safety standards and enforcement.
- ✓ This news sheds light on the **differing capabilities** of **state authorities in ensuring food safety**.

➢ **Importance of FSSAI:**
- ✓ FSSAI plays a **critical role in regulating and monitoring food safety in India**.
- ✓ The news underscores the **role of this authority in evaluating and reporting** on food safety standards across states.

➢ **Efforts to Improve Food Safety:**
- ✓ The **report draws attention to the importance of enhancing food testing infrastructure** and compliance **measures to ensure the safety of food products** in India.
- ✓ This is vital for the **well-being of the population and to prevent foodborne diseases**.

➢ **Policy Implications:**
- ✓ The decline in food safety scores may **prompt policymakers and state authorities** to take **corrective actions to address the shortcomings** in food safety measures.

INITIATIVES OF GOVERNMENT FOR FOOD SAFETY IN INDIA

Initiative	Objective
National Health Policy 2017	✓ To achieve the highest possible level of good health and well-being for all.
POSHAN Abhiyaan	✓ To reduce malnutrition among children and pregnant women.
Anemia Mukt Bharat	✓ To prevent and control anemia, particularly among women and children.
Swachh Bharat Mission	✓ To achieve universal sanitation and cleanliness in India.
Eat Right Station Certification	✓ To ensure the availability of safe and healthy food at railway stations.
Food Safety Magic Box	✓ To educate school students about food safety through testing kits.
Codex Alimentarius	✓ To develop international food standards for consumer protection.

WAY FORWARD

The **decline in food safety scores across Indian states**, as reported by the Food Safety and Standards Authority of India (FSSAI), **highlights the need for comprehensive improvements in various aspects** of food safety are given below:

➢ **Strengthening Food Testing Infrastructure:**
   ✓ As of **2023, the average score** for the **'Food Testing Infrastructure' parameter is only 7 out of 17** points, indicating a **need for substantial improvements** in testing facilities.
➢ **Compliance Enhancement**:
   ✓ The **'Compliance' parameter**, which measures regulatory compliance, has an **average score of 11 out of 28 points in 2023,** underscoring the importance of stricter enforcement.
➢ **Training and Capacity Building:**
   ✓ A lack of **trained personnel and resources is evident**, as several states struggle to meet the required standards for food safety.
➢ **Consumer Empowerment:**
   ✓ According to a consumer survey, a **significant percentage of consumers** are unaware of their rights and responsibilities in ensuring food safety.
➢ **Coordination and Collaboration**:
   ✓ Collaboration among **various stakeholders, including government agencies**, the food industry, and **NGOs, remains limited in some states**.
➢ **Incorporating Technology:**
   ✓ The utilization of technology in **food safety reporting and monitoring is currently inadequate**, hindering the real-time assessment of food safety incidents.
➢ **Learning from Best Practices:**

✓ Analysis of international **best practices reveals that countries with strong food safety** models have experienced a **decrease in foodborne illnesses and fatalities**.

➢ **Public-Private Partnerships:**

✓ In states where there is limited cooperation **between government agencies and food industry stakeholders,** compliance with food safety regulations is often suboptimal.

➢ **Policy and Regulatory Reforms:**

✓ Periodic updates to **food safety policies are essential, as the food industry is dynamic** and prone to new challenges, such as the emergence of foodborne pathogens.

➢ **Promoting Innovation:**

✓ Innovation in food safety practices has **led to improvements in food processing, storage**, and distribution, reducing the risk of contamination.

UNDERSTANDING WORKER PRODUCTIVITY

SOURCE: THE HINDU

WHY IN NEWS?

*The article discusses the debate sparked by **Infosys founder N.R. Narayana Murthy's call for young Indians to work longer hours** to **boost productivity and economic growth**.*

DEBATE SPARKED BY NARAYANA MURTHY'S COMMENTS

➢ Infosys founder N.R. Narayana Murthy **recently suggested that young Indians should work 70 hours a week** to boost the country's development.

➢ It delves into the **concepts of worker productivity and labor productivity**, the complexities **of measuring productivity**, and the **relationship between worker productivity and economic growth**.

➢ The article also addresses income distribution **disparities in India** and questions the **validity of comparing India's economy to those of Japan and Germany.**

➢ It concludes by emphasizing the **importance of a human-centric approach to development**.

WORKER PRODUCTIVITY VS. LABOR PRODUCTIVITY

➢ **Difference:**

✓ **Worker productivity, which differs from labor productivity** only in the types of work involved, **measures the output value per unit of labor time at a micro level**.

Labor Productivity

Highly efficient — Labor efficiency level — Less efficient

✓ At the macro level, it's **evaluated through the labor-output ratio** or changes in **Net Domestic Product (NDP) per worker in each sector.**

✓ However, in some services, especially those **requiring intellectual labor**, measuring output **independently is challenging**, so workers' income often acts as **proxies for productivity.**

✓ Increasing working hours **to enhance productivity implies** that the **additional work and output value produced don't receive commensurate pay**, which may benefit profits but adversely affect workers.

➢ **Complexities of Measuring Productivity:**
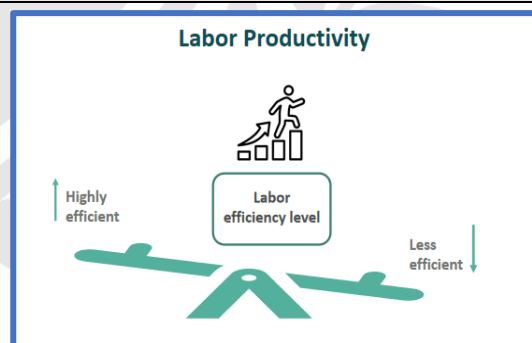
- ✓ Measuring productivity, especially in **services involving intellectual labor**, can be challenging.
- ✓ In such cases, **workers' income is often used as a proxy for productivity**.
- ✓ Mr. Murthy's assertion that increasing **working hours enhances productivity can be flawed.**
- ➤ **Link Between Worker Productivity and Economic Growth:**
  - ✓ The connection between **worker productivity and economic growth is intricate**.
  - ✓ While enhanced productivity influences **economic growth, it may not necessarily lead to improved prosperity for workers.**
  - ✓ **Income disparities** and **skewed income distribution** within India are highlighted.

CURRENT WORKING HOURS STATUS IN INDIA

- ➤ **Current Working Hours of Young Indians:**
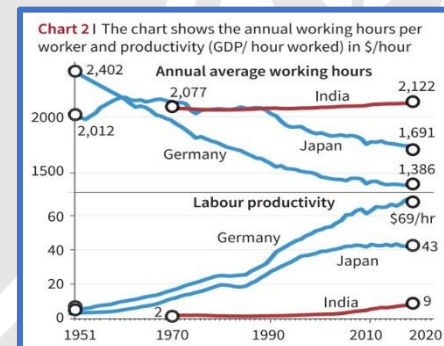 - ✓ According to data from **the Time Use Survey conducted in India in 2019**, young **Indians aged 15-29 presently work an average of 7.2 hours a day** in **rural areas** and **8.5 hours a day in urban areas**.
- ➤ **High Working Hours in Uttarakhand:**
  - ✓ In the context of **urban areas,** a state-wise comparison reveals that **Uttarakhand leads the way**, with its **young population working an average of 9.6 hours a day.**

Map 1 | The map shows the average number of hours an urban Indian aged 15-29 spends in a day on employment and related activities

Average hours spent on employment and related activities
- >9
- 8-9
- 7-8
- <7
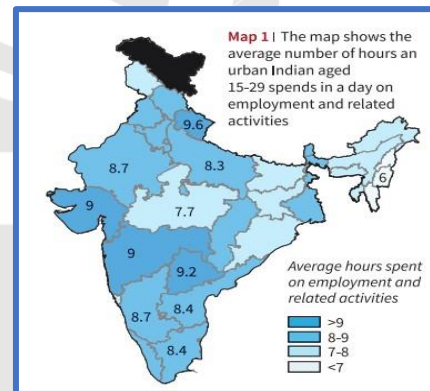
COMPARING INDIA WITH JAPAN AND GERMANY

- ➤ **Link Between Work Productivity and Longer Hours:**
  - ✓ Mr. Murthy asserts that **India's low work productivity** necessitates **longer working hours** to **compete with countries like Germany and Japan.**
  - ✓ This is due to stark differences in **labor force, technological development, and sociopolitical structures.**
  - ✓ **After World War II,** both these **nations temporarily increased their average** annual working hours to 2,**200-2,400 hours (8.3 to 9 hours per day),** but later, as labor productivity improved.
  - ✓ They **reduced working hours to about 1,400-1,600 hours (5.3 to 6 hours per day)** by 2020.
- ➤ **Comparing Work Hours and Labor Productivity:**

Chart 2 | The chart shows the annual working hours per worker and productivity (GDP/ hour worked) in $/hour

Annual average working hours
- 2,402
- 2,077
- India 2,122
- 2,012
- Germany
- Japan 1,691
- 1,386

Labour productivity
- Germany $69/hr
- Japan 43
- India 2
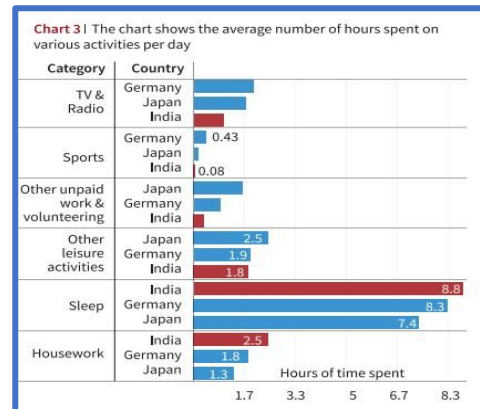- India 9

1951 1970 1990 2010 2020

- ✓ India, on the other hand, maintained annual **working hours above 2,000** but experienced only a **marginal increase in labor productivity, from $2 per hour to $9** in the same period.
- ➢ **Implications of Longer Work Hours:**
    - ✓ Longer work hours mean **less time for sports and leisure activities**.
    - ✓ When compared to Germany and Japan**, Indians allocate less time to sports and leisure**.
    - ✓ They **spend more time on sleep and household chores**.

Chart 3| The chart shows the average number of hours spent on various activities per day

CHALLENGES IN INDIA

- ➢ **Income Distribution Disparities and Productivity Gains:**
    - ✓ Income inequality within India is explored, **showcasing how the top income groups have disproportionately benefited** from economic growth compared to the lower-income segments.
    - ✓ It indicates that a **considerable portion of society's gains have disproportionately benefitted** the top income groups, rather than the workers.
    - ✓ Factors like **labor laws and informal employment** contribute to this phenomenon.
    - ✓ The link between **worker productivity and economic growth is intricate**.
    - ✓ While increased productivity contributes to economic growth, its impact on workers' prosperity is less certain.
    - ✓ Disparities in income distribution in India over the years
    - ✓ This **delinking of productivity and rewards raises concerns** about the legitimacy of contemporary capitalist structures.
- ➢ **Worker Productivity and Labor Conditions:**
    - ✓ The **rise in informal employment** and the **exploitation of workers in sectors** like **manufacturing and IT** are linked to India's low wages.
    - ✓ Despite high labor productivity, **low wages persist due to profit motives**.

Chart 4| The chart shows the share of informal employment in the total workforce for the latest year with data (in %)

- ➢ **Reliable Data on Indian Workers:**
    - ✓ Recent studied data on Indian workers, suggesting that **the workforce is hardworking but struggles with low wages.**
    - ✓ The article disputes Mr. Murthy's assertions as **possibly intended to promote labor reforms**.
- ➢ **Challenges in Comparing Labor Productivity:**
    - ✓ Considering that **89% of the Indian workforce is engaged in informal employment**, while **Germany has only 4.2% and Japan around 8% in informal employment**, challenges arise in comparing these **nations' labor productivity due to significant** differences in the nature of their labor force.
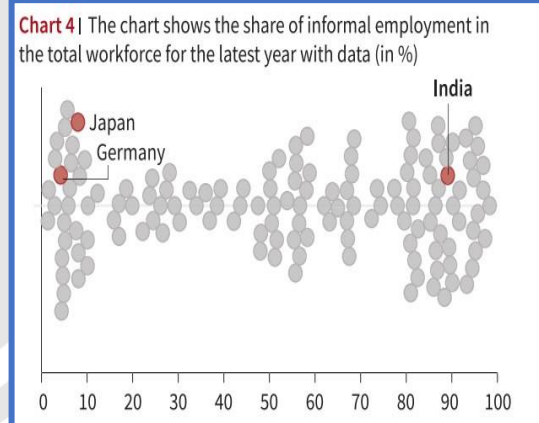
WAY FORWARD

➢ **Balancing Work and Life:**
- ✓ Enhance productivity **through technology adoption** and **technical education**.
- ✓ Focus on output and **invest in the right tools and resources**.
- ✓ Promote growth and a **promising future to motivate the youth**.
- ✓ Prioritize self-care, including exercise, **hobbies, quality sleep, and spending time with loved ones**.

➢ **Government Schemes to Enhance Productivity:**
- ✓ Skill development initiatives.
- ✓ Digital India.
- ✓ Make in India.
- ✓ Startup India.
- ✓ Ease of Doing Business reforms.
- ✓ National Industrial Corridor Development.
- ✓ Incentives for research and innovation.
- ✓ Tax reforms like the Goods and Services Tax (GST).

## SERVICE SECTORS PMI GROWS AT SLOWEST PACE IN 7 MONTHS

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

*In October, **India's services sector experienced a slowdown**, marked by a decline in growth and an increase in price pressures, as indicated by the **S&P Global India Services PMI**. The **PMI dropped to 58.4, down from 61 in September**, marking the slowest expansion since March.*

Purchasing Managers Index:

➢ The **Purchasing Managers Index (PMI)** is a **survey-based measure that assesses changes** in key business variables compared to the previous month.

➢ Its purpose is to **inform company decision-makers, analysts, and investors** about current and future business conditions.

➢ PMI is **separately calculated for manufacturing and services sectors**, and a composite index is created.

➢ *It's a scale from 0 to 100:* above **50 indicates expansion, below 50 signifies contraction**, and 50 means **no change**.

➢ A **higher previous month's PMI** compared to the current month's **suggests economic contraction**.

➢ Typically released at the beginning of each month, making it **a leading indicator of economic activity.**

➢ IHS Markit **compiles PMI for over 40 global economies** and is a leader in providing information, analytics, and solutions for various industries and markets.

➢ IHS Markit is part **of S&P Global**.
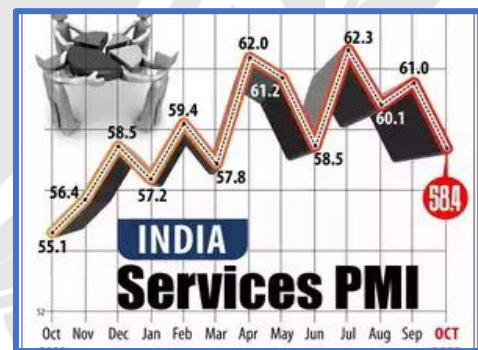
TATHASTU
Institute of Civil Services

- In May 2023, **India's services sector growth slightly eased** but remained the **second-strongest in nearly 13 years.**
- The S&P Global **India Services PMI Business Activity Index dropped from 62 in April to 61.2 in May.**
- The overall **S&P Global India Composite PMI Output Index** held steady at April's almost 13-year high of 61.6.
- India's manufacturing sector also **surged to a 31-month high in May.**
- The manufacturing **PMI rose from 57.2 in April to 58.7 in May,** the **highest since October 2020**.

In Slow Lane

	Services PMI	Composite PMI
Jan	51.5	53
Feb	51.8	53.5
Mar	53.6	54.3
Apr	57.9	57.6
May	58.9	58.3
Jun	59.2	59.3
Jul	55.5	56.6
Aug	57.2	58.2
Sep	54.3	55.1

Rate of input cost inflation little changed from Aug

Business confidence rebounds further

Services PMI below manufacturing index
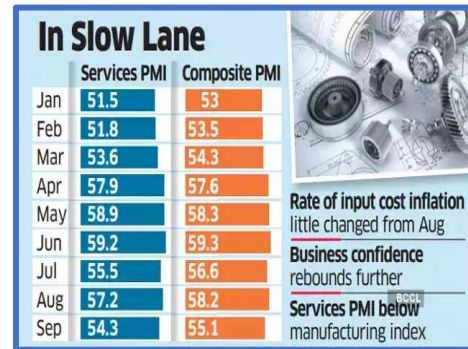
FACTOR RESPONSIBLE FOR RECENT CHANGES:

- **New Business and Job Creation:**
  - ✓ New business expanded at the **slowest pace since May**, with certain service types experiencing subdued demand.
  - ✓ New job **creation occurred in October but at the slowest rate in three months**.
- **International Orders and Sentiment:**
  - ✓ The **silver lining was a strong upturn in international orders**, reaching the **second-fastest pace since September 2014**, with new orders from Asia, Europe, and the U.S.
  - ✓ **Faster increases in input costs and output charges** were observed in October, with **inflation rates surpassing their long-run averages**.
- **Factors Responsible for Cost Increases:**
  - ✓ Firms attributed **higher input costs to food, fuel, and staff expenses**, compelling them to **raise prices at the strongest pace** in nearly six and a half years.
- **Future Activity Index and Confidence:**
  - ✓ The **Future Activity Index declined by more than five points in October**, indicating **some loss of confidence in the outlook for services output** due to rising inflation expectations.
- **Competition and Subdued Demand:**
  - ✓ Fierce competition and subdued demand for certain **types of services negatively affected business prospects for the next year.**
  - ✓ The future **activity sub-index dropped from its nine-year high** in September to 63.5, reflecting reduced confidence.
  - ✓ **Employment growth also decreased** to its lowest level in three months.

WAY FORWARD FOR INDIA'S SERVICES SECTOR:

- **Addressing Inflation:**
  - ✓ Managing and **controlling inflationary pressures on food, fuel, and staff costs** is essential.

- ✓ **Companies should explore strategies to mitigate** the impact of rising expenses on their operations.
- ➢ **Diversification of Services:**
  - ✓ To **combat competition and subdued demand**, businesses can consider **diversifying their service offerings to tap into new markets** or cater to emerging needs.
- ➢ **Strengthening Business Confidence:**
  - ✓ **Restoring business** confidence is crucial.
  - ✓ This can be **achieved by creating a conducive environment for investment** and addressing factors that contribute to dampened confidence.
- ➢ **Promoting Exports:**
  - ✓ **Leveraging export opportunities** is a positive aspect of growth.
  - ✓ Businesses should **explore ways to expand their international presence**.
- ➢ **Skills Development:**
  - ✓ **Focus on skills development to enhance the competitiveness** of the services sector.
  - ✓ A skilled **workforce can adapt to changing market dynamics** and meet the demands of diverse customers.
- ➢ **Government Policies:**
  - ✓ Government policies that **promote the services sector and facilitate ease of doing business** can provide a conducive environment for growth.

ORGANIC FARMING MISSION

SOURCE: THE HINDU

WHY IN NEWS?

*The Kerala government has **launched an Organic Farming Mission to promote sustainable** and climate-smart organic farming practices in the state. This initiative **aims to significantly expand organic farming over the next five years, targeting an annual growth of 1,000 hectares.***

ABOUT ORGANIC FARMING

- ➢ **Definition:**
  - ✓ Organic farming is a **sustainable agricultural system** that **employs ecologically based pest control and organic fertilizers derived from animal and plant waste** and nitrogen-fixing cover crops.
- ➢ **Drivers of Organic Farming Adoption in India:**
  - ✓ **Traditional Practice in Low Rainfall Areas**: In **regions with low rainfall and limited resources for conventional agriculture,** farmers have traditionally practiced organic farming.

COMPONENTS OF
NATURAL FARMING

Beejamrit
The process includes treatment of seed using cow dung, urine and lime based formulations.

Jivamrit
The process enhances the fertility of soil using cow urine, dung, flour of pulses and jaggery concotion.

Whapasa
The process involves activating earthworms in the soil in order to create water vapor condensation.

Mulching
The process involves creating micro climate using different mulches with trees, crop biomass to conserve soil moisture.

Plant Protection
The process involves spraying of biological concoctions which prevents pest, disease and weed problems and protects the plant and improves their soil fertility.

- ✓ **Reaction to Ill Effects of Conventional Agriculture:** Some farmers turn to organic farming after witnessing the negative consequences of conventional agriculture, such **as decreased soil fertility, food toxicity, and rising input costs**. This group comprises both certified and uncertified farmers.
- ✓ **Commercial Adoption for Premium Prices:** Another group deliberately embraces **commercial organic agriculture to capitalize on the higher prices** offered for certified organic produce.
- ✓ **Response to Environmental Harm:** Modern organic farming **emerged as a response to the environmental damage caused by chemical pesticides** and synthetic fertilizers in conventional agriculture.
- ✓ **Ecological Benefits**: Organic farming **offers several ecological advantages compared to conventional methods, such as reduced pesticide use, lower soil erosion, decreased nitrate leaching into groundwater and surface water**, and the recycling of animal wastes into the farm.

GOVERNMENT ORGANIC FARMING SCHEMES:

➢ **Paramparagat Krishi Vikas Yojana (PKVY):**
- ✓ **Launched in 2015** as a centrally sponsored scheme under the **National Mission of Sustainable Agriculture (NMSA).**
- ✓ Promotes organic farming across India **using a cluster approach (500-100 ha).**
- ✓ Facilitates farmers in obtaining **Participatory Guarantee System (PGS) certification.**
- ✓ Provides organic inputs and **capacity building for registered farmers.**
- ✓ Offers assistance for establishing **vermicompost units and woven beds for vermiculture.**

➢ **Mission Organic Value Chain Development for North East Regions (MOVCD-NER):**
- ✓ Launched in 2015 as a **centrally sponsored scheme** under the National Mission of Sustainable Agriculture (NMSA).
- ✓ Implemented in **Arunachal Pradesh, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, and Meghalaya.**
- ✓ **Aims to develop certified organic production** through a **value chain approach, connecting producers with consumers** and supporting the entire value chain development.

➢ **Capital Investment Subsidy Scheme (CISS):**
- ✓ Provides **100% assistance to State Government/Government agencies** for setting up mechanized **fruit/vegetable market waste/Agro waste compost production units**.
- ✓ Assistance up to Rs. 190.00 Lakh/unit (3000 TPA capacity) for State entities and up to 33% of cost (limited to Rs. 63 lakh/unit) for individuals/private agencies.

- ➤ **National Mission on Oilseeds and Oil Palm (NMOOP):**
  - ✓ Offers 50% subsidy of Rs. 300/ha for components like **bio-fertilizers and supply of microbial cultures.**
- ➤ **National Food Security Mission (NFSM):**
  - ✓ Provides **50% financial assistance for promoting Bio-Fertilizer (Rhizobium/PSB)** with a limit of Rs. 300/ha.
- ➤ **Increase in Organic Farming:**
  - ✓ **Cultivable land area under organic farming has more than doubled from 11.83 lakh** ha in 2014 to 29.17 lakh ha in 2020.
  - ✓ The **government aims to add 20 lakh ha more by 2024.**
  - ✓ Focus on awareness programs, post-harvest infrastructure, marketing facilities, and premium prices for organic produce to encourage organic farming.
- ➤ **International Ranking:**
  - ✓ **India's rank 6th in terms of World's Organic Agricultural land**.
  - ✓ **1st in terms of total number of producers as per 2021** data (Source: FIBL & IFOAM Year Book, 2023).

ORGANIC PRODUCTION IN INDIA:

- ➤ **Production:**
  - ✓ Sikkim became the **first State in the world to become fully organic in 2016.**
  - ✓ In 2022-23, **India produced approximately 2.9 Million MT of certified organic products**.
  - ✓ These products include various food items such as **oilseeds, fiber, sugar cane, cereals & millets, cotton, pulses, aromatic & medicinal plants, tea, coffee, fruits, spices, dry fruits, vegetables, and processed foods.**
  - ✓ Organic production extends beyond edibles, encompassing organic cotton fiber and functional food products.
- ➤ **Leading States in Organic Production:**
  - ✓ **Madhya Pradesh ranks as the largest producer of organic products in India**, followed by **Maharashtra, Rajasthan, Karnataka, and Odisha.**
  - ✓ The categories of organic products **include fiber crops, oilseeds, sugar crops, cereals and millets, medicinal/herbal and aromatic plants, spices and condiments, fresh fruits, vegetables, pulses, tea, and coffee.**

India ranks 1st in number of organic farmers & 9th in terms of area under organic farming

40,000 clusters are being assisted under Paramparagat Krishi Vikas Yojana covering an area of about 7 lakh ha

Production includes flax seeds, sesame, soybean, tea, medicinal plants, rice & pulses

- ➤ **Organic Exports:**
  - ✓ India's total organic food exports in **2022-23 amounted to 312,800.51 MT.**
  - ✓ The export revenue from organic food products reached around **INR 5,525.18 Crore (approximately 708.33 million USD).**

✓ India exports organic products to various countries, including the **USA, European Union, Canada, Great Britain, Switzerland, Turkey, Australia, Ecuador, Korea Republic, Vietnam, and Japan.**

CHALLENGES:

➢ **Farms with High External Input Use:**
  - ✓ Larger farms **relying heavily on external inputs**.
  - ✓ **Chemical fertilizers and pesticides** are commonly used.
  - ✓ **Crop rotations and livestock integration** are often lacking.
  - ✓ *Challenges:* Long conversion process, **restoring soil fertility, initial yield depression**, and new learning requirements.

  Conversion practices:
  - ✓ Diversify farming, **recycle farm by-products, integrate animals**, and use cover crops/mulches.

➢ **Farm with Low External Input Use:**
  - ✓ Traditional practices with **minimal external inputs.**
  - ✓ Random crop planting with **limited livestock contributions**.
  - ✓ **Challenges:** Crop residue burning, **effective crop rotations, and soil fertility improvements**.

  Conversion practices:
  - ✓ **Planned rotations, intercropping, efficient composting, soil erosion control**, animal integration, and better seed management.

➢ **Mixed Farm:**
  - ✓ Farms that **integrate crops and animals**, with some soil conservation measures.
  - ✓ Familiarity with **some organic practices.**
  - ✓ **Challenges: Full organic transition** and reduced chemical usage.

  Conversion practices:
  - ✓ Organic soil and weed management, **nutrient recycling, pesticide-free seeds**, natural pest control, and diversified farming.

➢ **Degraded Land:**
  - ✓ Land degradation from various factors.
  - ✓ **Organic farming aids soil recovery.**
  - ✓ **Challenges:** Soil degradation and reduced fertility.

  Conversion practices:
  - ✓ Terracing, **salt soil reclamation, acid soil recovery, flooded soil improvement**.

WAY FORWARD:

➢ **Promoting Organic Farming:**
  - ✓ The **industry, government, scientists, and farmers** are collaborating to promote organic farming as a solution for healthy living.

➢ **Changing Consumer Preferences:**
  - ✓ The **COVID-19 pandemic has shifted consumer preferences towards healthier food choices**.

- ✓ Millennials are advocating for **organic, natural, and chemical-free products** as part of a healthy lifestyle.
- ➤ **Role in India's Agro-Economy:**
  - ✓ The organic food segment has experienced **substantial growth in recent years.**
  - ✓ People are increasingly conscious of **their food choices, opting for naturally produced products with enhanced nutritional value.**
  - ✓ The **emphasis on environmental conservation and increased adoption of organic farming** by farmers are driving the growth of the organic farming industry.
  - ✓ The **government's strict regulations and authorized practices** further support organic farming in the context of climate change and environmental preservation.

INDIA FINANCE REPORT – CAFRAL

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

*The **inaugural India Finance Report by the Centre for Advanced Financial Research and Learning (CAFRAL),** affiliated with the Reserve Bank of India, **assesses the state of India's non-banking financial companies (NBFCs),** or the **shadow banking sector**. It acknowledges improvements post the 2018 liquidity crisis and Covid-19 pandemic.*

KEY FINDINGS OF THE REPORT:

- ➤ **Positive Trends:**
  - ✓ Post-2018 and pandemic challenges**, NBFCs show improvement in capital position, asset quality, and profitability.**
  - ✓ Capital to risk-weighted assets ratio **(CRAR) rises from 22.9% in 2019-20 to 27.6% in 2022-23, surpassing the stipulated 15% norm.**
  - ✓ **Gross and net non-performing asset (NPA) ratios** witness a **consistent decline.**
- ➤ **Emerging Risks:**
  - ✓ Recent years see a rise in bank financing for NBFCs, **raising concerns about systemic contagion and emphasizing the need for preventive measures.**

> **The Centre for Advanced Financial Research and Learning (CAFRAL)**
>
> *It is an independent body set up by the Reserve Bank of India (RBI) in the backdrop of India's evolving role in the global economy, in the financial services sector and its position in various international fora. CAFRAL seeks to develop into a world class global institution for research and learning in banking and finance.*

- ✓ The report warns against relying solely on post-2017 ratios for assessing systemic risk, **highlighting the importance of considering externalities in decision-making.**
- ✓ Systemic risks can **accumulate during periods of financial calm, leading to increased risk-taking** and potential negative spillovers during crises.

➢ **Implications for RBI and Government:**
  ✓ The report's findings are **crucial given recent sharp shifts in monetary policy**, from loose measures during the pandemic to a **subsequent contraction in response to rising inflation**.
  ✓ The NBFC sector's health is **integral to India's economic growth, particularly supporting millions of MSMEs**.
  ✓ Regulators must **learn from past mistakes to sustain economic stability.**

Non-Banking Financial Company (NBFC):

➢ **Definition:**
  ✓ A Non-Banking Financial Company (NBFC) is a **registered company under the Companies Act,** 1956.
  ✓ It engages in various **financial activities such as loans, a**cquisition of securities, **leasing, hire-purchase, insurance, and chit business.**
  ✓ However, it excludes institutions **primarily involved in agriculture, industrial activities, purchase/sale of goods (other than securities), services**, and immovable property transactions.

➢ **Residuary NBFC:**
  ✓ A **non-banking institution functioning as a company**, focusing on receiving deposits under various schemes or arrangements, **falls under the category of a Residuary NBFC.**

➢ **Key Features:**
  ✓ **Deposit Restrictions:** NBFCs are **prohibited from accepting demand deposits**.
  ✓ **Exclusion from Settlement System**: NBFCs are **not part of the payment and settlement system** and cannot issue self-drawn cheques.
  ✓ **Deposit Insurance:** Unlike banks, the **Deposit Insurance and Credit Guarantee Corporation do not provide deposit insurance facilities to NBFC depositors**.
  ✓ This framework **establishes the unique role of NBFCs in the financial landscape,** outlining their operations, limitations, and distinctions from traditional banking institutions.

DIGITAL LENDING OVERVIEW: TRANSFORMING FINANCE

➢ **Defining Digital Lending:**
  ✓ Recent **rise characterized by credit intermediation through digital channels**, leveraging digital technologies across lending processes.

➢ **Integration into Digital Landscape:**
  ✓ Part of broader **digital landscape, involving FinTech lending** in vertical sectors and horizontal focus areas**.**

➢ **Diverse Models and Players:**
  ✓ Led by **NBFCs initially, banks join with Lending Service Providers (LSPs).**
  ✓ **Two main forms:** Balance Sheet Lending (BSL) and Marketplace Lending (MPL).

The Digital Lending Ecosystem in India
Source: Reserve Bank of India.
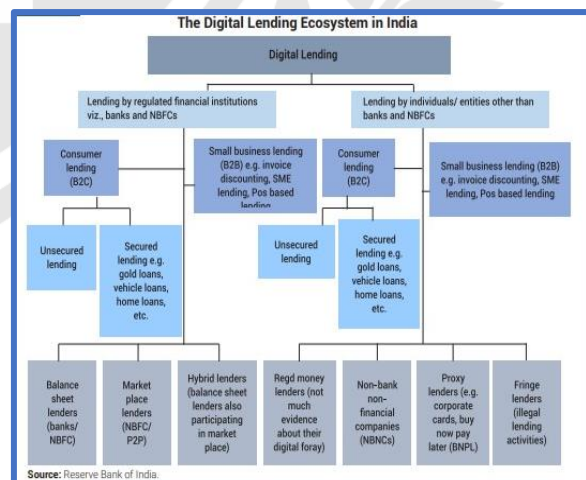
- ➢ **Expansion and Players:**
  - ✓ Involvement from FinTech platforms, **'neo banks,' Buy Now, Pay Later (BNPL), and P2P lending**, highlighting diverse market participants.

WAY FORWARD:

- ➢ **Conclusion and Future Outlook:**
  - ✓ Overall, **NBFC sector strengthens across dimensions**, poised for further improvement.
  - ✓ NBFCs played a crucial **role in credit expansion**;
  - ✓ however, **rising competition from banks and potential global shocks pose challenges**.
  - ✓ Regulatory measures need to balance fostering growth and **ensuring financial stability in the post-COVID era.**

THE ECONOMY OF A WORLD WITHOUT WORK

SOURCE: THE HINDU

WHY IN NEWS?

*Recently, Elon Musk's **perspective on AI at the Bletchley Park summit**. Disruptive potential and Musk's **vision of AI replacing all human labour**- AI's capability to substitute **both physical and cognitive tasks**. Musk's vision: Individuals seeking work for **personal fulfillment rather than necessity**.*

The Purpose of Work:

- ➢ **Keynesian Perspective:**
  - ✓ Work viewed as drudgery.
  - ✓ Keynes **advocated reducing work hours for increased welfare**.
  - ✓ **Technological change under capitalism** expected to reduce working hours.
  - ✓ Musk's vision aligns with Keynes, **aiming for a world where technology eliminates the need for work.**
- ➢ **Marxian Perspective:**
  - ✓ **Humanity's essence lies in material manipulation** of nature through work.
  - ✓ **Capitalism disconnects workers** from the fruits of their labour.
  - ✓ Work is the source of **meaning in human life for Marx.**
  - ✓ **Ideal state per Marx:** AI aids individuals in enjoying and elevating their work, not replacing it.

UNDERSTANDING ARTIFICIAL INTELLIGENCE (AI):

- ➢ **Overview:**
  - ✓ AI refers to the capability of a computer or a robot, under computer control, to perform tasks typically associated with human intelligence and discernment.
  - ✓ While AI hasn't achieved the breadth of human capabilities, it excels in specific tasks.
- ➢ **Distinctive Features and Components:**
  - ✓ **Mimicking Human Tasks:**
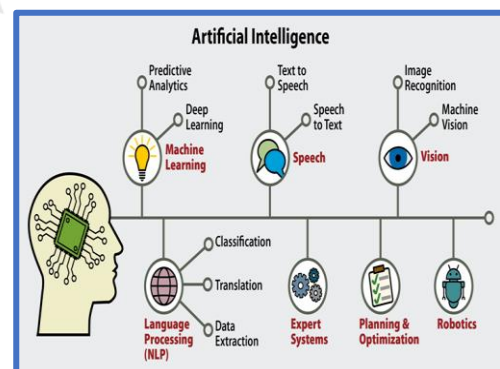
- AI replicates tasks requiring human-like intelligence.
- Some AI systems match or surpass humans in specific tasks.

➤ **Key Characteristic: Rational Decision-Making:**
  ✓ AI's notable trait is its ability to rationalize and make decisions to optimize goal achievement.
  ✓ A specialized subset is Machine Learning (ML).

Economic Implications of AI:

➤ **Keynesian Perspective Critique:**
  ✓ Disagreement on Keynes' idea that **reducing working hours always enhances welfare**.
  ✓ **Recognition of the social networks** provided by the working world.
  ✓ AI's impact on labor raises questions **about the universal applicability of Keynesian principles**.

➤ **Marxian Perspective Critique:**
  ✓ Criticism of Marx's **perspective on finding meaning solely through work**.
  ✓ Challenge to **conceptualize a future without work at the core**.
  ✓ Neglect of the economic system in **current AI discussions highlighted**.

Push for AI
NITI Aayog's strategy for adopting AI seeks to make India a leader in the area. Here is what it proposes:
► Set up research centres
► Institute scholarships
► Protect intellectual property related to AI
► Promote re-skilling of workforce
► Continuously assess changing nature of jobs
Source: BSE

➤ **AI and Capitalism:**
  ✓ *Hypothetical scenario:* AI fully substitutes various forms of labour.
  ✓ In capitalism, **access to resources (food, shelter) is tied to income derived from work**.
  ✓ A world sans **work doesn't ensure freedom from drudgery**, especially for those without employment.
  ✓ Musk's suggestion of **work availability for personal fulfilment is challenged** in a capitalist framework.
  ✓ The **envisioned world by Musk contradicts the realities of modern-day capitalism**, posing limitations on its emergence.

GLOBALLY GOVERNANCE OF AI:

"Globally, the governance of AI varies among nations, with eac**h country adopting distinct approaches and policies to address the challenges and opportunities** posed by artificial intelligence." Given below:

Country	Approach to AI Governance	Key Policies and Documents	Principles and Focus Areas
India	✓ **NITI Aayog serves** as a guide for AI-related issues.	✓ **National Strategy for AI**. ✓ Responsible AI for All report.	✓ **Prioritizes social and economic inclusion**, innovation, and trustworthiness.
United Kingdom	✓ Favors a **hands-off strategy,** urging sector-specific	✓ **White paper outlining** AI principles.	✓ **Stresses safety, security**, and robustness.

	regulators to apply existing rules to AI.		✓ **Emphasizes transparency, fairness, accountability**, governance, and contestability.
United States	✓ Proposes a **Blueprint for an AI Bill of Rights (AIBoR)** to address AI's economic and civil rights impacts.	✓ Focuses on sector-**specific governance with the AIBoR** Blueprint.	✓ Advocates sector-specific **interventions (health, labour, education).** ✓ Lays out **five principles to mitigate AI harms.**
China	✓ Implements **nationally binding regulations targeting specific AI algorithms.**	✓ **Enacts laws to regulate** recommendation algorithms.	✓ **Directs efforts towards regulating recommendation** algorithms and controlling information dissemination.

WAY FORWARD:
- ➢ **Policy Reforms:**
  - ✓ *Adaptive Legislation:* Formulate **agile policies that anticipate AI advancements**, ensuring they align with economic **needs, social inclusivity, and ethical considerations**.
  - ✓ *Public-Private Collaboration:* Foster partnerships **between government, industries**, and academia for dynamic policy development.
- ➢ **Workforce Transition:**
  - ✓ **Reskilling Initiatives:** Launch **extensive reskilling programs to equip the workforce** with skills **complementary to AI**, fostering a smooth transition.
  - ✓ **Education Emphasis:** Revamp education systems to **emphasize AI literacy, preparing the next generation for evolving job landscapes.**
- ➢ **Social and Economic Inclusion:**
  - ✓ **Equitable Resource Access: Address potential disparities by implementing measures** to ensure that basic resources are accessible to all, irrespective of employment status.
  - ✓ *Community Engagement:* Involve **communities in decision-making processes to understand** and **address their unique needs.**
- ➢ **Universal Basic Income (UBI):**
  - ✓ **Pilot Programs:** Conduct pilot **UBI programs to assess feasibility**, studying the impact on societal well-being and economic stability.

- ✓ *Public Discourse:* Encourage public discussions on the **concept of UBI,** gauging societal **receptiveness and refining the approach.**
- ➢ **Innovation and Research:**
  - ✓ *Investment in R&D:* Allocate resources for AI research and d**evelopment, encouraging innovation that aligns with societal values and economic goals.**
  - ✓ *Ethical AI Standards:* Develop and enforce **ethical standards for AI**, ensuring responsible deployment and minimizing unintended consequences.
- ➢ **Global Collaboration:**
  - ✓ **International Cooperation:** Actively participate **in global dialogues on AI governance**, contributing to the development of international standards and norms.
  - ✓ *Knowledge Exchange:* Facilitate the exchange of **best practices and lessons learned with other nations facing similar challenges.**
- ➢ **Continuous Monitoring:**
  - ✓ *Impact Assessment*: Establish **mechanisms for continuous assessment of AI's impact** on the economy, allowing for **timely interventions and adjustments.**
  - ✓ *Public Awareness Campaigns:* Conduct campaigns to enhance **public understanding of AI's role**, dispelling myths and fostering informed opinions.
- ➢ **Entrepreneurial Ecosystem:**
  - ✓ *Support Startups:* Create a **supportive environment for AI startups**, encouraging **entrepreneurship and ensuring a diverse range of AI applications**.
  - ✓ *Inclusive Innovation:* Prioritize innovations that **address societal challenges**, promoting inclusivity and sustainability.

## MGNREGS AUDIT CROSSES 50% LOCAL BODIES IN JUST SIX STATES

SOURCE: THE HINDU

WHY IN NEWS?

*Among the **34 States and Union Territories, only six have completed social audits** in over 50% of gram panchayats. **Kerala** stands out as the **sole state achieving 100% coverage** in gram panchayats.*

EMPLOYMENT GENERATION INITIATIVES: MGNREGA

- ➢ **Introduction:**
  - ✓ The Government prioritizes employment generation and **improving employability**.
  - ✓ The **Ministry of Rural Development** implements the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**, ensuring a minimum of 100 days of guaranteed wage employment annually for households whose **adult members** volunteer for **unskilled manual work.**

  - ✓ Factors influencing **demand include** rainfall patterns, availability of alternative employment, and prevailing wage rates.
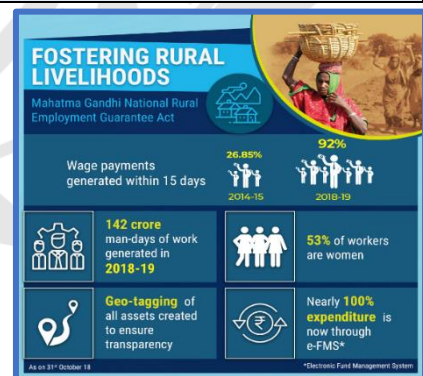
OBJECTIVES OF MGNREGA:

➢ **Primary Objective:**
- ✓ *Household Security:*
  - The primary **aim is to provide a minimum level of household security** in **rural areas**.
  - This involves **offering at least 100 days of guaranteed wage employment** annually to households whose adult members volunteer for **unskilled manual work**.

➢ **Additional Objectives:**
- ✓ *Creation of Productive Assets:*
  - MGNREGA seeks **to create productive assets of prescribed quality and durability** through wage employment, **contributing to economic development**.
- ✓ *Livelihood Resource Base:*
  - The Act **aims to strengthen the livelihood resource base of the rural poor, addressing poverty concerns.**
- ✓ *Social Inclusion:*
  - Proactive efforts are made to **ensure social inclusion of women**, **Scheduled Castes (SCs), and Scheduled Tribes (STs),** promoting equity.
- ✓ *Strengthening Panchayati Raj Institutions (PRIs):*
  - The Act **actively involves PRIs in formulation,** implementation, and monitoring, **enhancing local governance**.

RECENT CONCERN OVER MGNREGA:

➢ **Social Audit Progress:**
- ✓ *Limited Completion:* **Only six out of 34 States** and Union Territories have completed social audits in **over 50% of gram panchayats**.
- ✓ *Kerala's Exception:* Kerala stands out by **achieving 100% coverage in gram panchayats**.

➢ **Corruption Concerns:**
- ✓ *Primary Complaint*: **High corruption rates are a major grievance** against the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).
- ✓ *Anti-corruption Mechanism*: Social audit serves as an **inbuilt anti-corruption mechanism** within the MGNREGA.

➢ **Audit Standards and Funding:**
- ✓ *Comptroller and Auditor General (CAG) Standards*: Audit standards were issued by CAG on December 19, 2016.
- ✓ *Funding Entitlement:* Social Audit Units are entitled to **funds equivalent to 0.5% of the MGNREGA expenditure** incurred by the State in **the previous year.**

Audited panchayats

Kerala is the only State that has completed social audits of all activities done under MGNREGS in each of its Gram Sabhas

Map shows % of gram panchayats audited nationally for MGNREGS activities in FY24

Odisha

Kerala

0-20% 20-40%
40-60% 60-80%
80-100%

Source: Union Ministry of Rural Development (as of November 10, 2023)

➢ **Uniform Challenge Across States:**
- ✓ *Poll-bound States Lagging*: Madhya Pradesh, Mizoram, Chhattisgarh, and Rajasthan show **low audit completion rates among poll-bound states.**
- ✓ The social audit challenge **persists irrespective of the political party** in power across the country.
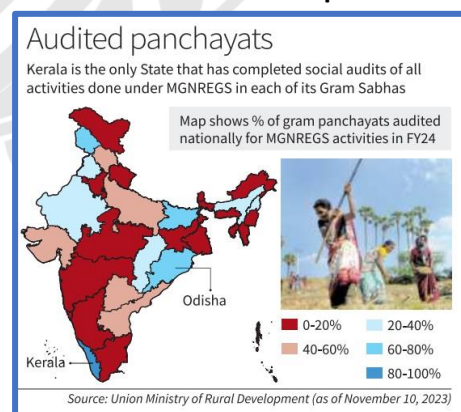
- ➢ **Centre's Reminders and State Concerns:**
    - ✓ *Fund-Withholding Threat:* The Centre has r**epeatedly reminded states that non-conduct of regular social audits** could lead to fund withholding under MGNREGS.
    - ✓ States attribute audit **delays to the Centre's failure to release funds for independent** social audit units promptly.
    - ✓ Complaints **about delayed salaries for village-level auditors** are recurrent.

GOVERNMENT REFORMS FOR MGNREGA PROGRAMME:

- ➢ **Expanding MGNREGA to Urban Areas:**
    - ✓ **One proposed reform for MGNREGA** is the extension of the **program to urban areas**.
    - ✓ This expansion **aims to combat urban unemployment** and **create job opportunities for individuals with low-skilled expertise.**
- ➢ **Universal Basic Income (UBI) as an Alternative:**
    - ✓ Considering **Universal Basic Income (UBI) as a substitute for MGNREGA**.
    - ✓ UBI is viewed as a **more efficient and less leaky option compared to existing welfare schemes** like MGNREGA.
- ➢ **Budget Estimates and Fund Allocation:**
    - ✓ **Overview of budget estimates**, revised estimates, and fund released in the **last three financial years and the current fiscal year 2023-24.**
    - ✓ Adequate funds are available, and availability is **not a constraint for program implementation.**
- ➢ **National Electronic Fund Management System (NeFMS):**
    - ✓ NeFMS is in place to **ensure timely payment of wages to MGNREGA workers**.
    - ✓ Efforts are made to pay wages on time, with **99.12% of pay orders generated within 15 days** in FY 2023-24.
- ➢ **Benefits of APBS:**
    - ✓ APBS helps genuine **beneficiaries receive timely payments**, curbing corruption by eliminating fake beneficiaries.
    - ✓ Review of APBS progress, and the **mixed route of wage payment (NACH and APBS)** extended until **December 31, 2023,** or until further orders.
- ➢ **Aadhaar Integration and Eligibility:**
    - ✓ Aadhaar seeding in **MIS is at 97.87% of total active workers**, making **84.78% eligible for APBS**.
    - ✓ The **Ministry emphasizes requesting Aadhaar details** from beneficiaries but **does not refuse work based on Aadhaar status.**

- ➢ **Convergence with Other Schemes:**
    - ✓ To enhance **the effectiveness and sustainability of MGNREGA projects**, there is a **recommendation for the convergence of MGNREGA** with other existing schemes.
    - ✓ Aligning MGNREGA initiatives with **broader scheme objectives** is seen as a **strategic approach**.

- ➢ **Innovative Measures for Implementation:**
  - ✓ Innovation in the **implementation of MGNREGA is highlighted through several measures**.
  - ✓ These **include leveraging digital platforms** for **transparency, monitoring, and grievance redressal**.
  - ✓ Additionally, suggestions involve **linking MGNREGA with the private sector to amplify job opportunities and engaging Panchayat Raj Institutions (PRIs)** in program execution.
- ➢ **Mandatory Social Audits:**
  - ✓ A **crucial reform proposal emphasizes the mandatory conduct of social audits every six months**. This step is envisioned to **enhance the implementation of MGNREGA** by ensuring regular scrutiny and transparency.
- ➢ **Precise Issuance of Job Cards:**
  - ✓ A critical aspect is the **precise issuance of job cards**.
  - ✓ The suggestion is to allocate **job cards strictly to individuals eligible** for MGNREGA employment, **excluding elected PRI representatives** and **MGNREGA officials from this entitlement**.

WAY FORWARD:

- ➢ **Enhanced Social Audits:**
  - ✓ Regular and **timely social audits need to be conducted in all States** to ensure **accountability and transparency.**
  - ✓ The Centre should release **funds promptly to avoid delays in the audit process**.
- ➢ **Strict Implementation of Auditing Standards:**
  - ✓ States should **strictly adhere to the auditing standards** laid down by the **Comptroller and Auditor General to maintain the integrity of the audit process.**
  - ✓ Ensuring that **every Social Audit Unit receives the allocated funds is crucial**.
- ➢ **Nationwide Adoption of Kerala's Model:**
  - ✓ **States can learn from Kerala's approach** and consider adopting **periodic Social Audit Public Hearings at the panchayat level**.
  - ✓ Encouraging **active public participation** can strengthen the auditing mechanism.
- ➢ **Empowerment of Gram Sabha:**
  - ✓ There should be a **concerted effort to empower the gram sabha** in monitoring the execution of works, as **mandated by Section 17 of the MGNREGA**.
  - ✓ Gram sabhas should play a **more active role in the decision-making process.**
- ➢ **Swift Action Against Corruption:**
  - ✓ The government should **take swift action against corruption** within the MGNREGA framework.
  - ✓ Implementing a **robust anti-corruption mechanism** is essential to address complaints effectively.
- ➢ **Timely Disbursement of Salaries:**
  - ✓ Address the **recurrent issue of delayed salaries for village-level auditors** to ensure a smooth audit process.
  - ✓ Timely disbursement is **crucial for maintaining the motivation and efficiency** of those involved in social audits.
- ➢ **Digital Integration for Transparency:**
  - ✓ Integrate **digital platforms for transparency, monitoring**, and grievance redressal to enhance efficiency and reduce corruption.

- ✓ Explore **technology-driven solutions to streamline the audit procedures**.
- ➢ **Collaboration with Private Sector:**
  - ✓ Collaborate with the **private sector to create additional job opportunities**, promoting a more diversified and sustainable employment landscape.
- ➢ **Concerted Efforts Across Political Lines:**
  - ✓ Regardless of the **political party in power**, there should be a **collective effort to address the uniform problem** of incomplete social audits.
  - ✓ **Bipartisan support is crucial for the success** of the MGNREGA program.
- ➢ **Empowering Panchayat Raj Institutions (PRIs):**
  - ✓ **Strengthen the involvement of PRIs** in the implementation of the program, fostering local governance and accountability.
  - ✓ **PRIs can act as crucial intermediaries** between the **government and the beneficiaries**.

NEED FOR CLIMATE-SMART AGRICULTURE IN INDIA

SOURCE: THE HINDU

WHY IN NEWS?

- ➢ *With climate change **becoming an urgent global concern**, the intersection of climate change and **agriculture is gaining prominence in the news.***
- ➢ *Escalating challenges related to **food security due to climate-induced factors** such as extreme weather events**, droughts, and changing agricultural landscapes have sparked increased attention**.*
- ➢ *The **concept of Climate-Smart Agriculture (CSA)** is making h**eadlines globally as a comprehensive approach to address the impacts of climate change** on agriculture **and ensure sustainable food production.***

RECENT SCENARIO OF GLOBAL CLIMATE CHANGE ON AGRICULTURE:

- ➢ **Global Food Demand:**
  - ✓ Growing population and dietary changes drive increased food demand.
  - ✓ About 8.9% (690 million) of the global population faces hunger.
- ➢ **Future Food Challenge:**
  - ✓ Need to produce 70% more food by 2050 for an estimated 9 billion people.
- ➢ **Climate Change and Environmental Impact:**
  - ✓ Meeting increased food demand worsened by climate change.
  - ✓ Agriculture generates 19–29% of total greenhouse gas emissions.
- ➢ **Climate Change's Effect on Indian Agriculture:**
  - ✓ Climate change causes a decline in major crop yields in India.
  - ✓ Predicted decline in major crop yields between 2010 and 2039, with potential losses up to 35% (rice), 20% (wheat), 50% (sorghum), 13% (barley), and 60% (maize).

WHAT IS CLIMATE SMART AGRICULTURE (CSA):

➢ **Definition of CSA:**
  - ✓ The term "Climate-Smart Agriculture" (CSA) refers to a s**uite of agricultural practices collectively designed to address food security challenge**s amid the impacts of climate change.
  - ✓ *Integration of Climate Change:*
  CSA is distinguished by its **systematic integration of climate change considerations** into the planning and execution of **sustainable agricultural practices**.
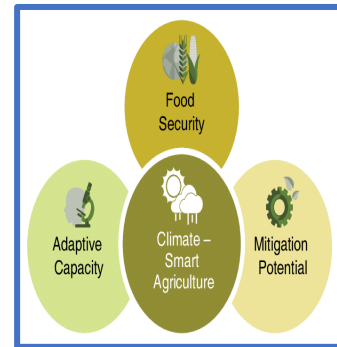
➢ **Objectives of CSA:**
  - ✓ *Increase Productivity and Incomes:*
    - Aims to sustainably enhance agricultural productivity and incomes.
  - ✓ *Adaptation to Climate Change:*
    - Focuses on building resilience and adapting to the impacts of climate change.
  - ✓ *Greenhouse Gas Emission Reduction:*
    - Seeks to reduce or remove greenhouse gas emissions, where feasible.
  - ✓ *Alignment with Global Goals:*
    - Supports internationally agreed goals such as the Sustainable Development Goals (SDGs) and the Paris Agreement.

CHARACTERISTICS OF CSA:

➢ *Holistic Approach:*
  - ✓ Unlike traditional agriculture, CSA takes a holistic approach, **acknowledging and incorporating climate change dynamics** into the development of sustainable agricultural systems.

➢ *Three Primary Pillars:*
  - ✓ CSA is **built on three interconnected pillars**: **increased productivity, enhanced resilience, and reduced emissions**.
  - ✓ However, **achieving an optimal balance among these pillars involves** inherent trade-offs.

➢ *Ecosystem Services Preservation:*
  - ✓ CSA recognizes and emphasizes the **preservation of ecosystem services.**
  - ✓ This includes **ensuring the sustainability of services provided by ecosystems**, such as **clean water, materials, food, and sunlight, to the agricultural sector.**

➢ **Adaptability and Flexibility**:
  - ✓ CSA is **not confined to specific practices**, technologies, or methodologies.
  - ✓ It is a flexible concept that can be adapted to various contexts, with **multiple entry points ranging from technological development to climate change** modeling and scenario planning.

➢ **Conceptual Framework:**
  - ✓ CSA goes beyond being a **set of rigid practices**; it serves as a **conceptual framework**.
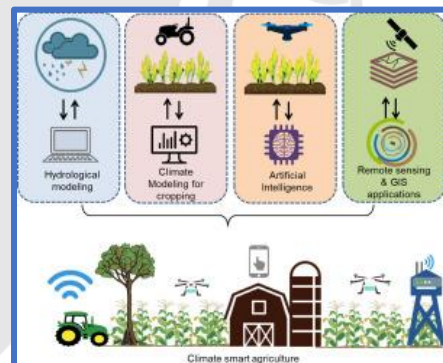
✓ It **encompasses diverse elements such as technology development**, climate change models, information technology, **insurance schemes, value chains, and the strengthening of institutional and political environments.**

NEED FOR CLIMATE-SMART AGRICULTURE:

➢ **Impact of Climate Change:**
  ✓ Climate change worsens degradation in **already-degraded environments**, negatively affecting food production and systems.

➢ **Indian Crop Yield Decline:**
  ✓ Anticipated **nine percent decline in major crop yields** across India **from 2010 to 2039** due to climate change effects.

➢ **Embracing Climate-Smart Agriculture (CSA):**
  ✓ Heightened necessity to adopt Climate-Smart Agriculture **to counteract the adverse effects of climate change on agricultural systems.**
  ✓ Urgent transformation required in **agriculture, covering crops, livestock, fisheries, and forestry**, to effectively respond to climate change.

➢ **Sustainable Productivity and Incomes**:
  ✓ Climate-smart agriculture **aligns with sustainable agriculture** and **rural development goals**, aiming to increase agricultural productivity and incomes sustainably.

➢ **Contribution to Global Goals:**
  ✓ Attaining Climate-Smart Agriculture ob**jectives contributes to achieving the Millennium Development Goals (MDGs)**, focusing on **reducing hunger and enhancing environmental management.**
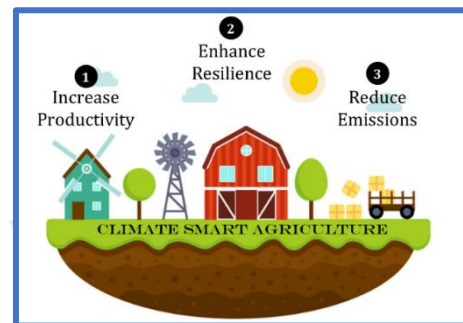
GOVERNMENT INITIATIVES:

Government Initiatives on CSA	Key Points
National Innovation on Climate Resilient Agriculture (NICRA)	✓ **Launched by ICAR in 2011** with an **outlay of Rs.350 crores**. ✓ Aims to enhance resilience in Indian agriculture against climatic variability through improved technologies.
National Mission on Sustainable Agriculture (NMSA)	✓ **Part of NAPCC**, includes interventions **like Soil Health Card, Paramparagat Krishi Vikas Yojana.** ✓ Focuses on **adopting sustainable development** pathways and environment-friendly technologies.
National Adaptation Fund for Climate Change (NAFCC)	✓ Established to **support climate change adaptation** in vulnerable states and Union Territories. ✓ Funds **concrete adaptation activities**, including those in the agriculture sector.
Climate-Smart Village (CSV)	✓ An **institutional approach to test and promote CSA** at the local level. ✓ Involves a portfolio of interventions covering the full spectrum of farm activities.

Pradhan Mantri Krishi Sinchayee Yojna (PMSKY)	✓ Launched to **prioritize water conservation** and management in agriculture. ✓ **Aims for 'Har Khet Ko Paani' and 'More crop per drop'** to improve water use efficiency.
Pradhan Mantri Fasal Bima Yojna (PMFBY)	✓ **Voluntary scheme since Kharif 2016 for States/UTs and farmers**. ✓ Cumulatively enrolled 2,938.7 lakh farmer applications, **insuring Rs. 10,49,342 crore till 2020-21.**
Soil Health Card Scheme	✓ **Launched in 2015 to provide detailed soil nutrient status to farmers**. ✓ Aims to **improve productivity through judicious use of inputs**; target to issue 10.48 crores of SHCs.
National Water Mission (NWM)	✓ Aims for **Integrated Water Resource Management** and water use **efficiency optimization by 20%.** ✓ Addresses water conservation and **minimizes wastage**, including in agriculture.
Paramparagat Krishi Vikas Yojna (PKVY)	✓ An **extended component of SHM under NMSA, launched in 2015.** ✓ Supports and promotes organic farming through a cluster approach, improving soil health.
Biotech-KISAN	✓ **Launched in 2017 for scientist-farmer partnerships** in agriculture innovation. ✓ **Establishes Biotech-KISAN Hubs across agro-climatic zones**, benefiting farmers and developing entrepreneurship.
Neem Coated Urea	✓ Urea fertilizer **coated with neem to act as a slow releaser of nitrogen**. ✓ **Reduces pest and disease infestation**, minimizing chemical usage in farming and increasing crop yield.
Sub-mission on Agro-forestry	✓ **Launched in 2016-17 to plant trees** on farm bunds. ✓ Aims for sustainability in agriculture and optimum productivity by mitigating the impact of climate change.
National Livestock Mission	✓ **Initiated in 2014-15, focuses on livestock development**. ✓ Aims for sustainability, bio-security, conservation of animal bio-diversity, and farmers' livelihood protection.

WAY FORWARD:

- ➢ **Community Engagement:**
  - ✓ The **rise in community-supported agriculture efforts** and the **positive impact of CSA** on local communities, farmers, and biodiversity are capturing media interest.
- ➢ **Economic and Environmental Implications:**
  - ✓ The **economic autonomy gained by farmers through CSA adoption**, along with its positive environmental implications.
- ➢ **Role in Biodiversity Conservation:**
  - ✓ CSA's **contribution to biodiversity conservation** and its **ecosystem-based approach** are presented as key elements in **addressing habitat degradation and maintaining ecological balance**.
- ➢ **Global Collaborations and Targets:**
  - ✓ Global initiatives like the **Global Mangrove Alliance** and specific targets for increasing mangrove **habitat globally by 2030** are gaining attention as collaborative **efforts to combat climate change**.
- ➢ **Innovation and Capacity-Building**:
  - ✓ The innovative aspects of CSA, including the **use of technology like precision farming, drone monitoring, and AI**, are being covered in the news, along with the **need for capacity-building programs.**

A GAGANYAAN FOR THE SEAS: INSIDE INDIA'S 'DEEP OCEAN MISSION'

SOURCE: THE HINDU

WHY IN NEWS?

➤ *'Samudrayaan' will be India's **crewed expedition to a depth of 6,000 m** in the central Indian Ocean.*

➤ *The **Deep Ocean Mission (DOM) is India's ambitious quest to explore and harness the depths of the ocean.** As part of this **initiative, India will, for the first time, embark on a journey to a depth of 6,000 metres** in the ocean using an indigenously developed submersible with a three-member crew.*

THE DEEP OCEAN MISSION (DOM):

➤ DOM is **India's initiative for deep-sea exploration** and resource utilization.

➤ It's primarily managed by the **Ministry of Earth Sciences (MoES).**

➤ Approved by the **Union Cabinet in 2021** at a **cost of approximately ₹4,077 crore over five years.**

➤ DOM consists of *six pillars:*
- ✓ Development of **technologies for deep-sea mining** and a crewed submersible.
- ✓ **Ocean climate change** advisory services.
- ✓ Innovations for **deep-sea biodiversity.**
- ✓ Deep-ocean **survey and exploration.**
- ✓ **Energy and freshwater** harnessing from the ocean.
- ✓ An advanced **Marine Station for Ocean Biology.**

➤ It aligns with the "**New India 2030**" objective of the **blue economy**.

➤ Part of the **Prime Minister's Science**, **Technology, and Innovation Advisory Council (PMSTIAC).**

MAJOR OBJECTIVES OF DEEP OCEAN MISSION:

➤ **Addressing Climate Change Issues:**
- ✓ To address **long-term changes** in the ocean due to climate change.

➤ **Technologies for Deep-Sea Mission:**
- ✓ Oceans, **covering 70% of the Earth**, are vital, but **95% of the Deep Ocean is unexplored**.
- ✓ Develop technologies for **deep-sea exploration of living (biodiversity)** and **non-living (minerals**) resources.

➤ **Strategic location:**
- ✓ Unique maritime position with a long coastline and numerous islands.
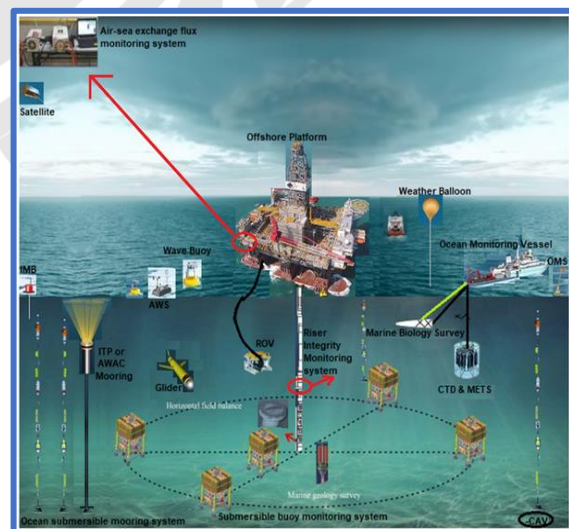
- ✓ India's Vision of New India by 2030 emphasizes the Blue Economy as a key growth dimension.
- ➢ **Underwater Vehicles and Robotics:**
  - ✓ Develop underwater vehicles and **underwater robotics for exploration and research**.
- ➢ **Ocean Climate Change Advisory Services:**
  - ✓ Provide advisory services for ocean climate change through **observations and modeling**.
- ➢ **Technological Innovations and Conservation:**
  - ✓ Identify **innovations and conservation methods** for the sustainable utilization of marine bioresources.
- ➢ **Offshore-Based Desalination:**
  - ✓ Develop offshore-based **desalination techniques** for providing **clean drinking water**.
- ➢ **Renewable Energy Generation:**
  - ✓ Develop techniques for **renewable energy generation from the ocean**.
  - ✓ Oceans **provide food, energy, minerals, medicines, influence climate**, and support life on Earth.
  - ✓ The **UN declared 2021-2030 as the Decade of Ocean Science for Sustainable Development**.
- ➢ **Desalination and Mineral Extraction:**
  - ✓ Explore avenues for **desalination of water and extracting minerals** from the ocean belt.
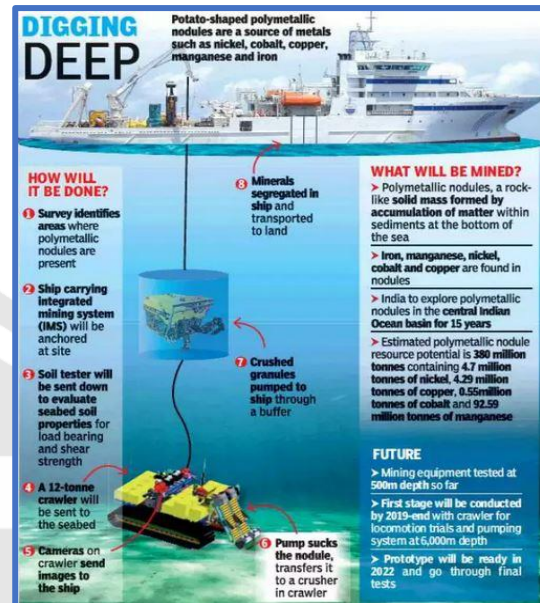
COMPONENTS OF DEEP OCEAN MISSION:

- ➢ **Development of Technologies for Deep Sea Mining and Manned Submersible:**
  - ✓ Develop a manned **submersible for deep-sea exploration** and mining Polymetallic Nodules from 6000 meters depth in the central Indian Ocean.
- ➢ **Development of Ocean Climate Change Advisory Services:**
  - ✓ Develop observations and models to understand and **project climate variables on seasonal to decadal time scales.**
- ➢ **Creating Awareness:**
  - ✓ Raise awareness among the public, students, academicians, and user communities about Earth system science and **the achievements of the Ministry of Earth Sciences**.

- ➢ **Technological Innovations for Deep-Sea Biodiversity:**
  - ✓ **Focus on bio-prospecting of deep-sea flora and fauna**, including microbes, and sustainable utilization of deep-sea bio-resources.
- ➢ **Deep Ocean Survey and Exploration:**
  - ✓ Explore potential sites of **multi-metal hydrothermal sulfides mineralization** along Indian Ocean mid-oceanic ridges.
- ➢ **Energy and Freshwater from the Ocean:**
  - ✓ Study and design **offshore Ocean Thermal Energy Conversion (OTEC)** powered desalination plants.
- ➢ **Advanced Marine Station for Ocean Biology:**
  - ✓ **Develop human capacity and enterprise** in ocean biology and engineering, translating research into industrial applications.
  - ✓ Support **marine biology, blue trade**, and **blue manufacturing**.

ADVANCEMENTS IN DEEP-SEA MINING AND MANNED SUBMERSIBLE DEVELOPMENT:

- ➢ **Collaboration and Assistance:**
  - ✓ **ISRO collaborates with the Ministry of Earth Sciences** for the implementation of the **Deep Ocean Mission (DOM).**
  - ✓ *VSSC's Involvement:* Vikram Sarabhai Space Centre (VSSC) of ISRO is engaged in developing a **2.1-meter-diameter titanium alloy human sphere** for the manned submersible.
  - ✓ The **National Institute of Ocean Technology (NIOT)** leads the development of indigenous technologies.

> ### *Matsya6000 Submersible:*
> - ♦ Matsya6000 **aims for a 6,000-meter depth** with a **three-member crew**.
> - ♦ Combines features of remotely operated and **autonomous vehicles**.
> - ♦ Operates **untethered with a 12-hour endurance**.
> - ♦ Equipped with **scientific tools for observations and sample collection**.
> - ♦ Constructed **from titanium alloy**, withstands up to 6,000 bar pressure.
> - ♦ Features a **short-sleeved life support sphere**.
> - ♦ India's ecosystem of underwater vehicles includes **deep-water ROVs, polar ROVs, AUVs, and more**.
> - ♦ Expands India's underwater vehicle ecosystem, joining major exploration nations like **the USA, Russia, China, France, and Japan in deep-ocean** exploration.

  - ✓ India's flagship deep ocean mission, **'Samudrayaan,'** aims to **reach 6,000 meters** in the central Indian Ocean.
  - ✓ A **deep-ocean submersible called 'Matsya6000'** with a crew of three members is developed.
  - ✓ **Matsya6000** is equipped with scientific tools, sensors, and systems for mining polymetallic nodules.
  - ✓ Trials have been conducted at 500 meters, with plans for **full 6,000-meter capability**.
- ➢ **Choice of 6,000-Meter Depth:**
  - ✓ The strategic depth choice is to sustainably **extract polymetallic nodules and sulphides.**
  - ✓ Polymetallic nodules, rich in valuable minerals, are found **around 5,000 meters deep**.
  - ✓ **Polymetallic sulphides** occur around 3,000 meters in the central Indian Ocean.

➢ **Challenges in Deep-Ocean Exploration:**
  - ✓ Deep-ocean exploration is more challenging than **space exploration due to high pressure.**
  - ✓ **Objects 1 meter underwater experience** as much pressure as carrying 10,000 kg.
  - ✓ **Landings on the soft, muddy ocean floor** are challenging.
  - ✓ Extracting materials demands considerable power.
  - ✓ Electronics and instruments need to **function under high-pressure conditions**.
  - ✓ Poor visibility, variations in temperature, salinity, and corrosion pose further challenges.

OTHER INITIATIVES OF GOVERNMENT OF INDIA

Initiative	Description
India-Norway Task Force on Blue Economy	✓ Inaugurated jointly by **India and Norway in 2020** to develop joint initiatives between the two countries.
Sagarmala Project	✓ A strategic **initiative for port-led development**, utilizing IT-enabled services for modernizing ports.
O-SMART	✓ An **umbrella scheme focusing** on the regulated **use of oceans** and marine resources for sustainable development.
Integrated Coastal Zone Management	✓ Focuses on **conserving coastal and marine resources** and improving livelihood opportunities for coastal communities.
National Fisheries Policy	✓ Promotes the **'Blue Growth Initiative'** by emphasizing the sustainable utilization of fisheries wealth from marine and aquatic resources.

WAY FORWARD

➢ The Deep Ocean Mission (DOM) is in the **news because it represents India's ambitious** and groundbreaking effort to explore and harness the potential of the deep ocean.

Its significance for several reasons:

➢ **Scientific Achievement:**
  - ✓ It **showcases India's prowess in developing advanced scientific** and technological capabilities for deep-sea exploration, a domain that remains relatively uncharted.

➢ **Resource Exploration:**
  - ✓ DOM is geared **towards extracting valuable resources from the ocean**, such as **polymetallic nodules, which can have economic and industrial implications.**

➢ **Environmental Impact:**
  - ✓ The mission is also expected **to contribute to research on ocean climate change** and the conservation of deep-sea biodiversity, which is crucial for understanding and preserving our marine ecosystems.

➢ **Global Recognition:**
  - ✓ By embarking on deep-sea exploration, India joins the **ranks of other nations like the USA, Russia, China, France, and Japan**, which have already achieved successful deep-ocean missions.

➢ **Strategic Significance:**
  ✓ The **decision to target a depth of 6,000 meters** holds strategic importance for India as **it aligns with the nation's commitment to sustainably extract valuable resources** from the ocean floor.

IMPACT OF AIR POLLUTION ON ECONOMIC GROWTH
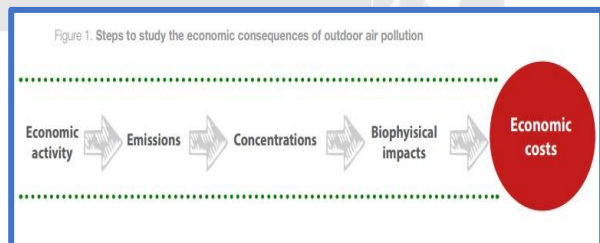
SOURCE: [INDIAN EXPRESS](#)

WHY IN NEWS?

➢ *There **is increasing awareness about the adverse effects** of **air pollution** on **public health** and the environment.*

➢ *This has led to a **growing emphasis** on understanding the **economic implications of air pollution**.*

IMPACT OF AIR POLLUTION ON ECONOMIC GROWTH

➢ **Overview:**
  ✓ This news report discusses the **substantial impact of air pollution on economic growth** and challenges the **conventional wisdom that dismisses it as an unavoidable by-product** of economic progress.

Figure 1. Steps to study the economic consequences of outdoor air pollution
Economic activity → Emissions → Concentrations → Biophysical impacts → **Economic costs**

➢ **Policy Research Highlights Economic Risk:**
  ✓ **India's Department of Economic Policy Research (DEPR)** warns that **climate change-related factors,** including extreme heat and humidity, could lead **to the loss of up to 4.5% of India's GDP by 2030** due to lost labor hours.

➢ **Research Reveals Four Key Areas of Impact:**
  ✓ *Productivity Costs Beyond Absenteeism:*
    • Workers may **overwork to compensate for lost time**, **leading to burnouts, attrition, and difficulty in attracting talent**.
    • Sectors relying on **mental output are particularly vulnerable.**
  ✓ **Decline in Consumption Economy:**
    • Poor air quality leads people to stay indoors, **impacting consumer-facing businesses**.
    • Improved pollution levels could have **resulted in significant revenue gains**.
  ✓ **Reduced Lifespan for Business Assets:**
    • Pollutants like **sulfur dioxide** affect electronic circuits and reduce asset productivity.
    • Agriculture faces **yield losses.**
  ✓ **Economic Toll from Premature Deaths:**
    • Air pollution is **responsible for a substantial portion of deaths in India**, translating to millions of lost workdays and increased health expenses.

➢ **Variations Across States and Sectors:**
  ✓ The study **reveals large inter-state variations** in economic losses, **ranging from 0.67% to 2.15%** of **state GDP.**
  ✓ Sectors heavily exposed to heat, such as **agriculture and construction**, are more vulnerable, but even indoor jobs are affected.

- ➢ **Impact on High GDP States:**
  - ✓ The study emphasizes that air pollution hampers economic activity in states **like Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, and Chhattisgarh**, which collectively contribute significantly to India's GDP.
- ➢ **Consequences for High-Productivity Sectors:**
  - ✓ High-productivity sectors like **investment banking and software development** are affected by reduced **worker productivity due to air pollution**.

EMISSIONS OF AIR POLLUTANTS:

According to the **OECD report**, Projected emissions of **outdoor air pollutants are expected to increase in the coming years due to economic growth**, particularly in **rapidly developing countries like India and China.**
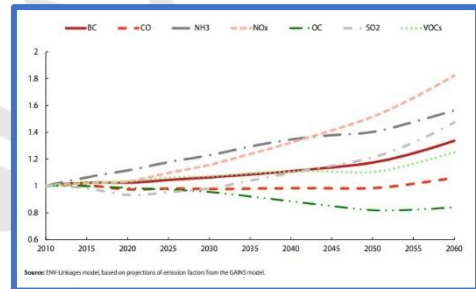
- ➢ **Nitrogen oxides (NOx) and ammonia (NH3) emissions surge** due to increased demand for **agriculture and energy.**
- ➢ Black carbon (BC), carbon monoxide (CO), and volatile organic compounds (VOCs) emissions rise.
- ➢ Sulphur dioxide (SO2) emissions decline **initially but rebound after 2030.**
- ➢ Black carbon **(BC)** and organic carbon **(OC) emissions contribute to PM2.5.**
- ➢ **Ozone formation results** from chemical reactions involving **gases like NOx and VOCs.**

CONCENTRATION OF AIR POLLUTANTS AND HEALTH IMPACT:

- ➢ **Concentrations of PM2.5 and ozone** are projected to increase in most regions.
- ➢ High population-weighted PM2.5 concentrations are rapidly rising in **South and East Asia, notably in China and India.**
- ➢ PM2.5 concentrations are high in **North America, Europe, and Africa but rising more slowly**.
- ➢ Ozone concentrations exceed guidelines in various regions.
- ➢ Many areas, **particularly cities,** consistently have **air pollution above recommended levels.**
- ➢ Extremely hazardous levels for **human health are reached on several days each year.**

GOVERNMENT INITIATIVES TO COMBAT AIR POLLUTION:

Initiative	Description
Commission for Air Quality Management in NCR	✓ **Coordinates state efforts to control air pollution** and defines air quality parameters for the region.
Bharat Stage (BS) VI norms	✓ Government-**imposed emission control standards** to mitigate air pollution.
Dashboard for Monitoring Air Quality	✓ A **National Air Quality Monitoring Programme (NAMP)** dashboard, covering 344 cities/towns in 29 states and 6 UTs.
National Clean Air Programme	✓ **Launched in 2019,** it's a comprehensive pan-India scheme to **combat air pollution in 102 cities.**

National Air Quality Index (AQI)	✓ Focuses on health effects of **breathing polluted air within a few hours or days.**
National Ambient Air Quality Standards	✓ Set by the Central Pollution Control Board under the Air **(Prevention and Control of Pollution) Act, 1981**, to maintain ambient air quality.
Breathe	✓ A **15-point action plan by NITI Aayog** to combat air pollution.
Pradhan Mantri Ujjwala Yojana (PMUY)	✓ Provides **clean-cooking fuel to impoverished households to improve living standards.**

WAY FORWARD AND POLICIES TO REDUCE AIR POLLUTION:

➢ **Welfare Gains from Pollution Reduction:**
  ✓ Policies **aimed at reducing air pollution offer substantial welfare** benefits by preventing premature deaths and illnesses.
  ✓ Air pollution **varies by country in terms of pollutants and sources.**
  ✓ Policymaking should consider these variations.

➢ **Effective Pollution Reduction Policies:**
  ✓ Policies **to reduce air pollution include adopting end-of-pipe and cleaner technologies**, air quality standards, emission standards, fuel quality standards, and emission taxes.

➢ **Spatial Dimension of Air Pollution:**
  ✓ Air pollution is spatial, **with varying pollutant concentrations based on population density**.
  ✓ Local policies should **target high-population areas.**

➢ **Global and Local Impact of Air Pollution:**
  ✓ Air pollution, while often local, can **have global implications**.
  ✓ Pollutants can be **transported by winds, affecting regions other than where they were emitted**.
  ✓ International trade **links countries and consumption patterns** can impact emission levels globally.

➢ **Global Transformation of the Energy System:**
  ✓ Addressing air pollution requires a **global shift toward cleaner technologies**, especially in the energy sector.

➢ **Interactions with Other Policy Areas:**
  ✓ **Policies promoting energy efficiency contribute** to reduced emissions.
  ✓ Coordinated policies are **needed to balance various environmental objectives** and avoid trade-offs between them.

GIVING THE URBAN INDIAN A BETTER LIFE

SOURCE: THE HINDU

WHY IN NEWS?

➢ *Urban pollution and the need for sustainable urbanization* is in the news due to the increasing severity of air pollution in Indian cities and its *detrimental effects on public health*.

➢ The *urgent need to shift from traditional urban development strategies to more sustainable and ecologically friendly approaches*.

WHAT IS SUSTAINABLE URBANIZATION?

➢ **Urbanization Trends:**
  ✓ The ongoing shift from **rural to urban living with a gradual increase in urban population**.

➢ **Historical Perspective:**
  ✓ In 1901, only **11.4% of the Indian population resided in urban areas,** contrasting with the **estimated projection of 40% urban population by 2025** according to UNDESA.

GLOBAL URBANIZATION TRENDS

➢ **Current Urbanization:**
  ✓ The **world is experiencing rapid urbanization**, with **4.2 billion people, equivalent to 55% of** the global population, residing in urban areas.

➢ **Future Projections:**
  ✓ **UNFPA predicts that by 2030,** this **urban population will exceed 5 billion**, and **by 2050, 68%** of the world's inhabitants will be living in cities.

➢ **Economic Significance:**
  ✓ Cities serve as vital economic hubs, c**ontributing more than 80% to the global gross national product.**

➢ **Sustainable Urbanization:**
  ✓ Despite the urbanization trend, the present **urban development often falls short** in terms of sustainable city concepts, necessitating a focus on sustainability.

CHALLENGES IN INDIAN URBAN DEVELOPMENT:

➢ **Challenges:**
  ✓ Indian urban development has traditionally focused **on real estate, road expansion, and private vehicle usage, leading to pollution and traffic congestion**.
  ✓ Motorized transport alone **accounts for 60% of urban pollution**.
  ✓ Urban commons, green areas, and water bodies have shrunk while **"grey" infrastructure expanded.**
  ✓ **Automobile market growth exacerbates** urban pollution issues.
  ✓ Construction activities, which **contribute to 10% of air pollution in some cities**, lack effective monitoring.

➢ **Pollution Crisis:**
  ✓ Air pollution severely **impacts life expectancy and health**, causing problems like **burning eyes, throat irritation, respiratory issues, and cardiovascular diseases.**

✓ **39 out of the 50 most polluted cities globally are in India**, with an average Indian losing 5.3 years of life expectancy due to pollution, and **Delhi residents losing 11.9 years.**

✓ **Expansion of "grey" infrastructure**, increased vehicular emissions, and construction activities contribute to pollution in Indian cities.

✓ **Road dust, concrete batching, and industrial units** further worsen air quality.

SIGNIFICANCE OF SUSTAINABLE URBANIZATION:

➢ **Ensuring Access to Clean Water:**
   ✓ **Sustainable urbanization addresses water scarcity challenges**, vital for urban areas.

➢ **Promoting Affordable Housing:**
   ✓ **Equitable land management through sustainable planning** aids affordable housing initiatives.

➢ **Effective Waste Management:**
   ✓ Sustainable planning addresses the **need for better waste treatment in fast-growing cities.**

➢ **Enhanced Transportation:**
   ✓ Eco-friendly **public transport solutions are a key aspect of sustainable** urban planning.

➢ **Equitable Resource Allocation:**
   ✓ Sustainable planning promotes **fair distribution of resources and affordable services**.

➢ **Environmental Sustainability:**
   ✓ It contributes **to creating eco-friendly environments and disaster management**.

GOVERNMENT INITIATIVES FOR SUSTAINABLE URBANIZATION:

Initiative	Objective
Atal Mission for Urban Rejuvenation and Urban Transformation (AMRUT)	✓ To provide basic services and infrastructure in urban areas for a better quality of life.
Pradhan Mantri Awas Yojana-Urban (PMAY-U)	✓ To provide affordable housing for all urban residents by 2022.
Climate Smart Cities Assessment Framework 2.0	✓ To assess and promote climate-resilient and sustainable practices in cities.
TULIP-The Urban Learning Internship Program	✓ To provide opportunities for students to gain practical experience in urban planning and development.
Atmanirbhar Bharat Abhiyan (Self-Reliant India)	✓ To promote self-reliance and economic growth, which includes initiatives related to urban development.

WAY FORWARD

- ✓ Compact Urban Design
- ✓ **Green Building Practices**
- ✓ Waste Management and Recycling
- ✓ **Efficient Transportation**
- ✓ Smart Infrastructure
- ➢ **Organized Urban Planning:**
  - ✓ Effective Solutions
  - ✓ Green Infrastructure
  - ✓ Mixed-Use Spaces
  - ✓ Alternative Energy
  - ✓ Public-Private Partnerships
- ➢ **Urban Employment Guarantee:**
  - ✓ **Similar to MGNREGA**
  - ✓ **Indira Gandhi Scheme**
- ➢ **Green Transport:**
  - ✓ Rethinking Public Transport
  - ✓ **E-Buses**
  - ✓ Bus Corridors
  - ✓ Bus Rapid Transit
- ➢ **Formalization of Informal Economy:**
  - ✓ **Migrant Data**
  - ✓ **Unorganized Worker Index Card**
- ➢ **Democratization of Sustainable Development:**
  - ✓ **Shift to Sustainable Focus**
  - ✓ **Citizen Participation**
  - ✓ **Participative Budgeting**
  - ✓ Sustainability Impact Assessments

IMPORTANCE OF 'LOSS AND DAMAGE' FUNDS

SOURCE:THE HINDU

WHY IN NEWS?

*As the **climate crisis intensifies**, two key terms, **adaptation and 'loss and damage' (L&D), come into focus**. Adaptation involves proactive responses to climate change, where communities and countries make intentional choices to prepare for and address climate-related challenges.*

WHAT IS THE LOSS AND DAMAGE FUND?

➢ **Loss and Damage Fund Origins:**
  ✓ The call for **affluent nations to acknowledge their responsibility for historic pollution**, spanning over 30 years, has gained prominence.
  ✓ Historic pollution, **raising the global surface temperature by over 1 degree Celsius**, disproportionately impacts the poorest nations.

➢ **Establishment of L&D Fund:**
  ✓ At the **19th Conference of the Parties (COP 19)** to the **United Nations Framework Convention on Climate Change (UNFCCC) in 2013**, member countries formally **agreed to establish the Loss and Damage (L&D) fund.**
  ✓ This fund **aimed to provide financial and technical assistance to economically developing nations** facing L&D due to climate change.

➢ **Subsequent Developments:**
  ✓ Despite the establishment, **COP 25 saw the creation of the Santiago Network for L&D without committed funds.**
  ✓ COP 26 initiated the **Glasgow Dialogue on finance for L&D, spanning three years**.
  ✓ In **November 2022, at COP 27**, representatives **agreed to set up the L&D fund and a Transitional Committee (TC) to operationalize funding mechanisms.**

RECENT STAND-OFF:

➢ **Impasse at TC Meetings Causes:**
  ✓ TC4 concluded on **Oct 20, 2023,** without a **consensus on L&D fund operations**.
  ✓ **Key issues:** Hosting at **World Bank, CBDR principle, climate reparations**, and eligibility of developing nations.
  ✓ Deepened **divide between developed and developing nations**.

➢ **TC5 Meeting and Recommendations:**
  ✓ Impromptu TC5 in **Abu Dhabi concluded recently**.
  ✓ **Drafted recommendations forwarded to COP 28,** highlighting the contested nature of the L&D fund.

➢ **Developing Nations' Concessions:**
  ✓ TC5 saw concessions from developing nations:
    • Agreement to **host the fund at World Bank Financial Intermediary Fund** for a four-year interim period.
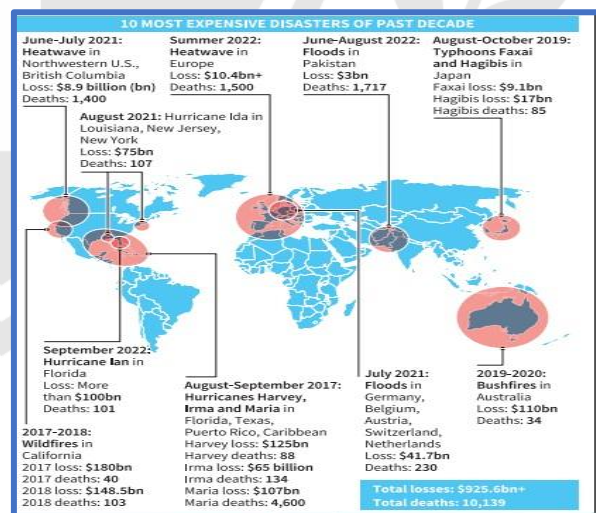
- Managed by a **new independent secretariat.**

➢ **Uncertainty:**
- ✓ World Bank's willingness **unconfirmed, and its high overhead fee noted**.
- ✓ Developed nations, especially the **U.S., remain non-committal as primary donors**, opting for voluntary support.
- ✓ Rejection of CBDR, **equity, and liability references dilutes the fund's spirit and intent**.

➢ **Fund Size Uncertainty:**
- ✓ **No indication of the fund's size** due to pressure from the U.K. and Australia.
- ✓ Current draft urges developed nations to provide funds without specifying an amount.

CHALLENGES AND CONSEQUENCES:

- ✓ Discontent among developing nations arises from perceived neglect of their concerns, raising doubts about effective collaboration in addressing climate change.
- ✓ The impasse has broader implications, including economic, environmental, and security consequences, threatening climate justice and global climate action.

➢ **Ongoing Global Negotiations:**
- ✓ During COP27, the **European Union pushed for contributions from China, Arab states,** and "large, developing countries," creating tensions around responsibility for funding.
- ✓ The impasse at TC meetings has implications for COP 28, with the **focus on the unwillingness of wealthy nations to fulfill commitments**, potentially derailing global climate action and putting more pressure on the COP 28 talks**.**

➢ **Ambiguity in Fund Setup:**
- ✓ The agreement **only commits to creating the fund without specifying its structure** and operational details.

➢ **Unclear Contribution Responsibilities:**
- ✓ Lack of clarity on **which countries will contribute to the fund**, leading to uncertainties in financial commitments.

➢ **Undefined Criteria for "Loss and Damage":**
- ✓ No consensus on what **qualifies as "loss and damage" caused by climate change**, including damage to infrastructure, property, and culturally significant assets.

➢ **Emphasis on Emission-Cutting vs. Adaptation:**
- ✓ Climate funding historically focuses on **emission reduction, with a limited portion allocated to projects for community adaptation to future impacts.**

INITIATIVES TO COMBAT LOSS & DAMAGE:

India's Initiatives to Combat Loss and Damage:

➢ **National Adaptation Fund for Climate Change (NAFCC):**
  ✓ **Established in 2015** to fund **climate change adaptation in vulnerable** Indian states and Union Territories.
➢ **National Clean Energy Fund:**
  ✓ Created **to promote clean energy, funded through a carbon tax on coal usage by industries**.
  ✓ Governed by an **Inter-Ministerial Group with the Finance Secretary as the Chairman**.
  ✓ Mandate **includes funding research and development in both fossil and non-fossil** fuel-based clean energy technology.
➢ **National Adaptation Fund:**
  ✓ Established in **2014 with a Rs. 100 crores corpus to bridge the gap between climate change adaptation needs and available funds.**
  ✓ Operated under the **Ministry of Environment, Forests, and Climate Change (MoEF&CC).**

UNEP's Initiatives to Combat Loss and Damage:

➢ **Role in Climate Knowledge and Science:**
  ✓ UNEP plays a **leading role in producing accurate science** and knowledge on climate change impacts.
➢ **Support for Environmental Data Processing:**
  ✓ UNEP supports **countries in collecting and processing environmental data**.
➢ **Landmark Studies:**
  ✓ Produces critical studies like the **Emissions Gap Report** and the **Adaptation Gap Report**, providing **essential information to global policymakers.**
➢ **Community and Ecosystem-based Adaptation:**
  ✓ Supports over **50 ecosystem-based adaptation projects** globally.
  ✓ **Aims to restore approximately 113,000 hectares**, benefiting around 2.5 million people.
➢ **Technical Assistance for Climate Information:**
  ✓ Provides **demand-driven technical assistance for climate information**, including early warning systems and capacity building in various countries, such as **Timor-Leste, Azerbaijan, El Salvador, Ghana, Maldives, Sudan, and Pacific Island developing states.**

WAY FORWARD:

➢ **Addressing Gaps in Current Climate Finance:**
  ✓ The Loss and Damage Fund should **specifically target gaps that existing institutions** like the Green Climate Fund fail to address.
➢ **Shortfall in Finance Flows:**
  ✓ Recognition that combined adaptation and mitigation **finance fell at least US$17 billion** short of the **pledged US$100 billion to developing countries in 2020**.
➢ **Role of the Transitional Committee:**
  ✓ The Transitional Committee **plays a crucial role in recommending the setup and operations** of the fund.

- ✓ It will **determine recipient countries and contributors**, demanding careful consideration.
- ➢ **Tackling Root Causes - Emission Reduction:**
  - ✓ **Effective mitigation of loss and damage requires addressing** the root cause of climate change – reducing emissions.
  - ✓ Drastic emission reduction is **paramount to prevent worsening impacts on countries**.
- ➢ **Urgent Need for Additional Resources:**
  - ✓ Highlighting the **urgency of securing more resources for mitigation**, adaptation, and loss and damage.
  - ✓ Emphasizing the **potential erosion of humanity's chances** to achieve Sustainable Development Goals without adequate resources.
- ➢ **Decision-Making on Funding Recipients:**
  - ✓ The fund's **effectiveness hinges on clear decisions regarding** which countries should receive funding and how contributions are allocated.
- ➢ **Sustaining Political Commitment:**
  - ✓ Stressing the **need for sustained political commitment to generate new finance**.
  - ✓ Ensuring funds are **strategically targeted to reduce emissions and enhance resilience**.
- ➢ **Learning from Experience:**
  - ✓ Emphasizing the importance of **learning and improving from recent experiences**, especially as the **Green Climate Fund becomes operational**.
- ➢ **Maintaining COP Credibility:**
  - ✓ Urging countries **not to lose momentum in their climate efforts.**
  - ✓ Highlighting the **significance of COPs as credible catalysts rather than occasions** for superficial victories.
- ➢ **Enhanced Finance Targeting:**
  - ✓ Advocating for **better-targeted finance to effectively address** both emissions reduction and vulnerability.

SEEDING CLOUDS TO CLEAN THE AIR

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

*Delhi government considers cloud seeding or **'artificial rain'** to combat air pollution.*
*Proposal emerges amidst ongoing concerns about severe **air quality in Delhi-NCR.***

WHAT IS CLOUD SEEDING?

- ➢ **Natural Cloud Formation:**
  - ✓ **Water vapor condenses around small particles**, forming cloud droplets.
  - ✓ These **droplets collide, grow heavier, and, when the cloud is saturated**, precipitation occurs.
- ➢ **Cloud Seeding Process:**
  - ✓ Clouds injected with salts **like silver iodide, potassium iodide, or sodium chloride.**
  - ✓ These salts act as "seeds," providing nuclei for additional cloud droplets to form.
 - ✓ Dispersed into clouds via aircraft or ground-based generators.

- ➢ **Microphysical Acceleration:**
  - ✓ Seeding **accelerates cloud microphysical processes.**
  - ✓ Requires sufficiently **large droplets that can reach the Earth's surface without evaporating**.
- ➢ **Role of Different Salts:**
  - ✓ Substances dispersed need cloud condensation **nuclei and ice nuclei.**
  - ✓ Cloud condensation nuclei aid in forming cloud droplets, while **ice nuclei assist in ice crystal formation.**
- ➢ **Ice Crystal Growth:**
  - ✓ **Ice crystals, growing faster than drops, become large and fall**, leading to precipitation.

CONDITIONS FOR CLOUD SEEDING:

- ➢ **Adequate Cloud Presence:**
  - ✓ Cloud seeding requires a **sufficient number of clouds with specific characteristics.**
  - ✓ The **depth of clouds is crucial, and an adequate number of cloud droplets** inside are necessary.
- ➢ **Cloud Cover Type:**
  - ✓ Cloud seeding is effective with certain types of clouds, and their characteristics impact the success of the process.
  - ✓ Cloud cover should have an **adequate number of cloud droplets for the seeding to be impactful**.
- ➢ **Absence of Clear Sky:**
  - ✓ Cloud seeding is **not feasible with a clear sky.**
  - ✓ Clear skies lack the necessary cloud cover and **droplet conditions required for successful seeding**.

- ➢ **Winter Cloud Formation:**
  - ✓ In winter over Delhi, cloud formation is **influenced by western disturbances originating from the Caspian or Mediterranean Sea.**
  - ✓ Clouds form when a **western disturbance disrupts the stable winter atmosphere.**
- ➢ **Stable Atmospheric Conditions:**
  - ✓ Cloud seeding is challenging in a **stable atmosphere with no disruptions.**
  - ✓ Western disturbances play a **role in creating the necessary instability for cloud formation.**
- ➢ **Height and Water Content Analysis:**
  - ✓ Evaluation of **cloud height and liquid water content is crucial**.
  - ✓ Assessing these factors helps determine the suitability of existing clouds for seeding.
- ➢ **Meteorological Radar Predictions:**
  - ✓ Advance prediction through **meteorological radars helps anticipate cloud formation**.
  - ✓ Radar data aids in understanding cloud characteristics and planning for seeding activities.
- ➢ **Specific Weather Disturbances:**
  - ✓ Western disturbances serve as a **crucial factor in creating the atmospheric conditions suitable for cloud seeding.**
  - ✓ Disturbances disrupt the stable **winter atmosphere, facilitating cloud formation.**
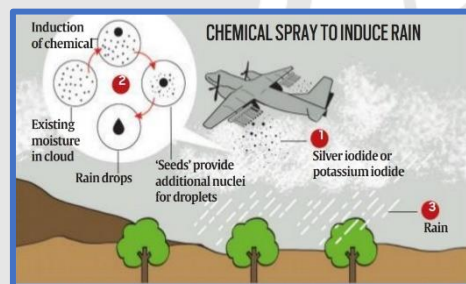
CLOUD SEEDING IN INDIA: CONDITIONS AND OUTCOMES

- ➢ **Monsoon Attempts:**
  - ✓ Cloud seeding has been **predominantly attempted during the monsoon in regions like Karnataka, Maharashtra, and Tamil Nadu.**
- ➢ **CAIPEEX-IV Experiment:**
  - ✓ The **Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX-IV)** in 2018 and 2019 focused on **drought-prone Solapur, Maharashtra.**
  - ✓ Results indicated a **relative enhancement of 18% in rainfall**, showcasing potential benefits**.**
- ➢ **IIT Kanpur Trials:**
  - ✓ IIT Kanpur conducted cloud seeding **trials in April and May of 2018 (pre-monsoon months**) on their campus.
  - ✓ **Five out of six trials resulted in rain**, demonstrating some success in inducing precipitation**.**
- ➢ **Delhi Proposal (2018):**
  - ✓ In 2018, cloud seeding was **proposed in Delhi but faced challenges**, including permissions and the absence of seeding **equipment on IIT Kanpur's aircraft.**
- ➢ **Complex Nature of Cloud Microphysics:**
  - ✓ Cloud microphysics is a **complex and uncertain field.**
  - ✓ **Seeding doesn't guarantee rainfall from all clouds**, and natural rainfall can occur without seeding.
- ➢ **Uncertainties and Tropical Conditions:**
  - ✓ Many **uncertainties exist in cloud seeding outcomes**, particularly **in tropical conditions.**
  - ✓ Evaporation of rain on its way to the **surface adds to the complexities of the process**.
- ➢ **Winter Cloud Systems:**
  - ✓ Cloud seeding in **winter poses different challenges as cloud systems vary.**
  - ✓ Further research **is needed to explore the feasibility and effectiveness of cloud seeding during the winter season.**

Cloud Seeding for Pollution Mitigation: Possibilities and Challenges

- ➢ **Historical Focus on Drought Conditions:**
  - ✓ Cloud seeding in India has historically been attempted to address drought-like **conditions rather than pollution**.
- ➢ **Lack of Pollution-Focused Studies:**
  - ✓ Cloud seeding in India **hasn't been explored for its impact on pollution levels.**
  - ✓ No dedicated investigations have been conducted in this aspect, and **conditions in India differ from those in China** where weather management options were explored.

- ➢ **Complexities of Cloud Processes:**
  - ✓ Clouds and their processes are **intricate and non-linear**, **posing challenges in predicting outcomes.**
  - ✓ Distinguishing between **naturally occurring rain and seeded rainfall** adds complexity to the evaluation.
- ➢ **First Attempt for Air Pollution:**
  - ✓ The current cloud seeding initiative in Delhi is the **first attempt in India explicitly targeting air pollution mitigation.**
- ➢ **Temporary Relief with Significant Rain:**
  - ✓ Success relies on **generating a substantial amount of rain to wash away pollutants**.
  - ✓ The impact is expected to **be temporary, breaking the flow of pollutants in the affected area.**
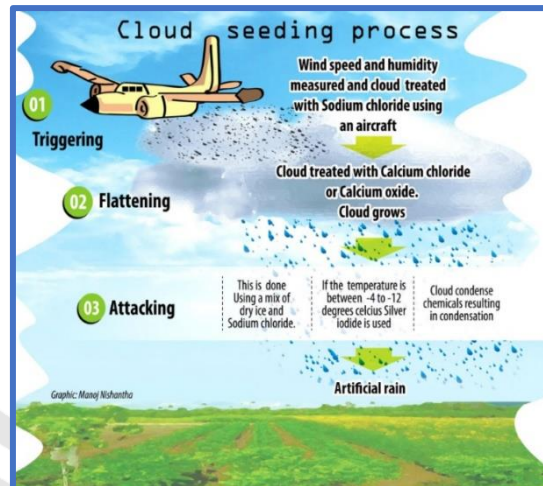
WAY FORWARD:

- ➢ **Need for Dedicated Studies:**
  - ✓ Given the **complexity and uniqueness of Indian conditions,** a dedicated study on the **effectiveness of cloud seeding for pollution reduction is essential**.
- ➢ **Gufran Beig's Perspective:**
  - ✓ Gufran Beig emphasizes that while the **method offers temporary relief**, its success hinges on **achieving significant rainfall to effectively cleanse** the atmosphere.
- ➢ **Breakthrough in Pollution Management:**
  - ✓ If successful, this i**nitiative could mark a breakthrough in using cloud seeding as a tool for managing air pollution**, providing a new perspective on its applications beyond drought conditions.

COMMUNITY RIGHTS AND FOREST CONSERVATION

SOURCE: THE HINDU

WHY IN NEWS?

*The **Forest Conservation Amendment Act of 2023 has garnered attention due to its far-reaching implications on forest governance, indigenous rights, and environmental sustainability**.*
This legislative shift, aimed at addressing climate change and deforestation, has sparked debates and concerns for several key reasons.

WHAT IS THE FOREST (CONSERVATION) AMENDMENT ACT, 2023?

➢ **Background:**
  ✓ Post-Independence, **significant forest land was declared reserved or protected**.
  ✓ Some forested areas were excluded, and **non-forest areas were included in 'forest' lands**.
  ✓ The **1996 Godavarman case suspended nationwide tree felling**, applying the FC Act to recorded or forest-like lands.

➢ **Key Provisions of the Forest (Conservation) Amendment ACT 2023:**
  ✓ *Scope Enhancement:*
    ▪ Introduction of a **Preamble broadens the Act's scope.**
    ▪ Renaming as Van (**Sanrakshan Evam Samvardhan) Adhiniyam, 1980** reflects its potential.
  ✓ *Applicability Clarity:*
    ▪ Act, **initially for notified forest land, expanded to revenue and recorded forest lands**.
    ▪ Amendments clarify application to recorded forest lands, private forest lands, and plantations.
  ✓ *Exemptions for Afforestation:*
    ▪ Proposed exemptions **to boost afforestation and plantation outside forests**.
    ▪ It excludes forests converted for **non-forest use after December 12, 1996, and land within 100 kilometers of the China and Pakistan border** for central government projects.
    ▪ Includes exemptions for **strategic projects, connectivity, security infrastructure**, and public utility projects.
    ▪ The amendment also **opens avenues for initiatives like ecotourism, drawing criticism from tribal communities and human rights activists**.
  ✓ **New Forestry Activities:**
    ▪ Addition of activities like **frontline forest staff infrastructure, ecotourism, zoo,** and safari.
    ▪ Surveys and investigations in forest areas not considered non-forestry activities.
  ✓ **Climate Change Focus:**
    ▪ Recognition of **areas in combating climate change efforts.**
    ▪ Aligns with international commitments **like Net Zero Emission by 2070.**

- ✓ **Empowering Local Communities:**
  - ▪ Encourages establishment of zoos, safaris, and ecotourism owned by the government.
  - ▪ **Raises awareness, protects wildlife, and creates livelihoods for local communities.**

KEY FEATURES OF THE FOREST (CONSERVATION) AMENDMENT ACT:

- ➢ **Land Under Act:**
  - ✓ Applies to **land declared as a forest under the Indian Forest Act, 1927,** or any other law.
  - ✓ Covers land notified as a **forest on or after October 25, 1980**, in government records.
  - ✓ **Excludes land changed from forest to non-forest use before December 12, 1996,** authorized by state/UT.

Understanding the forest bill

1 Contentious clauses
Covers land declared forest under the Indian Forest Act, 1927 or any other law; those not recorded under the laws but notified as forest in govt records as on or after Oct 25, 1980, except such land whose land use was changed from forest to non-forest purpose on or before Dec 12, 1996, also to be covered

2 No prior forest clearance required in cases where:
a) Forest land within 100km of IB, and used for construction of projects of national importance
b) For work on strip forests alongside a rail line
c) For activity in up to 5 ha in LWE areas

Potential impact of bill
● Northeast states worry that exempting nod for work along international borders would subject ecologically fragile forest areas to a change in land use
● Dilution of SC's 1996 Godavarman judgment that widened the scope of Forest Conservation Act
● Experts say bill violates Forest Rights Act – a claim dismissed by Centre

Centre's defence on exemptions
● Unclear government records
● Need to provide connectivity to roadside amenities, habitation, railway lines
● Plantation on non-forest land
● Security-related projects of national importance

- ➢ **Exemptions:**
  - ✓ **Exempts specific land types**, including areas **near borders for strategic projects, security-related infrastructure, and public utility projects.**
  - ✓ **Exempts forest land along rail lines, public roads, and areas for roadside amenities** up to 0.10 hectares.
  - ✓ Subject to guidelines, terms, and conditions specified by the central government.
- ➢ **Assignment/Leasing:**
  - ✓ Requires **prior central government approval for state governments to assign forest land** to any entity.
  - ✓ **Extended to all entities**, including those owned or controlled by the government.
  - ✓ Approval subject to terms and conditions **set by the central government**.
- ➢ **Permitted Activities:**
  - ✓ **Restricts de-reservation of forests and non-forest use**, with central government approval for lifting such restrictions.
  - ✓ **Specifies excluded activities for non-forest purposes,** including conservation, management, and development of forest and wildlife.
  - ✓ **New additions to excluded activities:** *zoos, safaris, ecotourism facilities, silvicultural operations*, and other purposes specified by the central government.
  - ✓ Central government may **set terms and conditions to exclude certain surveys** from non-forest purposes.
- ➢ **Power to Issue Directions:**
  - ✓ **Grants the central government the authority to issue directions for Act** implementation to recognized authorities/organizations at the central, state, or UT levels.
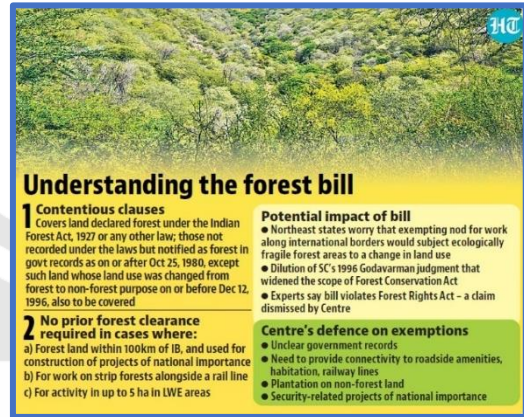
KEY ISSUES AND ANALYSIS OF THE FOREST (CONSERVATION) AMENDMENT ACT:

- ➢ **Exclusion of Specific Forest Lands:**
  - ✓ The **Act specifies certain forest lands covered by the Act,** excluding **those not notified before October 25, 1980, and those changed to non-forest use before December 12, 1996**.

- ✓ This may contradict the Supreme Court's intent to **apply the Act to all forests, as per the 1996 judgment.**
- ➤ **Impact on Forest Cover and Wildlife:**
  - ✓ Excluding land recorded as a forest in government records, **but not notified before 1980**, may have adverse effects on forest cover and wildlife.
  - ✓ **Exemptions for land changed to non-forest use before 1996** might allow non-forest activities without Act approval.
- ➤ **Exemptions for Border Areas:**
  - ✓ Exemptions for **security-related projects near borders may cover large portions of forest-rich states in the north-east.**
  - ✓ The potential impact on **biodiversity and forest cover raises concerns**.
- ➤ **Delay in Security Projects**
  - ✓ While **aiming to fast-track security projects, blanket exemptions** may not address delays at the state level.
  - ✓ **Delays in forest clearances for security projects** are often attributed to state-level processes and compliances.
- ➤ **Lack of Conditions for Exemptions:**
  - ✓ The Bill **lacks conditions seen in previous guidelines,** potentially leading to unregulated exemptions for certain projects.
  - ✓ Previous guidelines included conditions like **avoiding National Parks/Wildlife Sanctuaries and deeming diverted land as forest land.**
- ➤ **Balancing Conservation and Economic Activities:**
  - ✓ The Bill introduces new activities **without the need for central government approval, potentially impacting the balance between conservation and economic development.**
  - ✓ The blanket exemption raises questions **about the necessity for a case-by-case examination**.
- ➤ **Unclear Purpose of Zoos in Forests:**
  - ✓ Exempting zoos from **prior approval raises questions about the necessity of having zoos** within forests.
  - ✓ The Bill **lacks clarity on the purpose of establishing zoos in forest areas.**

JPC RECOMMENDATIONS AND PARLIAMENTARY APPROVAL:

- ➤ **JPC Recommendations:**
  - ✓ The Joint Parliamentary Committee (JPC) report, despite critical comments, was largely disregarded. With minimal opposition representation in the JPC, **the bill swiftly passed both houses without substantial debates.**
  - ✓ Lack of collaborative discussions with **southern states added to the concerns**.
  - ✓ Post-enactment, the **Odisha government's attempt to revoke "deemed forest" status faced public backlash.**
- ➤ **Erosion of Prior Consent Provision:**
  - ✓ Amendments in **2016 and 2017 mandated prior consent from tribal grama sabhas** for non-forest purposes.
  - ✓ The recent revision **removes this necessity, leaving room for state-level steering committees to engage grama sabhas**.
  - ✓ However, **preconceptions about Adivasi resistance to development hinder proactive state engagement.**
- ➤ **Compensatory Afforestation Concerns:**

- ✓ **Compensatory afforestation, outlined in the amendment**, aims to streamline projects but raises environmental concerns.
- ✓ The law mandates **afforestation for lost land but lacks specificity regarding tree types**, allowing discretion.
- ➢ **Impact on Forest Rights Act (FRA):**
  - ✓ Despite notable impacts in various regions, the **Forest Rights Act faces reduced enthusiasm for implementation by both central and state governments**.
  - ✓ **Governments opt to dilute forest areas rather than amend the FRA**, limiting Adivasi claims and ignoring the growing issue of human-animal conflicts.

WAY FORWARD:

- ➢ **Inclusive Consultations:**
  - ✓ **Facilitate inclusive consultations with indigenous communities**, environmental experts, and stakeholders to ensure diverse perspectives are considered.
- ➢ **Impact Assessment:**
  - ✓ Conduct a **comprehensive impact assessment to understand the potential consequences** on biodiversity, forest cover, and the livelihoods of local communities**.
- ➢ **Refinement of Exemptions:**
  - ✓ Review and **refine the exemptions provided, particularly in border areas**, considering the ecological significance of the regions involved.
- ➢ **Balancing Economic and Environmental Goals:**
  - ✓ **Establish a balance between economic development goals and environmental conservation**, ensuring that exemptions do not compromise long-term sustainability.
- ➢ **Monitoring and Review Mechanism:**
  - ✓ Implement a **robust monitoring and review mechanism to assess the actual impact of the amendments on forests,** wildlife, and local communities over time.
- ➢ **Transparent Decision-Making:**
  - ✓ **Ensure transparency in decision-making processes**, clarifying the criteria for exemptions and providing a clear rationale for each decision.
- ➢ **Adaptive Management Strategies:**
  - ✓ Develop **adaptive management strategies that allow for adjustments** based on evolving environmental, social, and economic scenarios**.

UTTARAKHAND TUNNEL COLLAPSE

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

*Recently, an **under-construction tunnel on the Yamunotri National Highway in Uttarakhand's Uttarkashi district collapsed at dawn**, trapping 40 workers inside. Manoj Garnayak, a former project director at L&T and an expert in underground construction, **sheds light on the potential causes of the collapse and preventive measures.***

KEY DETAILS ABOUT THE SILKYARA-DANDAL GAON TUNNEL:

- ➢ **Total Length:** The tunnel's **overall length measures 4.5 km.**
- ➢ **Purpose:** The tunnel is **designed to establish a connection between Silkyara and Dandal Gaon** in Uttarkashi district.

➢ **Project Significance:** Positioned as **one of the lengthiest tunnels within the Char Dham** all-weather road project, it is anticipated to significantly **shorten the travel distance from Uttarkashi to Yamunotri Dham by 26 kilometers.**

➢ **Construction Progress:** As of the latest update, **construction progress involves 2.3 km completed from the Silkyara side, complemented by 1.6 km from the Barkot end**. However, a segment spanning approximately 400 meters is **yet to undergo construction**.

CAUSES OF TUNNEL COLLAPSE:

➢ **Rock Instability:**
  ✓ A loose patch of rock, **possibly fractured or fragile**, could have contributed to the collapse.
  ✓ The weakness in the rock structure might not have been visible during construction.

➢ **Water Seepage:**
  ✓ Seepage of water through a loose patch may have eroded rock particles over time, creating a hidden void.

➢ **Rapid Infrastructure Development:**
  ✓ The rapid drive for infrastructure expansion, exemplified by projects like Char Dham Yatra in Uttarakhand, tends to disregard environmental and safety considerations.

➢ **Environmental Ignorance:**
  ✓ Projects frequently ignore the distinctive environmental conditions of the Himalayas, as illustrated by the damage in Joshimath linked to extensive construction.

➢ **Climate Change Impact:**
  ✓ The rise in occurrences of flash floods, such as the impact on the Chungthang Dam, is partially a result of climate change influencing the region.

➢ **Geological Considerations:**
  ✓ The Himalayas, geologically young, are still growing due to tectonic plate collision.
  ✓ Some areas may have fragile rock, but it's not universal.

METHODS OF TUNNEL EXCAVATION:

➢ **Drill and Blast Method (DBM):**
  ✓ Involves drilling holes into rock and using explosives for fragmentation.
  ✓ Economical but less safe compared to TBM.

➢ **Tunnel-Boring Machines (TBMs):**
  ✓ More expensive but safer method.
  ✓ TBMs bore through rock while supporting the tunnel behind with precast concrete segments.

➢ **Terrain Dependency:**
  ✓ TBMs suitable for up to 400 meters tall rock covers.
  ✓ Himalayan regions often use DBM due to tall mountains.

INITIATIVES FOR HIMALAYAN ECOSYSTEM RESTORATION:

➢ **National Mission on Sustaining Himalayan Ecosystem:**
  ✓ **Launched in 2010,** the National Mission on Sustaining Himalayan Ecosystem spans 11 states and 2 UTs, including Himachal Pradesh, Uttarakhand, Sikkim, all northeast states, West Bengal, J&K, and Ladakh.
  ✓ This **initiative is part of the National Action Plan on Climate Change (NAPCC).**

➢ **Mishra Committee Report 1976:**

- ✓ In 1976, the Mishra Committee recommended **imposing limitations on substantial construction activities, explosive operations, and tree cutting in the Himalayan region.**
- ➤ **SECURE Himalaya Project:**
  - ✓ A component of the **Global Wildlife Program**, the **SECURE Himalaya Project, funded by the Global Environment Facility (GEF)**, advocates for sustainable management of alpine pastures and forests in the elevated Himalayan ecosystems.

KEY ASPECTS OF BUILDING A STABLE TUNNEL:

- ➤ **Thorough Investigation:**
  - ✓ **Seismic waves and boreholes** used to analyze rock stability.
  - ✓ **Petrographic analysis** helps **assess mineral content** and strength.
- ➤ **Continuous Monitoring:**
  - ✓ Instruments like **stress and deformation meters** used to **monitor rock behavior**.
  - ✓ Regular checks **ensure stability after excavation.**
- ➤ **Support Structures:**
  - ✓ Various support types**, including shotcrete, rock bolts, steel ribs, and tunnel pipe umbrellas**.
  - ✓ Adequacy of supports **must be regularly tested.**
- ➤ **Geological Oversight:**
  - ✓ **Independent geologists examine the tunnel, predict rock stability duration**, and identify potential failures.
- ➤ **Pre-Construction Studies:**
  - ✓ Emphasizes **spending more time on studies before starting construction**.
  - ✓ Currently, **design and construction often occur simultaneously**.

WAY FORWARD: ENSURING SAFETY AND SUSTAINABILITY

- ➤ **Stringent Geological and Environmental Scrutiny:**
  - ✓ **Infrastructure projects, especially in ecologically sensitive areas** like the Himalayas, must undergo thorough environmental impact assessments.
  - ✓ This scrutiny **aims to preempt incidents similar to the structural damage witnessed in Joshimath**.
- ➤ **Comprehensive Risk Assessment:**
  - ✓ Prior to project approval, there **should be a meticulous risk analysis**, encompassing **the resilience of structures** and potential vulnerabilities.
  - ✓ The Uttarakhand tunnel collapse **serves as a poignant reminder of the imperative nature** of such risk assessments.
    - ➤ **Balancing Development with Safety Standards:**
  - ✓ While infrastructure development is **crucial for progress, it should not come at the expense of compromising safety standards.**
  - ✓ Recent incidents, **such as the damage to the Chungthang Dam**, underscore the necessity of maintaining a **delicate equilibrium between development and safety**.
    - ➤ **Addressing Climate Change Impacts:**
  - ✓ **Incorporating climate change considerations into project planning** is essential to anticipate and mitigate events like flash floods.
  - ✓ Proactive measures **against climate change impacts should be integral to the blueprint of every major project.**

THE OECD REPORT ON CLIMATE FINANCE

SOURCE: THE HINDU

WHY IN NEWS?

*OECD report reveals **developed countries' failure to meet the $100 billion/year** climate finance promise in 2021.Developed nations **mobilized $89.6 billion in 2021**, missing the 2020 deadline.*

ABOUT THE OECD REPORT ON CLIMATE FINANCE:

➢ **Release Date and Authority:**
  ✓ The report was **released on 16 November 2023 by the OECD Secretary-General**, signifying the organization's commitment **to transparency and accountability in reporting on climate finance.**

➢ **Objective and Scope:**
  ✓ The report **aims to present aggregate trends in annual climate finance** provided and mobilized by **developed countries** for developing nations **from 2013 to 2021**.
  ✓ It **offers insights into climate finance breakdowns** by theme, sector, **financial instrument, and region, focusing on the period from 2016 to 2021.**

➢ **Timeframe Consideration:**
  ✓ The analysis covers the **period from 2013 to 2021**, providing a **comprehensive understanding of long-term trends in climate finance dynamics.**
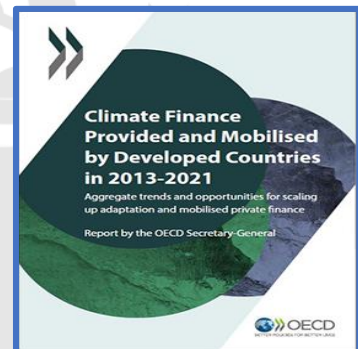
KEY FINDINGS OF THE REPORT:

➢ **Total Climate Finance Increase:**
  ✓ In 2021, **developed countries provided and mobilized USD 89.6 billion** for climate finance in developing nations, **reflecting a notable 7.6% increase** from the previous year.

➢ **Dominance of Public Climate Finance:**
  ✓ Public climate finance, encompassing **bilateral and multilateral sources, nearly doubled from USD 38 billion in 2013 to USD 73.1 billion in 2021.**
  ✓ This sector accounted for the **majority of the total USD 89.6 billion in 2021**, showcasing the **significant role of public funding in climate finance**.

Figure 1. Climate finance provided and mobilised in 2013-2021 (USD billion)

➢ **Adaptation Finance Decline:**
  ✓ Adaptation finance **experienced a decline of USD 4 billion (-14%) in 2021**, resulting in a **reduced share of total climate finance from 34% to 27%.**
  ✓ This **decrease highlights challenges in sustaining adaptation** efforts amidst changing financial priorities.

➢ **Rise in Cross-Cutting Finance:**
  ✓ **Cross-cutting finance**, addressing multiple climate-related aspects, witnessed a noteworthy **increase from USD 6 billion in 2020 to USD 11.2 billion in 2021.**
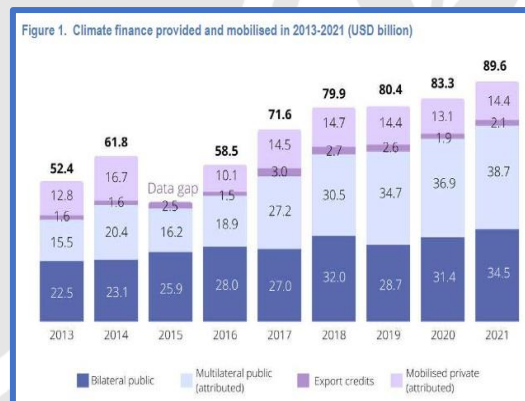
- ✓ The **surge in cross-cutting finance** underscores a broader approach to addressing diverse climate challenges.
  - ➤ **Mobilised Private Climate Finance:**
    - ✓ Comparable data for mobilized **private climate finance are available from 2016 onwards**.
    - ✓ In 2021, mobilized private **climate finance amounted to USD 14.4 billion, constituting 16% of the total climate finance.**
    - ✓ This figure highlights the **growing role of the private sector in contributing to climate action.**

SIGNIFICANCE OF THE OECD REPORT ON CLIMATE FINANCE:

- ➤ **Insight into Rich Countries' Approach:**
  - ✓ The report provides a **valuable insight into the perspectives and strategies** of wealthy nations, including the **U.S., U.K., Germany, France, Switzerland, and Canada, regarding climate finance**.

Figure 2. Climate theme of climate finance provided and mobilised in 2016-2021 (USD billion)

- ➤ **Preparation for COP28 Talks:**
  - ✓ The release of the report **precedes the COP28 climate talks scheduled in the United Arab Emirates (UAE).**
  - ✓ It offers a preview of **developed countries' positions on climate finance**, setting the stage for discussions at the upcoming summit.
- ➤ **Evaluation of COP26 Pledge:**
  - ✓ Against the **backdrop of the COP26 talks in Glasgow (2020),** where **developed nations pledged to double adaptation finance**, the report evaluates the progress made.
  - ✓ It addresses the **shortfall in meeting the $100 billion climate finance goal by 2020.**
- ➤ **Impact on Developing Countries:**
  - ✓ The **failure to mobilize sufficient climate finance** has repercussions for developing countries.
  - ✓ It **hampers their capacity to address climate mitigation**, such as **reducing emissions** through renewable energy, and **adaptation needs, including building climate-resilient agriculture**.
- ➤ **Trust and Credibility Concerns:**
  - ✓ **Inadequate climate finance raises concerns** about the commitment of **developed nations to tackle the climate crisis.**
  - ✓ The **lack of financial support may erode trust among poorer countries**, questioning the seriousness of the developed world in addressing global climate challenges.
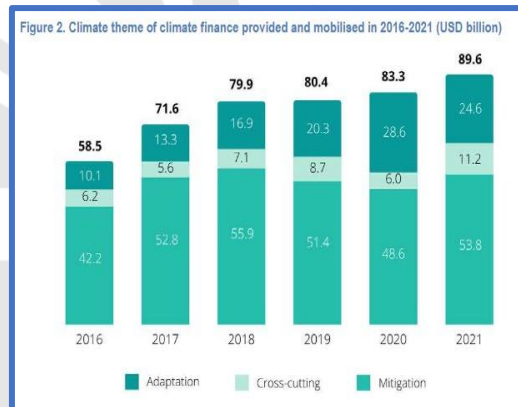
RECOMMENDATIONS:

Assessment of financial assistance needs for developing countries:

- ➤ **$100 Billion Goal Evaluation:**
  The report **critically evaluates the $100 billion goal set during COP15 talks**.
  It highlights that this **figure lacks a robust foundation**, emerging without a comprehensive assessment of the actual climate investment needs of developing countries.

- ➤ **Skepticism Regarding Goal Achievement:**
  - ✓ Despite preliminary claims in the **report suggesting the likely achievement of the $100 billion goal in 2022,** it emphasizes the **need for skepticism**.
  - ✓ The **data is neither finalized nor published**, urging caution in accepting the reported figures.
- ➤ **Origins of the $100 Billion Goal:**
  - ✓ The report underlines that the $**100 billion goal was not derived from a thorough assessment** but **emerged during COP15 talks without a concrete basis.**
  - ✓ This context raises questions about the **adequacy and credibility of the goal**.
- ➤ **Future Financial Requirements:**
  - ✓ Looking ahead, the **report indicates that developing countries may require substantial financial assistance.**
  - ✓ **By 2025, an estimated $1 trillion annually will be needed for climate investments**.
  - ✓ This amount is **projected to increase significantly to approximately $2.4 trillion per year** between **2026 and 2030**.
- ➤ **Unmet $100 Billion Goal:**
  - ✓ The report emphasizes that the $**100 billion goal remains unmet,** making it pale in comparison to the escalating financial **needs predicted for developing countries.**
  - ✓ The **unfulfilled goal raises concerns about the commitment of developed nations** to adequately support climate actions in the global south.

WAY FORWARD:

- ➤ **Impact on COP28 Discussions:**
  - ✓ As the report **provides insights into the climate finance stance of developed countries**, it becomes crucial **ahead of the COP28 climate talks in the UAE**.
  - ✓ Climate finance is **expected to be a key point of contention** during the discussions.
- ➤ **Private Sector Challenges:**
  - ✓ The report **sheds light on challenges in private sector scaling for climate investments.**
  - ✓ **Stagnation in private financing and the need for government intervention** highlight obstacles in achieving climate action goals.
- ➤ **Need for Clarity and Definitions:**
  - ✓ The report underscores the **lack of a commonly agreed definition of climate finance**, emphasizing the need for clarity.
  - ✓ The vague definitions currently in **use create loopholes that may lead to arbitrary classification** of funding.
- ➤ **Transparent Assessment:**
  - ✓ Conduct a transparent and comprehensive assessment of the **actual climate investment needs of developing countries.**
  - ✓ This should form the **basis for setting realistic and impactful financial goals.**
- ➤ **Reevaluation of $100 Billion Goal:**
  - ✓ Reevaluate the $100 billion goal, taking into account the e**volving financial requirements of developing nations.**
  - ✓ Consider adjusting the **target to align with the actual needs and challenges** faced by countries combating climate change.
- ➤ **Long-Term Financial Planning:**
  - ✓ Develop **long-term financial plans that go beyond the $100 billion goal**.

- ✓ Acknowledge that the financial needs of developing countries are **expected to rise significantly**, reaching **approximately $2.4 trillion annually by 2030**.
- ➤ **Focus on Adaptation Finance:**
  - ✓ Prioritize adaptation finance **to build resilience in vulnerable regions**.
  - ✓ Counter the decrease in adaptation finance by **allocating sufficient resources to address the urgent needs of countries** dealing with the impacts of climate change.

STUBBLE BURNING

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

*The Supreme Court's recent **intervention and discussions on stubble burning and agriculture in Punjab** have garnered attention questioning **why the Punjab government can't cover the expenses of crop residue management machines,** making them 100% free for marginal farmers.*

STUBBLE BURNING IN PUNJAB:

- ➤ **Challenge of Paddy Straw Management in Punjab:**
  - ✓ Farmers in Punjab grapple with **the task of handling nearly 20 million tonnes of paddy straw**, with an **alarming 15 million tonnes being openly burnt in fields**.
- ➤ **Rising Incidents of Stubble Burning in Punjab:**
  - ✓ The **Punjab Pollution Control Board (PPCB)** has **recorded 656 cases of farm fires** in the state by October 4, 2023, marking a **significant increase from the 415 incidents** reported during the **same period last year.**
- ➤ **Government Commitment to Reduce Stubble Burning:**
  - ✓ **Punjab's State Action Plan** underscores the government's dedication **to cutting paddy stubble burning incidents by half.**
- ➤ **Legal Framework to Combat Stubble Burning in Punjab:**
  - ✓ In Punjab, **regulations and actions against individuals burning crop** residue fall **under the Air (Prevention and Control of Pollution) Act, 1981.**

ABOUT STUBBLE BURNING:

- ➤ **Stubble Burning: Agricultural Practice and Timing:**
  - ✓ Stubble burning, a **prevalent method of clearing paddy crop residues for wheat sowing**, occurs from **late September to November**, aligning with the **conclusion of the Southwest Monsoon**.
- ➤ **Geographical Prevalence of Stubble Burning:**
  - ✓ **Widespread in October and November**, stubble burning is a **customary practice in North West India, notably in Punjab, Haryana, and Uttar Pradesh**, particularly in regions employing the combined harvesting technique that **leaves behind crop residue**.
- ➤ **Impact of Stubble Burning: Environmental Consequences:**

- ✓ Stubble burning **releases substantial amounts of hazardous pollutants** into the atmosphere, including **methane (CH4), Carbon Monoxide (CO), Volatile Organic Compounds (VOC),** and **carcinogenic polycyclic aromatic hydrocarbons**.
- ✓ These pollutants **contribute to the formation of smog**, adversely affecting human health.

➢ **Effects on Soil Fertility and Moisture:**
  - ✓ The practice of burning husk on the ground results in the **destruction of soil nutrients**, diminishing fertility.
  - ✓ Additionally, the **heat generated permeates the soil, leading to moisture loss** and a **decline in beneficial microbes.**

➢ **Alternatives to Stubble Burning: Sustainable Practices:**
  - ✓ *In-Situ Stubble Treatment:*
    - • **Utilizing zero-tiller machines** for crop residue management and employing bio-decomposers.
  - ✓ *Ex-Situ Stubble Treatment:*
    - • **Repurposing rice straw** as cattle fodder to eliminate the need for burning.
  - ✓ *Technological Solutions*:
    - • Embracing **advanced machinery like the Turbo Happy Seeder (THS),** capable of uprooting stubble while **simultaneously sowing seeds.**
    - • The **cleared stubble can be repurposed as mulch for the field**.

CONCERNS & RECOMMENDATIONS OVER STUBBLE BURNING:

➢ **Supreme Court's Inquiry on Crop Residue Management Costs:**
  - ✓ Court questions why Punjab government **cannot cover all expenses for crop residue** management machines.
  - ✓ Emphasis on making these **machines 100% free for marginal farmers**.
  - ✓ Call to **move beyond political debates on Minimum Support Price (MSP)** and promote alternative crops.

➢ **Concerns Over Subsidies and Implementation Challenges:**
  - ✓ **Subsidies provided for machine purchase**, but no cost consideration for **hiring from custom centers.**
  - ✓ Court suggests state **funding for manpower and fuel expenses**.
  - ✓ Emphasis on the **need for a comprehensive solution**.

CAPITAL'S NIGHTMARE
Stubble burning could contribute anywhere between 12% and 60% to Delhi's air pollution
One ton of stubble, on burning, releases
2 kg of SO2
3 kg of particulate matter
60 kg of CO
1,460 kg of CO2
199 kg of ash

Health Impact
- Winter crop-burning triggers heavy pollution in Delhi
- Can aggravate and trigger respiratory diseases
- Results in loss of soil nutrient and kill soil organisms

● Dots denote fire incidents on Nasa's mapper

➢ **Punjab's Response and Committee Consideration:**
  - ✓ Punjab Advocate General **acknowledges challenges and suggests committee consideration**.
  - ✓ Committee chaired by the cabinet secretary **urged to explore funding options**.
  - ✓ **Importance of learning from Haryana's financial incentives** to deter stubble burning.

➢ **Farmers' Perspective and Water Depletion Warning:**
  - ✓ Court expresses concern over the **disparity between official claims and on-ground reality.**
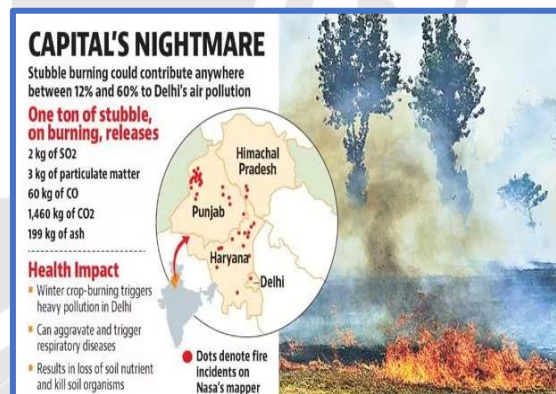
- ✓ Warning issued about **potential water table depletion due to continued paddy cultivation**.
- ✓ Call for **measures to sensitize farmers** about consequences.
- ➢ **MSP Complexities and Long-Term Solutions:**
  - ✓ **Acknowledgment of MSP complexities and encouragement** to explore alternatives.
  - ✓ Emphasis on **discouraging paddy cultivation and promoting alternative crops**.
  - ✓ **Stakeholders urged to implement committee** resolutions for pollution control.

GOVERNMENT INITIATIVES:
- ➢ **Crop Residue Management Guidelines:**
  - ✓ Aims to **address air pollution by subsidizing machinery** required for **in-situ crop residue management.**
  - ✓ Guidelines for **efficient ex-situ management of paddy straw**.
  - ✓ **Surplus paddy straw to be collected**, and **biomass collection depots to be built** in Punjab, Haryana, Uttar Pradesh, and Madhya Pradesh.
  - ✓ **Aims to generate employment, reduce air pollution**, and attract new investments in biomass, biofuel, and energy sectors.

Policy Interventions	Details
National Policy for Management of Crop Residues	✓ Aims to **control burning of crop residue by promoting in-situ** management (incorporation in soil, mulching) of crop residue.
Waste to Energy Programme	✓ Under the **National Bioenergy Programme**, supports Waste to Energy projects for generating **biogas, bioCNG, power, and syngas from urban, industrial, and agricultural residues.**
Promotion of Agricultural Mechanization	✓ Focus on **Punjab, Haryana, Uttar Pradesh, and NCT of Delhi.**

WAY FORWARD:
- ➢ **Implementation of Policies:**
  - ✓ Ensure **effective implementation of existing policies** and initiatives for crop residue management.
  - ✓ **Monitor and evaluate the outcomes to make necessary adjustments** for improved results.
- ➢ **Awareness and Education:**
  - ✓ Conduct **extensive awareness campaigns among farmers** about the adverse effects of stubble burning on **air quality, soil fertility, and human health**.
  - ✓ Educate farmers about **alternative practices and the benefits of sustainable crop** residue management.
- ➢ **Financial Support and Incentives:**
  - ✓ Provide **financial support and incentives to farmers** for adopting advanced machinery and technologies **for in-situ crop residue management**.
  - ✓ Explore innovative financing models to make the transition more **financially feasible for farmers**.
- ➢ **Research and Development:**
  - ✓ Invest in research and development to **identify and promote new technologies for efficient crop residue utilization.**

- ✓ Collaborate with agricultural research institutions **to develop and disseminate best practices**.
- ➢ **Strengthening Agricultural Mechanization:**
  - ✓ Continue promoting **agricultural mechanization**, especially in states with high stubble burning incidents.
  - ✓ Ensure the availability and **affordability of advanced machinery for farmers.**
- ➢ **Incentivizing Biomass Utilization:**
  - ✓ Provide incentives for **industries to utilize collected biomass** for biofuel and energy production.
  - ✓ Encourage **public-private partnerships to create a market for biomass** and its by-products.
  - ✓ These incorporate **agricultural microorganisms that enhance the Feed Conversion Ratio (FCR).**
  - ✓ An example includes the **application of the Pusa-bio-decomposer,** formulated by researchers at the **Indian Agricultural Research Institute**.
- ➢ **Continuous Monitoring and Adaptation:**
  - ✓ Implement a robust **monitoring system to track stubble burning incidents** and air quality in real-time.
  - ✓ Adapt policies based on **evolving challenges and feedback from stakeholders**.
- ➢ **Farmer Collaboration and Support Centers:**
  - ✓ Establish support centers to **assist farmers in adopting sustainable practices** and provide technical guidance.
  - ✓ **Facilitate farmer collaboration for collective action** in crop residue management.

MANGROVE FOREST IN WORLD'S LARGEST DELTA

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

Purbasha Rural Child Education Centre's unique approach to mangrove conservation draws attention.

Innovative combination of community-led efforts, education, and sustainable development.

*As Global awareness of the crucial role **mangroves play as blue carbon sinks. Chargheri's mangroves highlighted** as a significant contributor to **carbon sequestration.***

ABOUT MANGROVES:

> **Definition**
> - ✓ Mangroves are a **salt-tolerant plant community found** in **tropical and sub-tropical intertidal regions globally.**
> - They **thrive in areas with rainfall between 1,000 to 3,000 mm and temperatures ranging from 26-35°C.**
> **Adaptations:**
> - ✓ **Mangroves exhibit various adaptations in morphology**, **anatomy, and physiology** to survive in hostile environments.
> - ✓ Adaptations include **pneumatophores, buttress roots, stilt roots, vivipary, etc**.
> - ✓ These adaptations are **crucial for thriving in waterlogged soils** and **high salinity regimes**, often **affected by storms and tidal surges**.
> **Threats and Challenges:**
> - ✓ **Biotic pressures and natural calamities** pose significant challenges to mangrove ecosystems.
> - ✓ **Industrial expansion along coastlines** and the **discharge of domestic** and industrial sewage contribute to pollution in mangrove areas.
> - ✓ **Intensive conservation efforts** are required to protect the **sensitive mangrove ecosystem**.
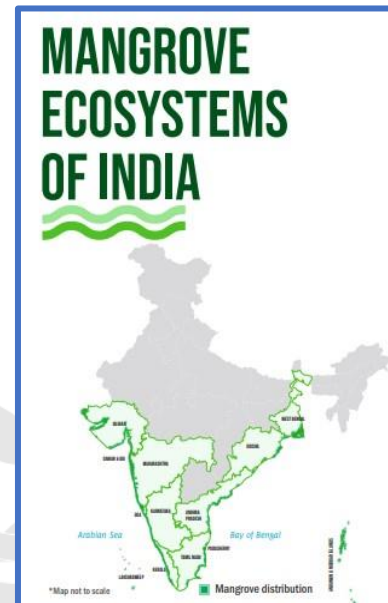
STATUS OF MANGROVE COVER:

> **Global Mangrove Status:**
> - ✓ **50% decline in world mangrove forests in the last 50 years** due to coastal developments and climate change.
> - ✓ Mangroves act as a **crucial defence during cyclones, absorbing CO_2** and **preventing coastal erosion.**
> - ✓ **Sundarbans, covering 60% in Bangladesh and the rest in West Bengal**, are **the world's largest mangrove tracts.**
> **Indian Mangrove Scenario:**
> - ✓ **Mangroves cover an area of 4,628 sq km in India**, representing nearly **3% of world's mangroves**, housing **43-45 mangrove species**.(*Source:* DTE)
> - ✓ Sundarbans **facing challenges due to rising sea levels** and changing salinity.
> - ✓ Climate change impacts the effectiveness of mangrove **planting along the coast**.
> **Forest Survey of India Assessments:**
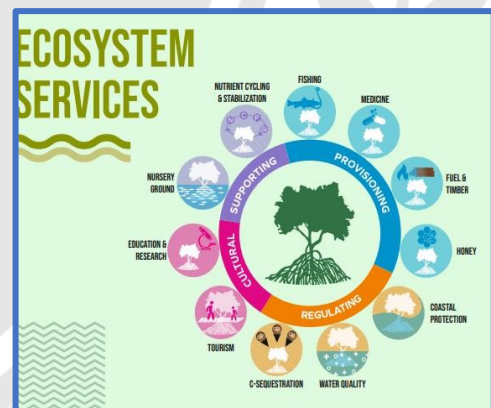
- ✓ The **Forest Survey of India (FSI)** has been assessing mangrove cover **using remote sensing data since 1987.**
- ✓ Assessments were **conducted at different scales: 1:1 million scale (1987)**, 1:250,000 scale (1989-1999), and **1:50,000 scale (2001 onwards).**
- ✓ The assessments focus on mangrove cover and **exclude tidal creeks** and **water bodies within mangrove forests.**

> *Global Forest Resource Assessment, 2020 (FRA 2020):*
>
> ☞ **113 countries have Mangrove forests** covering an estimated 14.79 million hectares.
>
> ☞ **largest Mangrove** area is reported in **Asia (5.55 million hectares)**, followed by **Africa (3.24 million hectares), North and Central America (2.57 million hectares)** and South America (2.13 million hectares).
>
> ☞ **More than 40 percent** of the total area of Mangroves was reported to be **in just four countries**: *Indonesia (19 percent of the total), Brazil (9 percent), Nigeria (7 percent) and Mexico (6 percent)*

- ➤ **Carbon Sequestration:**
  - ✓ **Mangroves are vital carbon sinks;** above-ground and **below-ground biomass calculations are essential.**
  - ✓ Plastic waste **accumulation threatens mangrove roots**, affecting their sustainability.

SIGNIFICANCE OF MANGROVE FORESTS:

- ➤ **Medicinal and Ecological Importance**
  - ✓ *Traditional Medicine:* **Mangroves (e.g., Acanthus, Avicennia)** used in traditional medicine for **diseases like leprosy, malaria.**
  - ✓ *Bioactive Compounds:* **Isolated compounds (e.g., benzoxazoline-2-one, stigmasterol)** show therapeutic potential.
- ➤ **Mangroves in Wetland Ecosystems:**
  - ✓ **Sea Level Rise Impact: Alters productivity and nutrient flows** in mangrove ecosystems.
  - ✓ Vegetative Production: **Affects organic sedimentation and litter fall rates**.
  - ✓ **Species Response:** Investigation needed based on **hydrology, productivity, nutrient fluxes**, sedimentation patterns, and oceanography.
- ➤ **Role of Mangroves in Wetland Ecosystems**
  - ✓ *Structural Framework:* **Mangroves as systems with distinct functions and stability**.
  - ✓ *Management Principles:* Proper utilization through **sound management principles**.
  - ✓ *Long-Term Viability:* Achievable by considering ecological, economic, and socio-cultural functions.
  - ✓ *Quantifying Role:* Requires **interdisciplinary cooperation and integration** of research findings**.**

- ➤ **Destruction and Need for Conservation**
 - ✓ *Global Decline:* Over **80% of global mangrove forests devastated** due to human activities.
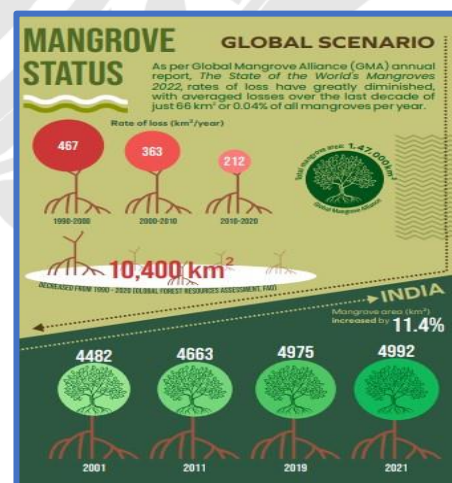
- ✓ *Consequences: Increased* flooding, coastal erosion, loss of biodiversity, livelihoods, and ecological imbalance.
- ✓ **Economic Importance**: **Vital for fisheries, providing fuel, building materials**, and other economically valuable resources.
- ✓ *Conservation Urgency:* Recognition of **ecological, economic, and social values essential for sustainable mangrove management.**

Recent Challenges in Mangrove Conservation

➢ **Global Recognition of Blue Carbon:**
- ✓ Despite global awareness of **mangroves as blue carbon sinks**, Chargheri's mangroves confront new challenges.
- ✓ Recognition of their **role in carbon sequestration faces ongoing scrutiny and adaptation.**

HOW MANGROVES TRAP CARBON

Source: climate.gov
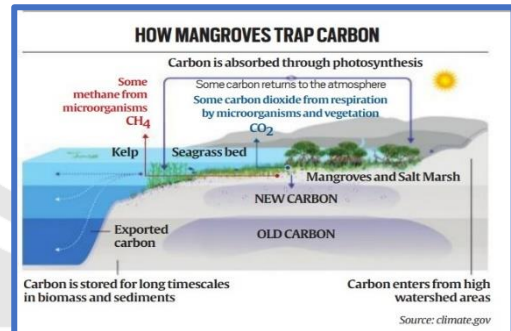
➢ **Scientific Contribution and Research Findings:**
- ✓ Recent challenges **impact research on Blue Carbon Stock in Chargheri**, affecting the scientific understanding of mangrove ecosystems.
- ✓ The role of mangroves in climate change mitigation **encounters contemporary challenges** and calls for continued exploration.

Concerns in Community Empowerment and Women's Role

➢ **Community Empowerment and Women's Role:**
- ✓ Ongoing efforts in **empowering local communities, particularly women**, in **climate resilience encounter emerging challenges.**
- ✓ The **Mangrove Army's unique initiative** involving mothers faces evolving concerns and requires continuous adaptation.

➢ **Sundarbans' Vulnerability to Climate Change:**
- ✓ Sundarbans, especially Chargheri, grapples with **recent back-to-back cyclones (e.g., Amphan, Yaas).**
- ✓ Urgency intensifies for **community-driven climate resilience** in vulnerable regions amid evolving climate challenges.

Emerging Issues with Tiger Widows' Participation:

➢ **Tiger Widows' Participation:**
- ✓ The participation of **tiger widows in mangrove afforestation events encounters recent challenges**.
- ✓ **Holistic conservation approach faces evolving socio-economic concerns** within the community.

➢ **Education as a Conservation Tool:**
- ✓ Integration of education into the **conservation model faces emerging challenges**, emphasizing the role of Purbasha Primary School.
- ✓ Educational efforts as a key tool for **instilling environmental responsibility** encounter evolving challenges and dynamics.

CONSERVATIONS OF MANGROVES:

➢ **Human Impact on Mangrove Ecosystems:**

- ✓ **Increasing human population in coastal areas** and escalating demands for **land, timber, fodder, and fuel-wood pose constant threats to Mangrove ecosystems.**
- ✓ Effective conservation strategies are crucial to **mitigate these pressures and ensure the sustainability of Mangrove habitats.**

> **State/UT-wise Mangrove cover In India (2021):**
>
> ☞ Mangrove cover in the country is **4,992 sq km, 0.15% of total area.**
> ☞ *Very Dense Mangrove:* 1,475 sq km (29.55%);
> *Moderately Dense:* 1,481 sq km (29.67%);
> **Open Mangroves:** 2,036 sq km (40.78%).
> ☞ **Net increase of 17 sq km compared to 2019; Odisha gained 8 sq km, Maharashtra gained 4 sq km.**
> ☞ Odisha's increase **due to natural growth** and plantation near rivers and estuaries.
> ☞ *Kendrapara, Jagatsinghpur, and Balasore in Odisha show significant growth.*
> ☞ Maharashtra's **increase is from natural growth.**
> ☞ **South 24 Parganas district in West Bengal also saw growth.**

➢ **Rich Biodiversity in Mangrove Ecosystems:**

- ✓ Mangroves, **classified under Champion & Seth Classification (1968)**, fall into **Type Group-4 Littoral & Swamp Forests, encompassing various subtypes.**
- ✓ Notable species within **Indian Mangrove ecosystems** include **Avicennia officinalis, Rhizophora mucronata, Sonneratia alba, Bruguiera cylindrica, and others.**

➢ **Government Action on Mangrove Conservation:**

- ✓ Acknowledging the importance of Mangroves, the Government of India established a **National Mangroves Committee in 1976.**
- ✓ The committee's role is **to advise the government on conservation and development matters related to Mangroves.**

➢ **Survey and Conservation Scheme:**

- ✓ Emphasizing the urgency, the committee recommended a survey **to assess the extent of Mangrove areas in the country.**
- ✓ Subsequently, the **government devised a conservation and protection scheme** for Mangroves, underscoring the need for proactive measures.

Initiative for conservation of Mangroves	Description
MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes)	✓ Aimed at **promoting mangrove conservation** and providing **tangible economic benefits** to shoreline communities.
Sustainable Aquaculture In Mangrove Ecosystem (SAIME)	✓ Focuses on **sustainable aquaculture practices** within mangrove ecosystems, **ensuring the balance between conservation and economic activities.**

➢ **Key Mangrove Species in India:**
  ✓ **Diverse Mangrove Species in India:**
  ✓ Important Mangrove species in India encompass **Avicennia officinalis, Rhizophora mucronata, Sonneratia alba, and others.**
  ✓ These species play a **vital role in maintaining the ecological balance** of Mangrove ecosystems.

➢ **Conservation Focus and Management Regimes**
  ✓ Essential Management for Conservation:
  ✓ **Appropriate management regimes** are essential for the **effective conservation of Mangroves**.
  ✓ **Balancing the ecological needs with human demands requires** strategic planning and sustainable practices.

CONSERVATION MEASURES

Despite increasing developmental pressures, mangroves have been successfully managed in India in the last two decades. Between 2001 to 2021, Indian mangrove cover witnessed an increase of 510 km². There has been a net increase of 17 km² in the mangrove cover of the country as compared to 2019 assessment. This has been possible not only because of legislative protection regulating anthropogenic activities but also as a result of mangrove afforestation leading to natural colonization.

Ministry of Environment, Forest and Climate Change (MoEF&CC) has introduced legislative protection for conservation of Indian mangroves which include the following:

- Coastal Regulation Zone (CRZ) **Notification** issued under **The Environment (Protection) Act, 1986** protects coastal ecosystems including mangroves as ecologically sensitive areas (ESA)
- **The Indian Forest Conservation Act, 1980**
- **The Wildlife (Protection) Act, 1972**

WAY FORWARD:

➢ **Collaborations and Future Plans:**
  ✓ Collaborations with **institutes for educational tours** and upcoming events, such **as mangrove planting with tiger widows, face evolving dynamics.**
  ✓ **Anticipation and interest in future plans** highlight the need for adaptability in the face of contemporary challenges.

➢ **Sustainable Development Focus:**
  ✓ The **emphasis on sustainable development intertwining conservation** and community well-being encounters evolving challenges.
  ✓ **Balancing ecological threats with long-term socio-economic sustainability** necessitates continuous adaptation.

➢ **Inspiration for Climate Action:**
  ✓ The initiative serves as an inspiration amid recent challenges in mangrove conservation.
  ✓ **A beacon of hope showcasing local communities'** resilience and effective climate change mitigation efforts amidst evolving circumstances.

➢ **Drone Surveillance and AI Monitoring:**
  ✓ Implement drone technology **with advanced cameras and AI algorithms** for effective mangrove health monitoring.

- ✓ **Enhance surveillance capabilities to detect and address illegal activities** like encroachment and logging promptly.
- ➢ **IUCN's Conservation Mandate:**
  - ✓ Since 1975, IUCN has been **dedicated to conserving critical coastal marine habitats**, including mangroves.
  - ✓ Over 30 resolutions and recommendations have been **adopted to promote the protection, conservation, and sustainable management of mangroves globally.**
- ➢ **Global Mangrove Alliance:**
  - ✓ A commitment to reverse the **loss of mangrove habitats worldwide**.
  - ✓ Aims to **increase the global area of mangrove habitat by 20%** over the **current extent by 2030**.
  - ✓ Collaborative efforts to secure commitments from governments and the private sector to halt and reverse mangrove loss.
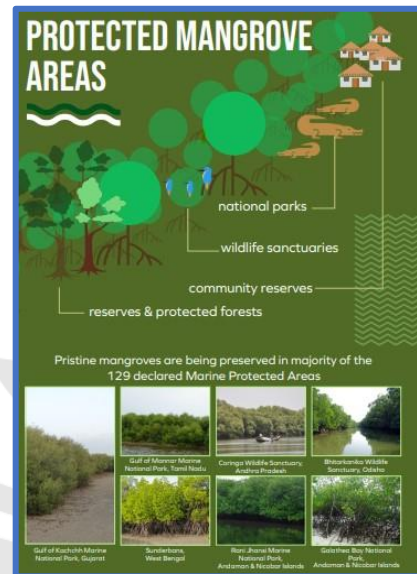
RAT-HOLE MINING

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

*Ongoing **efforts to release trapped workers in the Silkyara-Barkot** tunnel faced a significant setback. Rat-hole mining considered for the remaining meters due to hindrance caused by large metal pieces. Skilled miners from Jhansi arrived to manually clear debris using hand-held tools. **Rat-hole mining, known for safety hazards and environmental impact, draws attention.***

WHAT IS RAT HOLE MINING:

- ➢ **Definition:**
  - ✓ Rat hole mining is a **method of extracting coal from narrow, horizontal seams**, prevalent in Meghalaya.
  - ✓ The term "**rat hole**" refers to the narrow pits **dug into the ground**, typically just large enough for **one person to descend and extract coal**.
  - ✓ Once the pits are dug, **miners descend using ropes or bamboo ladders** to reach the coal seams.
  - ✓ The **coal is then manually extracted using primitive tools** such as pickaxes, shovels, and baskets.
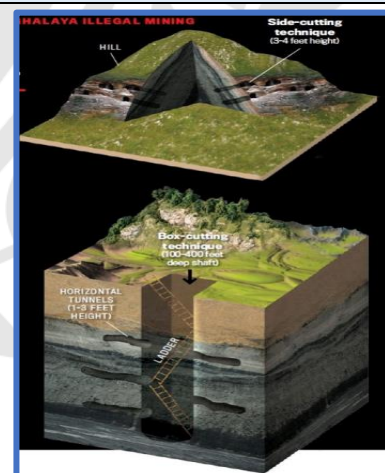
Two Types of rat hole mining:

- ➢ **Side-Cutting Procedure:**
  - ✓ In this approach, **narrow tunnels are meticulously carved** into the slopes of hills.
  - ✓ Workers, **often including children, venture inside these tunnels** in search of the thin **coal seam**, which measures **less than 2 meters in** most cases across the hills.

- ✓ This method **requires precision and poses considerable risks** to the miners involved.
  - ➢ **Box-Cutting Technique:**
    - ✓ The box-cutting technique involves **the creation of a rectangular opening**, ranging **from 10 to 100 square meters.**
    - ✓ Subsequently, a **vertical pit is excavated**, plunging to **depths of 100 to 400 feet**.
    - ✓ Once the coal seam is located, **workers proceed to dig rat-hole-sized tunnels horizontally** through which coal extraction is carried out.
    - ✓ The intricacies of this method **underscore the challenges and dangers associated with rat-hole mining.**

ENVIRONMENTAL IMPACT OF RAT-HOLE MINING: (MEGHALAYA STUDY)

- ➢ **Water Contamination:**
  - ✓ **Rivers and streams in mining areas have become unfit for drinking and irrigation**, containing toxic substances harmful to plants and animals.
  - ✓ **Acidic water discharges from mines and leaching of heavy metals**, as identified in a study by North-Eastern Hill University, have contributed to the degradation of water quality.
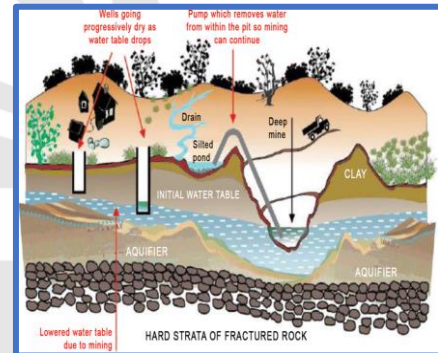
- ➢ **Acidification of River:**
  - ✓ **Rivers has turned acidic due to the discharge of acidic water** from mining activities, posing a **threat to aquatic life and the overall ecosystem.**
  - ✓ **Heavy metals leached** during mining further **exacerbate the pollution levels**.
- ➢ **Sediment Runoff and Heavy Metal Presence:**
  - ✓ **Layers of rock above coal seams**, removed during mining, **contain iron, manganese, and aluminum.**
  - ✓ These elements **dissolve into acid runoff** or are washed into streams as **sediment, further contaminating water sources.**

BAN ON RAT-HOLE MINING AND SUBSEQUENT DEVELOPMENTS:

- ➢ **Ban and Reasons:**
  - ✓ **In 2014, the National Green Tribunal (NGT) imposed a ban on rat-hole mining in Meghalaya**, citing **its unscientific nature and the inherent risks** it posed to workers' safety.
  - ✓ The **ban was reaffirmed in 2015.**
  - ✓ One of the **key concerns was the environmental impact, including water acidity in the Kopili river, as highlighted in a petition by Assam's All Dimasa Students'** Union and the Dima Hasao District Committee.
- ➢ **Environmental and Safety Concerns:**
  - ✓ The NGT observed **ecological damage caused by the piling of coal along roadsides**, leading to air, water, and soil pollution.
  - ✓ Additionally, the tribunal noted **instances of fatalities due to flooding** during the rainy season in mining areas, highlighting the risks faced by workers.
- ➢ **Illegal Mining and Committee Findings:**
  - ✓ A single-member committee led by **Justice Brojendra Katakey** was appointed by the High Court to **investigate illegal rat-hole coal mining**.

- ✓ The **committee's 18th report** revealed ongoing **illegal mining, transportation, and the establishment of weighbridges**.
- ✓ Freshly mined coals were found dumped illegally, and **18 Lakh Metric Tonnes of coal** were reported **missing from government records**.
  - ➢ **Legal Responses:**
    - ✓ The Meghalaya High Court accepted the committee's report.
    - ✓ **Despite attempts to curb illegal mining** through court directions and the deployment of the **Central Industrial Security Force (CISF),** the issue **persists, causing environmental damage, including acidic water in hills with high concentrations of harmful substances**.

IMPACT OF BAN ON LOCAL PEOPLE:

- ➢ **Employment Disruption:**
  - ✓ The ban on rat-hole mining has **disrupted jobs for local residents**, who were previously **employed in the industry.**
  - ✓ This has **led to calls for rehabilitation or alternative employment opportunities** for affected communities.
- ➢ **Political and Legal Challenges:**
  - ✓ The **ban prompted legal challenges**, with the new state government challenging it in the Supreme Court.
  - ✓ **Demands for the regularization of rat-hole mining** highlight the complexity of balancing economic interests and environmental concerns.
- ➢ **Tragedies and Safety Concerns:**
  - ✓ The rat-hole mining ban **gained attention when 13 laborers were trapped in an illegal mine**, underscoring the safety hazards associated with unregulated practices.
  - ✓ **Efforts to recover the miners' bodies were unsuccessful**, emphasizing the urgent need for improved safety measures.
- ➢ **Financial Consequences and Exploitation Nexus:**
  - ✓ The National Green Tribunal (NGT) imposed a **significant fine on the Meghalaya government** for failing **to curb illegal coal mining.**
  - ✓ **The financial burden falls on taxpayers**, revealing a concerning nexus between those in power, mining control, and central institutions, adversely affecting the common people.

WAY FORWARD: INSIGHTS FROM THE KATAKEY COMMITTEE REPORT:

- ➢ **Illegal Mining and Transportation:**
  - ✓ The **18th interim report by Justice (retired) BP Katakey** reveals a persistent **issue of illegal coal mining** and **its transportation in Meghalaya**, contradicting the state government's claims.
  - ✓ The report **emphasizes the urgent need for intervention** to address this unabated activity.
- ➢ **Identification of Illegal Activities:**
  - ✓ The presence of an **inaccessible weighbridge near active coal mines** further **indicates the need for a thorough investigation** into these activities.
- ➢ **Environmental Concerns and Acidic Water:**
  - ✓ The report underscores environmental **damage caused by illegal mining**, including the release of acidic water from coal mines into rivers.
  - ✓ The **need for a Mine Closure Plan is emphasized**, especially in **areas where open coal mine pits without protection pose risks** to human and livestock lives.

➢ **Recommendations and Enforcement:**
  ✓ The urgency of **closing all unprotected coal mines** is emphasized, with the **suggestion to seek assistance from CMPDI if necessary.**
➢ **Immediate Action and Accountability:**
  ✓ The **report highlights the need for prompt action** in closing illegal mines to **prevent acid mine drainage and pollution.**
  ✓ **Enquiries into illegal activities and the construction of infrastructure** must be conducted swiftly, with accountability measures in place.
  ✓ The recommendations underscore **the importance of enforcing closure measures, conducting thorough investigations, and prioritizing environmental preservation** to ensure sustainable and responsible mining practices in the region**.**

ROAD ACCIDENT IN INDIA

SOURCE: THE HINDU

WHY IN NEWS?

➢ *The **continuous expansion of the country's road network**, including the **development of expressways**, has led to increased connectivity, but it has **also brought more vehicles onto the roads**.*

➢ *"In 2022, with the increase in the number of vehicles, the likelihood of accidents naturally rose. The Ministry reported 53 accidents and 19 deaths per hour in road crashes."*

ALARMING ROAD ACCIDENT STATISTICS

➢ **Statistics:**

   ✓ According to a report from the Ministry of Road Transport and Highways, India experienced an alarming average of **53 accidents and 19 deaths every hour in the past year, totaling 1,264** accidents and 42 deaths daily.

   ✓ In 2022, the country witnessed a total of 461,312 road accidents, resulting in 168,491 lives lost.

Table 1.2: Major Parameters of Road Accidents- 2022 vis-à-vis 2021

Parameter	2021	2022	% Change
Number of Accidents	4,12,432	4,61,312	11.9
Number of Persons killed	1,53,972	1,68,491	9.4
Number of Injury	3,84,448	4,43,366	15.3
Accident Severity (Persons killed per 100 accidents)	37.3	36.5	2.14

   ✓ These **figures represent an 11.9% increase in road accidents and a 9.4% increase** in deaths compared to previous years.

➢ **Worsening Severity of Crashes:**

   ✓ The severity of road accidents, **measured by the number of people killed per 100 accidents**, has been on the **rise over the past decade, increasing from 28.2 in 2012 to 36.5 in 2022.**

   ✓ Even during the years 2020 and 2021 when road crashes and deaths **decreased due to the COVID-19 lockdown**, the severity rate **spiked above 37**.

   ✓ This trend underscores the **urgent need for improved trauma care and traffic calming** measures aimed at reducing crash impact parameters, as stated in the government report.

➢ **High Incidence on National and State Highways:**

   ✓ Interestingly, national and state highways, constituting just **4.9% of the total road network**, accounted for a **disproportionately high 56.1% of all road accidents** and **nearly 61% of road crash** fatalities in the country.

CAUSES OF ROAD ACCIDENTS:

➢ **Multifaceted Causes:** Road accidents result from an **interplay of various factors**, broadly categorized into **human error, road conditions, and vehicular conditions**.

Human Error - Traffic Rule Violations

➢ **Over Speeding:** Over speeding is a major cause, **accounting for 72.3% of total road accidents**, 71.2% of deaths, and 72.8% of injuries in 2022.
  ✓ The number of accidents, fatalities, and injuries due to over speeding **increased significantly.**
➢ **Driving on the Wrong Side:**
  ✓ This was the **second-highest cause of road accidents in 2022,** accounting for 4.9%.
➢ **Violation Not Solely Human Error:**
  ✓ While **traffic rule violations** like over speeding and driving on the wrong side are categorized as human error, they can also result from a lack of education and enforcement.
  ✓ Additionally, road design issues can contribute to these violations.

Other Human Errors:

➢ **Drunken Driving and Drug Consumption:**
  ✓ These factors accounted for **7.4% of total accidents and 8.3% of deaths.**
➢ **Mobile Phone Use:**
  ✓ Using mobile phones while driving contributed to **1.6% of accidents.**

Other Factors:

➢ The category of "others" accounted for **18.2% of accidents, 18.1% of fatalities, and 18.1% of injuries**, which can include aspects related to road environment and vehicular conditions.
  ✓ Driving Without Valid Driver License
  ✓ Untrained Drivers
  ✓ Non-Use of Safety Devices – Helmets and Seatbelt.
  ✓ **Overloading**
➢ **Weak Vehicle Safety Standards in India:**
  ✓ In 2014, crash **tests carried out by the Global New Car Assessment Programme (NCAP)** revealed that some of **India's top-selling car models have failed the UN** (United Nations)'s **frontal impact** crash test.
➢ **Lack of Awareness:**
  ✓ Regarding the importance of safety features like **airbags, Anti-lock Braking system etc.**

Environment:

➢ **Geographical Area:**
  ✓ Accidents **vary by location**, including residential, institutional, market, and commercial areas, impacting accident rates.
➢ **Road Features:**
  ✓ The road's characteristics matter, with **straight roads, curves, and steep inclines** affecting driver behavior and safety.
➢ **Junctions and Traffic Control:**
  ✓ The type of junctions and traffic control effectiveness are crucial, influencing accident likelihood.
  ✓ These include **intersections, roundabouts, and traffic signals**.

➢ **Weather Conditions:**
  ✓ **Weather, like rain, fog, or ice, creates hazardous road conditions**, reducing visibility and causing slippery surfaces, contributing to accidents.

INTERNATIONAL COMPARISON OF ROAD ACCIDENTS WITH INDIA:

➢ **Injury Accidents per 100,000 Population:**
  ✓ **Chinese Taipei:** Highest injury accident rate per 100,000 population.
  ✓ **United States:** Recorded the **highest total number of injury accidents**.
  ✓ **India:** Has a relatively **low injury accident rate**.

➢ **Persons Injured per 100,000 Population:**
  ✓ **Chinese Taipei:** Highest rate of persons injured per 100,000 population.
  ✓ **United States:** Recorded the highest number of persons injured.
  ✓ **China and India:** Have relatively **low rates of persons injured**.

➢ **Persons Killed in Road Accidents:**
  ✓ **India: Highest number of total persons** killed in road accidents.
  ✓ **China and the United States:** Follow India in total persons killed.
  ✓ **Venezuela, RB:** Has the **highest rate of persons killed per 100,000 population**.
  ✓ **Brazil, Pakistan, and Nigeria**: Have **low rates** of persons killed per 100,000 population.

Sl No.	Country	Persons Killed (n)	Persons killed/100,000 pop
(i)	(ii)	(iii)	(iv)
1	India	1,31,714	9.5
2	China	61,703	4.4
3	United States	38,824	11.7
4	Indonesia	25,671	9.5
5	Russian Federation	16,152	11.2
6	Iran, Islamic Rep.	14,652	17.4
7	Venezuela, RB	12,112	39.4
8	South Africa	9,969	16.8
9	Thailand	7,324	10.5
10	Egypt, Arab Rep.	6,164	6
11	Saudi Arabia	5,754	16.8
12	Nigeria	5,483	2.7
13	Colombia	5,447	10.7
14	Pakistan	5,436	2.5
15	Brazil	5,277	2.5
16	Turkey	4,866	5.8
17	Malaysia	4,634	14.3
18	Myanmar	4,410	8.1
19	Ethiopia	4,133	3.6
20	Kenya	3,975	7.4

Source: World Road Statistics, 2022 Published by International Road Federation

MEASURES TO CONTROL ROAD ACCIDENTS:

➢ **Education Measures:**
  ✓ **Public awareness campaigns** through various media.
  ✓ Observance of **National Road Safety Month/Week**.
  ✓ **Driving training institutes and centers** for imparting safe driving skills.
  ✓ Certification course for **Road Safety Auditors for technical officers.**

➢ **Engineering Measures (Road):**
  ✓ Road safety incorporated into road design.
  ✓ Mandatory **Road Safety Audits (RSAs)** at all stages of highway projects.
  ✓ High priority for identifying and rectifying black spots/accident-prone areas.
  ✓ Appointment of **Road Safety Officers (RSOs).**
  ✓ Development of **Model Safe Roads and Safe Construction Zones**.
  ✓ Implementation of the **Electronic Detailed Accident Report (e-DAR) Project.**
  ✓ Issuing codes and guidelines **to minimize accidents on National Highways.**

STEPS TAKEN BY MINISTRY ON
ROAD SAFETY
- Approval of National Road Safety Policy
- National Road Safety Council to be the apex body to take policy decisions
- Setting up of State Road Safety Council & District Road Safety Committees
- Road safety now an integral part of road design at planning stage
- Road Safety Audit of selected stretches of National Highways

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➢ **Engineering Measures (Vehicle):**
  ✓ Mandatory **airbag provision** for front-seat passengers.

- ✓ Mandatory **fitments for seat belts, speed limiters, and safety technologies**.
- ✓ Mandated **Anti-Lock Braking System (ABS)** for certain vehicle categories.
- ✓ **Mandated crash norms to protect vehicle** occupants in collisions.
- ✓ **Speed-limiting function** for transport vehicles (**excluding two-wheelers).**
- ✓ Mandated safety measures for **fully built buses and school buses**.
- ✓ Setup of model **Inspection & Certification Centers and automated testing stations**.
- ✓ **Vehicle scrapping policy** to phase out older, polluting vehicles.

➤ **Enforcement Measures:**
- ✓ Strengthened penalties and **enforcement under the Motor Vehicles Act.**
- ✓ **Electronic monitoring and enforcement** through technology (speed cameras, ANPR, etc.).

➤ **Emergency Care:**
- ✓ Protection of **Good Samaritans who provide assistance** at accident scenes.
- ✓ Enhanced **compensation for victims of Hit and Run accidents**.
- ✓ Provision of **ambulances with paramedical staff at toll plazas** on National Highways.

WAY FORWARD:

➤ **Develop the Electronic Detailed Accident Report (e-DAR) Project:**
- ✓ **Capture road accidents and geotag** them through a mobile/tablet app by the first responders (police).
- ✓ **Provide back-end analytics and simultaneous linkage with multiple users**.
- ✓ Enable **real-time syncing and updating of the database.**
- ✓ Create a mobile application for road accidents.

➤ **International Best Practices:**
➤ Establish specialized institutions for **creating reliable traffic safety databases.**
➤ **Adopt standardized data formats** with varying levels of detail.
➤ Link police data with other sources to enhance data quality and integration.
➤ **Systemic Solution:**
➤ Seek a **"systemic solution"** to road safety by involving all stakeholders**, including police, health authorities, hospitals, and transport departments.**
➤ **Enhance Data Quality:**
- ✓ Address the issue of under-reporting of fatalities by linking police and hospital data.
- ✓ Ensure evidence-based data collection.
- ✓ Update data on a **real-time basis**.
- ✓ Collect comprehensive data to **provide insights into road conditions**.

PM TO LAUNCH RS. 24,000/-CR SCHEME FOR VULNERABLE TRIBAL GROUPS

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

*Prime Minister Narendra Modi **launches a Rs 24,000-crore scheme for the holistic development of Particularly Vulnerable Tribal Groups (PVTGs).***

PARTICULARLY VULNERABLE TRIBAL GROUPS (PVTGS):

➤ **Identification and History:**
  ✓ PVTGs represent the **most vulnerable among tribal groups in India.**
  ✓ Originally termed **Primitive Tribal Groups (PTGs) in 1973**, renamed **PVTGs in 2006** for a more inclusive term.
  ✓ Government initiatives **to identify and recognize these groups started in 1975**, initially with 52 groups, **later expanded to 75 in 1993.**

➤ **Basic Characteristics:**
  ✓ **Homogenous communities** with small populations.
  ✓ **Relatively isolated,** often with no written language.
  ✓ Simple technology and a **slower rate of societal change**.

➤ **Identification Criteria:**
  ✓ Criteria for identifying PVTGs include **pre-agricultural technology, low literacy, economic backwardness, and a declining or stagnant population.**

➤ **Geographical Distribution**:
  ✓ **Odisha has the highest number** of PVTGs.
  ✓ A total of **75 PVTGs spread across 18 states and Union Territories**.

GOVERNMENT SCHEME(S) FOR PVTGS:

➤ **Government Scheme - Development of PVTGs:**
  ✓ The Ministry of Tribal Affairs administers the **'Development of Particularly Vulnerable Tribal Groups (PVTG)' scheme.**
  ✓ **Centrally Sponsored Scheme with 100% Central assistance.**
  ✓ Aims at **comprehensive socio-economic development while preserving culture**.
  ✓ Involves **habitat level development with financial assistance** provided based on state proposals.

Scheme Name	Objective
Development of Particularly Vulnerable Tribal Groups (PVTGs)	✓ Comprehensive **socio-economic development**, retaining culture and heritage of PVTGs.
Special Central Assistance (SCA) to Tribal Sub-Scheme (TSS)	✓ **Strengthening educational, health, and livelihood** initiatives for the PVTGs.

Forest Rights Act (FRA), 2006	✓ Recognizing and **securing the rights of forest-dwelling tribal communities**, including PVTGs.
Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006	✓ Recognition of **rights to forest resources for livelihood, habitation, and socio-cultural needs of tribal communities**, including PVTGs.

- ➢ **Funds Allocation and Utilization:**
  - ✓ Funds released and utilized under the scheme in recent years:
  - ✓ 2016-17: Rs. 338.00 crore (Released) / Rs. 319.96 crore (Utilized)
  - ✓ 2017-18: Rs. 239.46 crore (Released) / Rs. 223.19 crore (Utilized)
  - ✓ 2018-19: Rs. 250.00 crore (Released) / Rs. 12.30 crore (Utilized)
- ➢ **State and Union Territory-wise PVTGs:**
  - ✓ Lists the PVTGs along with respective states or Union Territories.
  - ✓ Involves groups from **Andhra Pradesh, Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal, and Andaman & Nicobar Islands**.

State / UT Name	PVTGs Name
Andhra Pradesh and Telangana	1. Bodo Gadaba, 2. Bondo Poroja, 3. Chenchu, 4. Dongria Khond, 5. Gutob Gadaba, 6. Khond Poroja, 7. Kolam, 8. Kondareddis, 9. Konda Savaras, 10. Kutia Khond, 11. Parengi Poroja, 12. Thoti
Bihar and Jharkhand	13. Asurs, 14. Birhor, 15. Birjia, 16. Hill Kharia, 17. Konvas, 18. Mal Paharia, 19. Parhaiyas, 20. Sauda Paharia, 21. Savar
Jharkhand	Same as above
Gujarat	22. Kathodi, 23. Kohvalia, 24. Padhar, 25. Siddi, 26. Kolgha
Karnataka	27. Jenu Kuruba, 28. Koraga
Kerala	29. Cholanaikayan (a section of Kattunaickans), 30. Kadar, 31. Kattunayakan, 32. Kurumbas, 33. Koraga
Madhya Pradesh and Chhattisgarh	34. Abujh Macias, 35. Baigas, 36. Bharias, 37. Hill Korbas, 38. Kamars, 39. Saharias, 40. Birhor
Chhattisgarh	Same as above
Maharashtra	41. Katkaria (Kathodia), 42. Kolam, 43. Maria Gond
Manipur	44. Marram Nagas
Odisha	45. Birhor, 46. Bondo, 47. Didayi, 48. Dongria-Khond, 49. Juangs, 50. Kharias, 51. Kutia Kondh, 52. Lanjia Sauras, 53. Lodhas, 54. Mankidias, 55. Paudi Bhuyans, 56. Soura, 57. Chuktia Bhunjia
Rajasthan	58. Seharias
Tamil Nadu	59. Kattu Nayakans, 60. Kotas, 61. Kurumbas, 62. Irulas, 63. Paniyans, 64. Todas
Tripura	65. Reangs
Uttar Pradesh and Uttarakhand	66. Buxas, 67. Rajis
West Bengal	68. Birhor, 69. Lodhas, 70. Totos
Andaman & Nicobar Islands	71. Great Andamanese, 72. Jarawas, 73. Onges, 74. Sentinelese, 75. Shorn Pens

WAY FORWARD FOR THE DEVELOPMENT OF PVGTS:

- ➢ **Holistic Development:**
  - ✓ Implement comprehensive **schemes addressing education, healthcare, livelihood, and infrastructure.**
- ➢ **Customized Interventions:**
  - ✓ **Tailor strategies to the unique needs of each PVTG, avoiding a one-size-fits-all approach**.
- ➢ **Infrastructure Focus:**
  - ✓ Develop basic **amenities like roads, housing, and clean water in PVTG habitations**.
- ➢ **Preserve Culture:**
  - ✓ Ensure development **efforts preserve and promote the cultural heritage of PVTGs.**
- ➢ **Education and Skills:**
  - ✓ Emphasize education and **skill development for PVTG youth to enhance employability**.
  - ✓ Improve healthcare services focusing on **preventive, curative, and reproductive health**.
- ➢ **Land and Livelihood Security:**
  - ✓ Secure land and **promote sustainable livelihoods for PVTGs.**
- ➢ **Community Participation:**
  - ✓ Empower PVTG communities in **decision-making through local governance institutions.**
  - ✓ **Inclusive Approach:** Collaborate with NGOs and civil society for diverse perspectives and successful initiatives.

STEERING ROAD SAFETY IN INDIA BACK ONTO THE RIGHT LANE

SOURCE: THE HINDU

WHY IN NEWS?

*India's **roads symbolize both a vast opportunity for connectivity and a silent,** deadly pandemic. **Despite contributing to modernization and economic progress**, road accidents **remain a severe issue**.*

ROAD SAFETY OVERVIEW:

- ➢ **Introduction:**
  - ✓ India witnesses a **high number of road accidents**, but recent years show improvements.
  - ✓ **Growing vehicle numbers and pressure on traffic highlight road safety** as a significant public health concern.
  - ✓ **Road safety impacts everyone**, from drivers to pedestrians and cyclists.
  - ✓ India's road network, a symbol of **progress, connectivity, and economic growth**, paradoxically harbors a **silent but deadly pandemic - road accidents**.

- ✓ With an **estimated 300,000 annual fatalities**, road crashes pose a severe threat, causing **economic losses of 5-7% of the national GDP.**
- ➢ **Understanding Road Safety:**
  - ✓ Road safety involves measures **to reduce accident risks and injuries for all road users.**
  - ✓ Applicable to **pedestrians, cyclists, motorists, bus/truck drivers, emphasizing collective responsibility.**
  - ✓ Encompasses **road design, traffic laws, safety systems, driver education, student education**, mass awareness, traffic regulations, road signs, vehicle design, and maintenance.

INDIA'S ROAD SAFETY CHALLENGE & CONCERNS:

- ➢ **Global Road Safety Concerns:**
  - ✓ India, part of a global issue, **witnesses 1.3 million road crash deaths annually**, with nearly **25% occurring within its borders.**
  - ✓ The alarming statistics underline the **urgency for immediate, coordinated interventions** on a global scale.

Table 1.2: Major Parameters of Road Accidents- 2022 vis-à-vis 2021

Parameter	2021	2022	% Change
Number of Accidents	4,12,432	4,61,312	11.9
Number of Persons killed	1,53,972	1,68,491	9.4
Number of Injury	3,84,448	4,43,366	15.3
Accident Severity (Persons killed per 100 accidents)	37.3	36.5	2.14

- ➢ **Government Report on Fatalities:**
  - ✓ The **recent report highlighting 2022 as the deadliest year for traffic crashes** in India underscores the severity of the problem.
- ➢ **Impacts on Economy:**
  - ✓ **World Bank Data:** Road crashes cost the **Indian economy 3 to 5 percent of GDP annually**.
- ➢ **Social Impacts:**
  - ✓ *Burden on Households:*
    - • *Financial Depletion:* Each road accident **death depletes about seven months' household income** in poor families.
    - • *Cycle of Poverty:* Pushes victims' kin into a cycle of poverty and debt.
- ➢ **Vulnerable Road Users (VRUs):**
  - ✓ **Disproportionate Burden:** VRUs, particularly poor, working-age males, bear a significant burden.
  - ✓ **Major Contributors:** VRUs account for over half of all road crash deaths and serious injuries.

World Bank's Report "Traffic Crash Injuries and Disabilities: The Burden on Indian Society, 2021:"

- ➢ **Impact on Women:**
  - ✓ **Financial Effects: Nearly 50% of women experience a severe decline** in household income after a crash.
  - ✓ **Changes in Working Patterns:** About 40% of women alter their working patterns post-accident.

- ✓ **Additional Work:** Around 11% of women take up extra work to cope with financial crises.
  - ➢ **Income Decline Across Households:**
    - ✓ **Rural vs. Urban Disparity:** Severe income decline in low-income rural households (56%) compared to low-income urban (29.5%) and high-income rural households (39.5%).

FOCUS AREAS FOR IMPROVED SAFETY:

- ➢ **Seatbelt Enforcement:**
  - ✓ **Emphasizes seatbelt use** for drivers and passengers.
  - ✓ **Seatbelts reduce death risks by 45-50%** for drivers/front-seat **occupants and 25% for rear-seat occupants.**
- ➢ **Helmet Enforcement:**
  - ✓ **Mandates helmet use for motorcyclists** and pillion passengers.
  - ✓ Correct helmet **use results in a 42% reduction in fatal injuries**.
- ➢ **Vulnerable Road Users:**
  - ✓ Pedestrians, cyclists, and two-wheeler riders **contribute to nearly three-quarters of road deaths**.
  - ✓ Back seat passengers **pose risks to themselves and those in the front seat**.
- ➢ **Speeding and Drink-Driving:**
  - ✓ Urges reduction in speeding; **70% of road crash deaths** attributed to speeding.
  - ✓ **Zero tolerance for drink-driving**.
- ➢ **Infrastructure Enhancement:**
  - ✓ Calls for **improvements in road infrastructure**.
  - ✓ **Acknowledges recent government programs'** positive impact but highlights persisting unsafe roads.
- ➢ **Public Awareness Campaigns:**
  - ✓ Emphasizes **large-scale campaigns for behavioural change**.
  - ✓ **Cites the UN's global campaign #MakeASafetyStatement**, involving international celebrities.

GOVERNMENT INITIATIVES FOR ROAD SAFETY:

Government of India Initiatives for Road Safety	Description
Motor Vehicles (Amendment) Act, 2019	✓ Introduced stringent penalties for traffic violations. ✓ Aims to improve road safety and reduce accidents.
National Road Safety Policy	✓ Encompasses various strategies and action plans for road safety at the national level.
National Road Safety Council (NRSC)	✓ Advisory body addressing road safety issues. ✓ Formulates policies and strategies for implementation.
Integrated Road Accident Database (IRAD)	✓ Database capturing detailed information on road accidents, aiding in analysis and policy formulation.
Road Safety Advocacy and Public Awareness	✓ Campaigns and programs to create awareness about road safety norms and responsible driving.

Engineering Measures for Road Safety	✓ Focus on improving road infrastructure for enhanced safety, including better design and signage.
Safer Roads, Safer Vehicles, Safer People	✓ Holistic approach targeting roads, vehicles, and people to create a comprehensive road safety ecosystem.
National Highways Accident Relief Service Scheme	✓ Quick response system for providing relief and medical assistance to road accident victims on national highways.
Road Safety Workshops and Training Programs	✓ Educational initiatives for drivers, pedestrians, and school children to impart knowledge about safe road practices.
Good Samaritan Guidelines	✓ Encourages citizens to help road accident victims without fear of legal hassles, promoting a culture of empathy and assistance.

WAY FORWARD:

➢ **Global Cooperation and Innovation:**
  ✓ **United Nations collaboration with helmet producers** to create a low-cost ventilated helmet.
  ✓ **Private sector companies actively seeking solutions**, emphasizing the importance of a collaborative societal effort.
➢ Advocates for a comprehensive **safe-system approach aligned with the UN's Second Decade of Action for Road Safety 2021-2030.**
➢ **Stresses the full implementation of the Motor Vehicles (Amendment) Act 2019** for effective road safety measures.
➢ **Recognizes road safety as a complex challenge but highlights the profound benefits of addressing it**, saving lives, strengthening the economy, and enhancing overall quality of life.

PUBLIC GOOD VS FREEBIES

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

*Ongoing state elections witness **condemnation from the intellectual class** regarding the expansive **welfare agenda adopted by political parties.***

*Criticism centers on what is perceived as "**reckless election promises**" and fiscal irresponsibility in a race for competitive populism.*

DEFINING PUBLIC GOOD VS. FREEBIE:

Public Good:

➢ **Purpose and Intent:**
- ✓ Aimed at **promoting the overall welfare and development of society**.
- ✓ Intended to **benefit the public at large rather than specific individuals** or **groups.**

➢ **Long-Term Impact:**
- ✓ **Focus on sustainable development** and **long-term benefits for the community**.
- ✓ Examples include **infrastructure projects, healthcare initiatives, and education programs**.

➢ **Social Equality**:
- ✓ Geared towards **reducing societal inequalities** and **ensuring equal access to essential services**.
- ✓ Addresses the fundamental needs of the population, contributing to social harmony.

➢ **Government Investment:**
- ✓ Typically involves **substantial government investment** in **key sectors for the betterment of society**.
- ✓ **Funding is directed towards initiatives** that positively impact the collective well-being.

➢ **Policy Alignment:**
- ✓ Aligned with **broader policy goals** and national development objectives.
- ✓ Implementation often **requires careful planning and coordination** to achieve lasting positive outcomes.
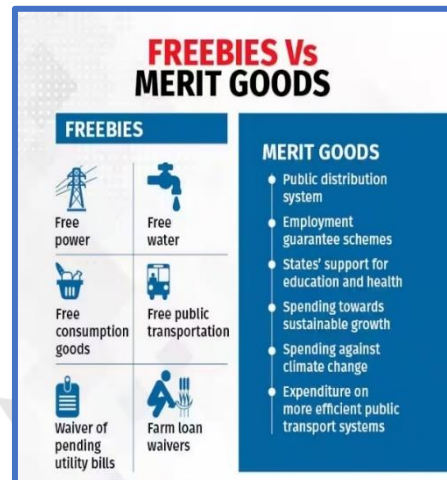
Freebie:

➢ **Immediate Gratification:**
- ✓ Aimed at **providing immediate, tangible benefits** to individuals or **specific voter groups.**
- ✓ Often implemented **with the intention of garnering support during elections**.

➢ **Short-Term Focus:**
- ✓ Emphasis on **short-term gains** and immediate **relief for targeted beneficiaries**.
- ✓ Examples **include cash transfers, free gadgets, and direct pecuniary benefits**.

➢ **Broad Audience Appeal:**
- ✓ Designed to attract a broader audience, appealing to popular sentiments.
- ✓ May **lack a strategic, long-term vision** and be driven by populist considerations.

➢ **Potential Popularity:**
- ✓ Political parties may use freebies as a **strategy to gain popularity and secure votes**.
- ✓ Often involves measures perceived as generous but may **not contribute significantly to overall development.**

➢ **Limited Impact on Social Equality:**
- ✓ **May not address deep-rooted social inequalities** or contribute substantially to societal progress.
- ✓ **Benefits are often transactional and may not lead to sustained improvement** in living standards.

➢ **Election-Centric:**
   ✓ **Commonly associated with election seasons,** where parties make promises to attract voters.
   ✓ **Implementation may lack comprehensive planning**, leading to potential fiscal challenges.

CRITIQUE OF POPULIST PROMISES:

➢ **Legal Examination:**
   ✓ The Supreme Court is examining a **petition urging the Election Commission to restrain parties from making "irrational freebies."**
   ✓ Worries are voiced about **the potential impact on state finances and the provision of basic amenities.**

➢ **Caution from RBI:**
   ✓ The RBI **cautions against the "growing preference for distribution of 'freebies'"** as a risk to state finances.
   ✓ *State Finance:* **A Risk Analysis' report by the RBI (June 2022) highlights a slowdown in state revenues.**
   ✓ Highlights the **need for prudence in fiscal decisions related to populist promises**.
   ✓ Violation of the **Fiscal Responsibility and Budget Management (FRBM)** rules leading to a **potential debt trap.**

➢ **Recognition of Fiscal Constraints:**
   ✓ There is acknowledgment that **state finances have inherent limitations**.
   ✓ Punjab's electricity subsidy **constitutes over 16% of total revenues**, contributing **to financial strain.**
   ✓ Rising expenditure on **non-merit freebies**, expanding contingent liabilities, **and overdue DISCOMs contribute to financial challenges.**
   ✓ The emphasis is on a **thorough review of trade-offs for all expenditures**, considering the finite nature of financial resources.

➢ **Governance Hurdles:**
   ✓ Governance for **development is acknowledged as intricate and subject to contingencies**.
   ✓ Infrastructure projects and direct benefits are deemed more manageable for execution and communication.

➢ **Debt-GSDP Ratio:**
   ✓ Punjab, Rajasthan, Kerala, West Bengal, Bihar, Andhra Pradesh, Jharkhand, Madhya Pradesh, Uttar Pradesh, and Haryana have the **highest debt-GSDP ratios**.
   ✓ Indicates the **proportion of liabilities to the state's economy size.**

➢ **Impact on Party Foundation:**
   ✓ Relying **excessively on direct benefits** is seen as a potential threat **to the party's ideological foundation.**
   ✓ The transactional nature of benefits makes it **difficult to align with a coherent ideological** framework.

➢ **Threat to Party Identity:**
   ✓ Leaders prioritizing **immediate benefits over an ideological framework** risk diluting the party's long-term identity.
   ✓ The emphasis is on **striking a balance between offering direct benefits and maintaining a robust party platform.**

Arguments in Support of Freebies:

➢ **Economic Upliftment:**
- ✓ Initiatives like the **Public Distribution System (PDS) in India**, providing **free distribution of essentials,** contribute to economic upliftment.
- ✓ PDS has been **instrumental in addressing food security, benefiting millions of households.**

➢ **Industrial Growth Boost:**
- ✓ States **providing free items like sewing machines**, **cycles, and saris stimulate** the sales of related industries.
- ✓ Tamil Nadu and Bihar have **witnessed increased industrial activity** due to such free distribution programs.

➢ **Educational Investment:**
- ✓ **Free distribution of laptops, books, and Internet access** supports talent development in fields like **medicine, science, and technology.**
- ✓ States implementing such **programs have seen a rise in the number of skilled professionals contributing to national growth.**

➢ **Poverty Reduction:**
- ✓ Freebies play a **crucial role in less developed states** with **high poverty rates**.
- ✓ States offering **free infrastructure like toilets and roads have experienced** improvements in living standards and poverty reduction.

➢ **Basic Needs Addressed:**
- ✓ Freebies ensure access **to basic necessities like food, healthcare, and education**.
- ✓ Programs **targeting basic needs directly benefit the vulnerable population**, creating a more inclusive and just society.

CHALLENGES IN CURTAILING FREEBIE CULTURE:

➢ **Debt and Financial Deficits:**
- ✓ Many states are in **debt and financially deficit**, **limiting their ability** to invest in essential infrastructure.
- ✓ Constraints on **spending for capital projects** like **roads, public infrastructure, and hospitals**.

➢ **Corruption Growth:**
- ✓ Freebie practices **facilitate corruption growth, leading to leakage of goods and funds**.
- ✓ Challenges in **ensuring that the intended benefits of freebies reach the masses**, exacerbating corruption concerns.

➢ **Taxpayer Burden:**
- ✓ Freebies are **funded by taxpayers, not political parties**, putting the **financial burden on the public.**
- ✓ **Direct or indirect impact on taxpayers** as the source of funding.

➢ **Regulatory Deficiency with ECI:**
- ✓ The Election Commission of India (ECI) **lacks the authority to regulate or penalize political parties** for electoral promises.
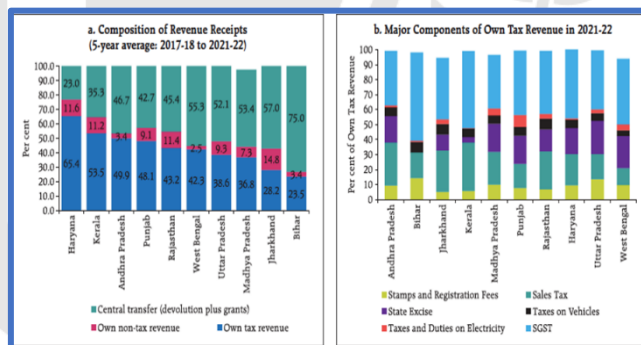
- ✓ Offering freebies **falls within the jurisdiction of the respective party,** leading to regulatory challenges.
- ➢ **Financial Viability Uncertainty:**
  - ✓ Political parties **often omit clarifying funding sources for freebies**, leaving the **financial viability of populist policies unclear.**
  - ✓ **Lack of transparency** regarding the **economic feasibility of promises.**
- ➢ **Information Gap for Voters:**
  - ✓ **Limited information on the financial aspects** of freebies prompts political parties to engage in a **competitive cycle of promising more**.
  - ✓ Voters may **lack awareness of the fiscal implications** and economic consequences.
- ➢ **Supreme Court's Response**:
  - ✓ Recent Supreme Court judgment **proposes the formation of an apex body to address the issue of freebies and poll promises.**
  - ✓ The body **includes stakeholders like Niti Aayog, Law Commission, Finance Commission, RBI**, and members of ruling and opposition parties.
- ➢ **Shift from Previous Stand:**
  - ✓ Contrasts with the **court's 2013 judgment (S. Subramaniam Balaji vs Tamil Nadu),** stating that election promises do not constitute a 'corrupt practice.'
  - ✓ The shift emphasizes the **need for an apex body to oversee and regulate electoral promises**.

WAY FORWARD FOR MANAGING FREEBIES:

- ➢ **Effective Voter Engagement:**
  - ✓ *Financial Implications Inquiry*:
    - Encourage voters **to inquire about the financial implications** of populist promises.
    - **Foster awareness for voters to make informed** decisions about election campaigns.
- ➢ **Empowering Election Commission:**
  - ✓ *Enhanced ECI Authority:*
    - **Strengthen the Election Commission of India (ECI)** with **greater authority to regulate political party expenditures.**
    - Implement **statutory provisions or warnings** on fund use to curb excessive freebies.
- ➢ **Model Manifesto Implementation:**
  - ✓ *Structured Model Manifesto:*
    - Develop and **implement a Model Manifesto for all political parties to follow**.
    - Introduce measures **under the Model Code of Conduct (MCC)** to promote responsible promise-making.
- ➢ **Spending Limit on Welfare Schemes:**
  - ✓ *Fixed Spending Limits:*
    - **Fix a spending limit for welfare schemes, such as 1% of Gross State Domestic Product (GSDP)** or state revenue expenditure.
    - Ensure **judicious implementation of welfare programs** without overburdening state finances.
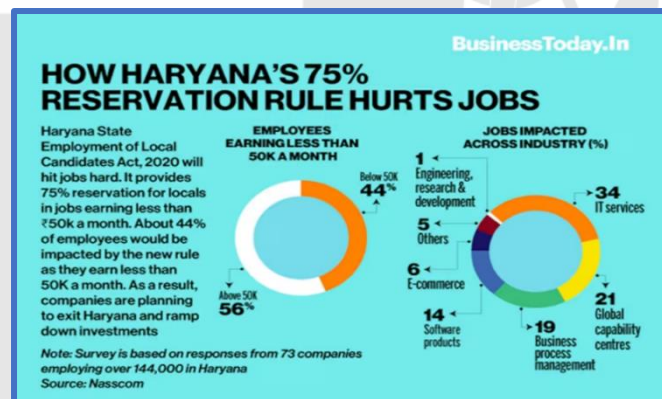
HARYANA'S EMPLOYMENT RESERVATION LAW

SOURCE: THE HINDU

WHY IN NEWS?

The Punjab and Haryana High Court, **on November 17,** *invalidated the* **Haryana State Employment of Local Candidates Act, 2020,** *which* **guaranteed 75% reservation for locals in private sector jobs.** *The court ruled the law as* **unconstitutional and in violation of fundamental rights.**

OVERVIEW OF THE RESERVATION LAW:

➢ **Enactment of the Law (November 2020):**
  ✓ Haryana passed the **Haryana State Employment of Local Candidates Bill in 2020**.
  ✓ Mandated employers to **reserve 75% of jobs paying a monthly salary below ₹30,000 for** local residents.

➢ **Applicability of the Law:**
  ✓ Applies to all private entities, **including companies, trusts, societies, partnerships**, and limited liability partnerships.
  ✓ Covers any entity **employing 10 or more persons for manufacturing or providing services**.

➢ **Definition of 'Local Candidate':**
  ✓ **Domiciled** in Haryana for the **past five years.**
  ✓ **Mandatory registration on a designated portal** for availing benefits.

➢ **Exemptions and Penalties:**
  ✓ Companies can **seek exemption for not finding local candidates** with desired skills.

HOW HARYANA'S 75% RESERVATION RULE HURTS JOBS

Haryana State Employment of Local Candidates Act, 2020 will hit jobs hard. It provides 75% reservation for locals in jobs earning less than ₹50k a month. About 44% of employees would be impacted by the new rule as they earn less than 50K a month. As a result, companies are planning to exit Haryana and ramp down investments

EMPLOYEES EARNING LESS THAN 50K A MONTH
Below 50K 44%
Above 50K 56%

JOBS IMPACTED ACROSS INDUSTRY (%)
1 ◄ Engineering, research & development
5 ◄ Others
6 ◄ E-commerce
14 ◄ Software products
19 ◄ Business process management
34 ► IT services
21 ► Global capability centres

Note: Survey is based on responses from 73 companies employing over 144,000 in Haryana
Source: Nasscom

  ✓ **Violations result in fines ranging from ₹10,000 to ₹2 lakh.**

LEGAL CHALLENGES TO THE LAW:

➢ **Basis of Challenge:**
  ✓ **Industry associations challenged the law's validity,** citing violations of **constitutional articles**.
  ✓ Alleged infringement of **Article 19 (freedom of residence and profession)** **and Article 14 (equality before the law).**

➢ **Contentions and Defence:**
  ✓ State **argued the law aimed to protect the livelihood of domiciled people**.
  ✓ **Invoked Article 16(4) of the Constitution**, **empowering the State to create reservations** for underrepresented classes.

LOCAL PREFERENCE

Maharashtra | Private sector to employ 80% domiciled workers (Maha residents for more than 15 years); **Status:** Planned, not implemented
Haryana | Ordinance mandating 75% quota for locals in private sector jobs; **Status:** Planned, not implemented
Madhya Pradesh | 70% quota in pvt sector jobs for locals; only 'children of MP' to be eligible

for state govt jobs; **Status:** 70% quota applied, 'children of MP' at planning stage
Karnataka | Pvt industries to give priority to Kannadigas in clerical and shop-floor jobs; **Status:** Rules amended, follow-up law not passed yet
Andhra Pradesh | Up to 75% quota for locals in govt and pvt sector; **Status:** Law passed, yet to be implemented

Similar Laws in Other States:
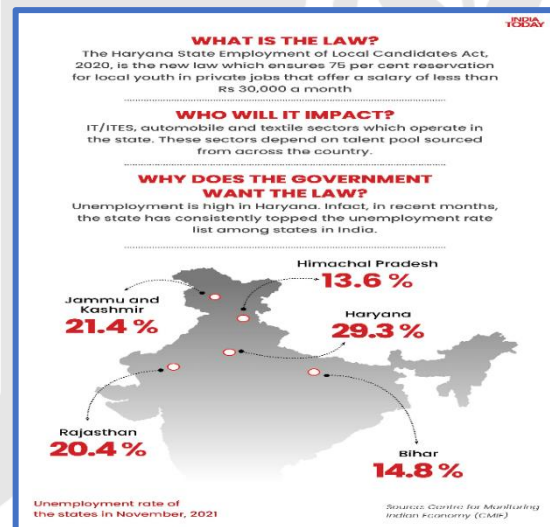
➢ **Existence of Similar Laws:**

- ✓ **Maharashtra, Karnataka, Andhra Pradesh, and Madhya Pradesh** have enacted laws providing reservations in the **private sector.**
- ✓ **Andhra Pradesh's law faced constitutional challenges**.

ADVANTAGES OF JOB RESERVATION FOR LOCALS:

- ➢ **Constitutional Validity:**
  - ✓ Constitutionally justifiable as **Article 16 doesn't prohibit domicile-based reservation**.
  - ✓ Valid within the **constitutional framework and complies with the spirit of equality.**
- ➢ **Equality and Equal Protection:**
  - ✓ **Promotes equality by reserving jobs** for the **weakest sections of society**.
  - ✓ Aligns with the principle of **Equal Protection of Law under Article 14.**
- ➢ **Solution for Unemployment**:
  - ✓ **Addresses unemployment challenges** by providing job opportunities to locals.
  - ✓ Considered a suitable solution amid **stagnant job creation.**
- ➢ **Constitutional Special Provisions:**
  - ✓ Justified **by special provisions in the constitution** for certain states **like Andhra Pradesh and Telangana.**
  - ✓ **Aligns with constitutional flexibility under Article 371D and E** for unique circumstances.
- ➢ **Boost to Local Economy:**
  - ✓ **Local hiring contributes to the local economy** by circulating earnings within the community.
  - ✓ Companies **supporting local employment may stimulate economic growth**.
- ➢ **Operational Cost Reduction:**
  - ✓ Hiring **locally reduces relocation costs for companies.**
  - ✓ **Lower operational costs can lead to more competitive pricing** for goods and services.
- ➢ **Improved Productivity:**
  - ✓ Local employees are **likely to be more familiar with the language, culture, and business environment.**
  - ✓ **Enhances productivity and efficiency** in the workplace.

WHAT IS THE LAW?
The Haryana State Employment of Local Candidates Act, 2020, is the new law which ensures 75 per cent reservation for local youth in private jobs that offer a salary of less than Rs 30,000 a month

WHO WILL IT IMPACT?
IT/ITES, automobile and textile sectors which operate in the state. These sectors depend on talent pool sourced from across the country.

WHY DOES THE GOVERNMENT WANT THE LAW?
Unemployment is high in Haryana. Infact, in recent months, the state has consistently topped the unemployment rate list among states in India.

Himachal Pradesh **13.6 %**
Jammu and Kashmir **21.4 %**
Haryana **29.3 %**
Rajasthan **20.4 %**
Bihar **14.8 %**

Unemployment rate of the states in November, 2021
Source: Centre for Monitoring Indian Economy (CMIE)

DISADVANTAGES OF JOB RESERVATION FOR LOCALS:

➢ **Investor Exodus Risk:**
  ✓ **May trigger an exodus of investors**, impacting **sectors reliant on skilled manpower**.
  ✓ *Example:* **Haryana faced a 30% drop in investments** due to the local reservation law.

➢ **Impact on Existing Industries:**
  ✓ Raises concerns about **hindering the free movement of manpower**, affecting existing industries.
  ✓ Potential **shift of businesses from the state to other regions**.

Haryana pays workers considerably higher than national average
Monthly/30-day income, ₹
■ Haryana ■ India

	Haryana	India
Salary/wage	17,821	16,196
Casual*	11,141	8,721
Self-employed	16,938	10,648

Note: For casual workers, income represents that from 30 days of casual work; Source: PLFS, National Statistical Office

➢ **Talent Crunch in Specific Sectors:**
  ✓ **Imposing reservations on gig and platform companies** could result in a **severe talent shortage**.
  ✓ Risks impeding the **growth of industries relying on specialized skills**.

➢ **Constitutional Violation:**
  ✓ May be against the **constitutional guarantees of freedom of** movement and employment.
  ✓ **Contradicts Articles 14, 15, 16, and 19** that safeguard against discrimination based on birthplace.

Judicial Intervention and Supreme Court's Role:

➢ **High Court's Interim Order (February 3, 2022):**
  ✓ High Court stayed the law, later set **aside by the Supreme Court for insufficient reasons.**

➢ **High Court's Ruling and Reasons for Quashing:**
  ✓ *Unconstitutionality and Discrimination:*
    • Court declared the **law unconstitutional**, impairing the **right to carry on an occupation under Article 19(1)(g).**
    • Emphasized **discrimination against individuals from other states**, creating **artificial barriers.**

➢ **Violation of Constitutional Provisions:**
  ✓ **Article 35 prevents state legislatures** from legislating on matters within the **purview of Article 16(3).**
  ✓ **Sections 6 and 8 of the Act** were deemed as promoting an **'Inspector Raj,'** enhancing state control over private employers.

WAY FORWARD:

➢ **Legal Review and Amendment:**
  ✓ Conduct a comprehensive **legal review and amend the law to address constitutional concerns**.

➢ **Strategic Implementation of Reservation:**
  ✓ Implement the reservation policy in a manner that **doesn't impede the free movement** of labor across the country.

➢ **Focus on Economic Recovery:**

- ✓ Emphasize economic recovery as a means **to address the concerns prompting Job for Locals Legislations (JRFL) and generate ample job opportunities**.
- ➤ **Explore Alternatives:**
  - ✓ **Investigate alternative mechanisms to address rising unemployment** while respecting constitutional principles.
- ➤ **Conduct Impact Assessment:**
  - ✓ Undertake a **thorough impact assessment of the reservation law** on industries and employment.
- ➤ **Encourage Inclusive Employment Practices:**
  - ✓ **Promote voluntary adoption of inclusive employment** practices by companies.
- ➤ **Enhance Public Awareness:**
  - ✓ Increase public awareness regarding constitutional rights and complexities of the issue.

FEMICIDES AT A TWENTY-YEAR PEAK ACROSS GLOBE

SOURCE: <u>THE HINDU</u>, <u>UNODC</u>

WHY IN NEWS?

*The release of a comprehensive study by **the United Nations Office on Drugs and Crime (UNODC)** and **UN Women** has provided detailed insights into the alarming rise in **gender-related killings**. The study sheds light on the gravity of the situation and the **need for urgent intervention**. The **staggering figure of 88,900 women** and **girls intentionally killed in 2022 marks** the **highest in the past 20 years**. In India, **dowry-related reasons** continue to be the **leading cause of femicide.***

KEY FINDINGS OF THE RECENT REPORT:

- ➤ **High Female Homicide Numbers (2022):**
  - ✓ Nearly **89,000 women and girls intentionally** killed in 2022.
  - ✓ **Highest yearly** number in the past two decades.
- ➤ **Gender-Motivated Killings:**
  - ✓ Majority of women and girls killed for **gender-related reasons.**
  - ✓ **In 2022, 48,800 killed by intimate partners** or family members.
- ➤ **Daily Average:**

- ✓ **Over 133 women or girls killed** every day by family members (2022).
- ➢ **Disproportionate Impact:**
  - ✓ **Despite men being 80% of homicide victims**, women face higher risks in the home.
  - ✓ **Women represent 53% of all home killings** and 66% of intimate partner killings.
- ➢ **Regional Disparities (2022):**
  - ✓ **Africa surpassed Asia in female homicide numbers.**
  - ✓ Africa had the highest number of victims relative to its **female population (2.8 per 100,000 women).**
- ➢ **Diverging Trends in the Americas (2017-2022):**
  - ✓ Central and South America saw declines.
  - ✓ **Northern America had a 29% increase.**
  - ✓ **Caribbean recorded an 8% increase.**
- ➢ **Limited Data in Africa and Asia:**
  - ✓ Limited data makes trends unclear in Africa and Asia.
  - ✓ Some Asian countries show potential femicide risk decrease.
- ➢ **Global Data Improvement:**
  - ✓ Increasing global data availability on gender-related killings.
  - ✓ **74 countries (2009-2015) to 99 countries (2016-2022)** reported **female intimate partner/family-related homicide data.**
  - ✓ UN supports the implementation of the Statistical Framework for gender-related killing measurement.

Global estimates

Women and girls in all regions are affected by gender-based killings. In 2022, Africa was the region with the largest absolute number of killings, and also with the highest level of violence relative to the size of its female population.

Total female intimate partner/family-related homicides 2022

48,800 worldwide

| 20,000 | 18,400 | 7,900 | 2,300 | 200 |
| Africa | Asia | Americas | Europe | Oceania |

Rates of female intimate partner/family-related homicide per 100,000 female population 2022

1.2 per 100,000 female population

| 2.8 | 0.8 | 1.5 | 0.6 | 1.1 |
| Africa | Asia | Americas | Europe | Oceania |

THE UNITED NATIONS OFFICE ON DRUGS AND CRIME (UNODC): A BRIEF OVERVIEW

- ➢ **Establishment and Headquarters:**
  - ✓ *Established:* In **1997, UNODC is a key global entity in combating illicit drugs**, **international crime**, and addressing terrorism.
  - ✓ *Headquarters:* **Vienna, Austria.**
- ➢ **Mission and Focus Areas:**
  - ✓ *Mission:* Leads the UN program on **terrorism and addresses issues related to illicit drugs** and international crime.
  - ✓ *Educational Initiatives:* Works globally **to educate people about the dangers of drug abuse**.
  - ✓ *Action Against Illicit Drugs:* Strengthens international **efforts against illicit drug production**, trafficking, and related crime.
  - ✓ *Initiatives:* Launches initiatives, **including alternatives to illicit drug cultivation** and projects against money laundering.
- ➢ **Crime Prevention and Criminal Justice Reform:**
  - ✓ *Objective:* **Improves crime prevention strategies** and supports criminal justice reform.
  - ✓ *Rule of Law:* Aims to **strengthen the rule of law globally.**
  - ✓ *Transnational Organized Crime*: Addresses the **threats of transnational organized** crime and corruption.

RECENT CASE AND REPORT ON CRIMES AGAINST WOMEN IN INDIA: NCRB REPORT

- ➤ **Reported Crimes in 2021:**
  - ✓ *Total Female Adult Victims*: 7739 murdered.
  - ✓ *Including Children:* 8405 female victims.
  - ✓ *Surge in Crime Cases:* **428,278 cases registered in 2021**, compared to 405,326 (2019) and 371,503 (2020).

STATES WITH HIGHEST RATE OF CRIME AGAINST WOMEN IN 2021

Assam 168.3 Odisha Haryana 119.7 Telangana 111.2 Rajasthan 137.8 / 105.4

Cases in 2019: 30,025 / 23,183 / 14,683 / 18,394 / 41,550
Cases in 2020: 26,352 / 25,489 / 13,000 / 17,791 / 34,535
Cases in 2021: 29,046 / 31,352 / 16,658 / 20,865 / 40,738

Note: Crime rate is calculated as per one lakh of population, Source: NCRB
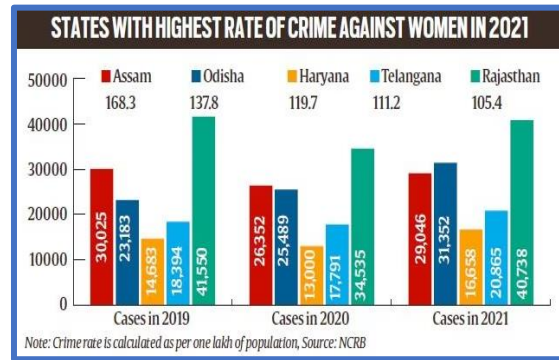
- ➤ **Specific Crime Categories (2021):**
  - ✓ Murder with Rape/Gang Rape: 284 cases.
  - ✓ **Dowry Deaths: 6753 cases.**
  - ✓ Abetment to Suicide of Women: 5292 cases.
  - ✓ Cruelty by Husband or Relatives: 136,234 cases.
  - ✓ Protection of Women from Domestic Violence Act: 507 cases.

Factors Contributing to Gender-Based Violence in India:

- ➤ **Gender Inequality:**
  - ✓ *Issue:* Persistent **gender disparities** contribute to violence against women.
  - ✓ *Impact:* Unequal treatment fosters **an environment conducive to abuse**.

HOW THEY HAVE TO BEAR THE BRUNT

Physical violence | It ranges from slapping to choking, restraining a woman to prevent her from seeking help, etc

Sexual violence | Rape, trafficking, virginity testing, etc

Psychological | Threat of violence, humiliation, etc

Economic violence | Prohibiting a woman from working, excluding her from financial decision etc
(Source: UNFPA)

NGO'S FINDINGS
FOR ALL INDIA
Total number of women screened in 2016 | **1.28 lakh**
➤ Of these, approximately 28% needed counselling for gender-based violence

Total number of women screened in 2017 | **1.53 lakh**
➤ Approximately 23% got counselling for gender-based violence

Total number of women screened in 2018 (till Sept) | **1.34 lakh**
Approximately 29% of them got counselling

IN MUMBAI
Total number of women screened in 2016 | **9,036**
➤ 2,531 needed counselling for violence

Total number of women screened in 2017 | **11,721**
➤ 2,696 needed counselling for violence

Total number of women screened in 2018 (till Sept) | **5,312**
➤ 1,540 needed counselling

IN MAHARASHTRA
➤ National Family Health Survey or NFHS 4 found 21.4% (26.2% women in rural areas & 16.4 in urban) women experienced spousal violence
➤ In NFHS 3 it was 30.7%

- ➤ **Patriarchal Norms and Values:**
  - ✓ *Challenge:* **Deep-rooted patriarchal norms** perpetuate power imbalances.
  - ✓ *Effect:* **Hierarchical structures** normalize control and domination.
- ➤ Lack of Resources and Support Services:
  - ✓ *Concern:* **Limited access to resources** and support for survivors.
  - ✓ *Consequence:* Women face challenges in **seeking help and escaping abusive situations**.
- ➤ **Research on Intimate Partner Homicide:**
  - ✓ *Insight:* Extensive studies establish a **connection between intimate partner relationships and violence.**
  - ✓ *Finding:* Women **more susceptible to being killed by their intimate partners**.
- ➤ **World Health Organization's Study**:
  - ✓ *Study Focus:* Multi-country analysis on women's health and domestic violence.
  - ✓ *Major Insight:* Intimate partner homicide is a prevalent cause of female homicides globally.
- ➤ **UNODC Global Study 2023: India's Situation**
  - ✓ *Indian Scenario:* While there has been a **slight decline in gender-based killings** in India over the **past decade**, **issues like dowry-related violence persist**.
  - ✓ *Leading Causes in India:* **Dowry consistently remains the leading cause** of gender-related deaths in India, with **honour killings and murders related to witchcraft accusations** forming a smaller share.

CHALLENGES IN INDIA:

➢ **Data Inadequacy in India:**
   ✓ **Disturbing lack of femicide-specific** recording in India's crime data.
   ✓ Limited **understanding of gendered violence** and its manifestations.

➢ **Underreported Violence:**
   ✓ **Various forms of violence against women** within families go **unnoticed.**
   ✓ **Domestic abuse cases** often treated as **non-cognizable offenses**.

➢ **Clear Definitions Needed:**
   ✓ **Lack of clarity** on **femicide definition in India and globally**.
   ✓ Various forms, including **honour crimes**, **dowry murders**, and **discrimination-related deaths**.

➢ **Data Discrepancies:**
   ✓ **Lack of consistency** in India's **National Crime Records Bureau's data collection**.
   ✓ **Difficulty in comparing data over years**, hindering comprehensive understanding.

➢ **Misclassification of Cases:**
   ✓ **Female homicides often recorded as regular homicides**, impacting accurate reporting.
   ✓ **Failure to identify motives and circumstances** behind women's deaths.

➢ **Implications for Policy Changes:**
   ✓ **Lack of accurate data hinders** advocacy for policy changes.
   ✓ Difficulty in comprehending the **extent of gender-based violence.**
   ✓

GOVERNMENT OF INDIA INITIATIVES FOR THE SAFETY OF WOMEN:

Government Initiatives for Women's Safety	Details
Nirbhaya Fund	✓ *Objective:* Dedicated **fund for women's safety** and security projects. ✓ *Execution:* **Ministry of Women and Child Development** is the nodal authority for appraising/**recommending proposals/schemes under Nirbhaya Fund**.
Investigation Tracking System	✓ *Tool Launch:* "**Investigation Tracking System for Sexual Offences**" launched by MHA. ✓ *Purpose:* **Monitor and track time-bound investigations** in **sexual assault cases**. ✓ *Law Support:* Aligned with provisions of **Criminal Law (Amendment) Act 2018.**
National Database on Sexual Offenders (NDSO)	✓ *Launch:* **NDSO inaugurated to facilitate nationwide tracking** of sexual offenders. ✓ *Scope:* Database contains **records of over 5 lakh sexual offenders.**

Emergency Response Support System (ERSS)	✓ **Activation:** Operationalized in 20 States/UTs. ✓ **Key Feature: Single emergency number (112)** for computer-aided dispatch to distressed locations.
Cyber Crime Management	✓ **Portal Launch:** Cyber-crime **reporting portal introduced**. ✓ **Capacity Building:** Cyber **Crime Forensic Labs established**, training imparted to **personnel in cyber-crime resolution**.
One Stop Centres and Women Helpline	✓ **Schemes Introduced: One Stop Centres and Universalisation of Women Helpline**. ✓ **Objective:** Provide **integrated support, assistance, and emergency** response to women affected by violence.
Mahila Police Volunteers	✓ **Engagement Initiative:** Mahila Police Volunteers **act as intermediaries between police and the community**. ✓ **Facilitation:** Supports women in **distress and strengthens community-police** collaboration.

WAY FORWARD:

➢ **Need for Accountability:**
  ✓ *Government's Role:*
    • Urgent need for **standardizing methods to identify** and count femicides.
    • Addressing **institutionalized invisibility of gendered violence**.
➢ **Multi-Faceted Approach:**
  ✓ *Holistic Strategies Needed*:
    • Initiatives for education, awareness, and cultural shift.
    • Stricter laws, law enforcement, and support services crucial.
➢ **Promoting Gender Equality:**
  ✓ **Challenging cultural norms** normalizing violence against women.
  ✓ **Advocacy for gender equality** and **women's rights as fundamental solutions**.
➢ **Justice Dharmadhikari Committee-**
  ✓ To **prevent crime against women Govt**. has constituted **committee under the chairmanship of retired Justice Shri. Chandrashekhar Dharmadhikari**.

Science & Technology

A TELCO DOUBLE DIP ATTEMPT THAT THREATENS NET NEUTRALITY

SOURCE: THE HINDU

WHY IN NEWS?

In July this year, India's Telecom Regulatory Authority (TRAI) initiated a comprehensive consultation on regulating Over-The-Top (OTT) services at the government's request.
This move has stirred controversy. For over a decade, telecom companies have faced declining revenues from traditional services like voice calls and SMS due to the popularity of free OTT services.

ABOUT OVER-THE-TOP (OTT) PLATFORMS:

➢ **OTT platforms:**
- ✓ These are online **audio and video hosting and streaming services** that have evolved from content hosting platforms into **producers of short movies, feature films, documentaries, and web-series**.

Examples of OTT

SERVICES
Robinhood, Uber, Venmo

CONTENT AND MESSAGES
Netflix, Skype, WhatsApp

DEVICES
AppleTV, Roku, Solar Panels

➢ **Content Recommendation:**
- ✓ These platforms **use artificial intelligence** to recommend content to users based on their past viewing habits.

➢ **Service Model:**
- ✓ **Many OTT platforms** provide some free content **while charging a monthly subscription** fee for premium content not available elsewhere.

➢ **Content Production:**
- ✓ Premium content is **typically created and promoted by the OTT platform itself**, often in collaboration with established **production companies that traditionally produced feature films**.

➢ **Examples of OTT Platforms:**
- ✓ Well-known OTT platforms include **Netflix, Disney+, Hulu, Amazon Prime Video, Peacock, Curiosity Stream, Pluto TV, and many more.**

➢ **Regulation:**
- ✓ In 2022, the Indian Central Government introduced the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021 to** regulate OTT platforms.
- ✓ These rules **establish guidelines and codes of ethics for digital content** and intermediaries.
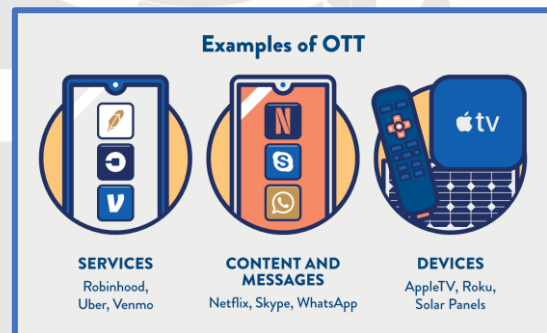
WHAT ARE THE RECENT ISSUES:

The issue of regulating Over-The-Top (OTT) services has arisen for several reasons:

➢ **Revenue Challenges for Telecom Companies:**
- ✓ Traditional telecom **revenues reduced** due to **popular free OTT services.**
- ✓ **Heavy infrastructure investments** with little revenue increase.

➢ **Uneven Playing Field Complaints:**

- ✓ Telecoms claim OTT platforms use their infrastructure without taxation.
- ✓ Complain that this creates an uneven playing field.

➢ **Content Providers' Cost-Sharing Demands:**
  - ✓ Telecom companies are calling for content providers such as **Netflix, Amazon Prime, and Disney+ Hotstar** to share the costs of the bandwidth they utilize.
  - ✓ They claim that streaming platforms are essentially **"free riders."**

➢ **Impact on Net Neutrality:**
  - ✓ Telecom companies' demands challenge the principles of net neutrality, which is the idea that **Internet service providers** should treat all internet traffic equally and without discrimination.

> ### *Telecom Regulatory Authority of India (TRAI):*
>
> #### Establishment and Legal Basis:
> - ❖ TRAI was **founded on February 20, 1997**, under the **Telecom Regulatory Authority of India Act, 1997**.
>
> #### Mission and Objectives:
> - ❖ TRAI's mission is to foster the **growth of telecommunications in India.**
> - ❖ It regulates **telecom services, including tariff fixation** and revision, a **function previously held by the Central Government.**
> - ❖ It strives to create a fair and transparent policy environment, promoting fair competition and a level playing field.
>
> #### Headquarters:
> - ❖ TRAI's central office is **situated in New Delhi.**

NET NEUTRALITY:

➢ **Definition:**
  - ✓ Net neutrality is the **principle that all internet traffic should be treated equally, without discrimination** or preference given to **any particular website, service, or application**.

➢ **Equal Access:**
  - ✓ Net neutrality ensures that **everyone has equal access to information and services on the internet**, regardless of their **financial resources or the size and power of the websites** they use.

➢ **Level Playing Field:**
  - ✓ It is an important principle that **helps to ensure a level playing field on the internet and to protect the free flow of information and ideas.**

➢ **Protection:**
  - ✓ Without net neutrality, **Internet Service Providers could potentially use their market power** to steer users towards certain websites and services, or to limit access to others.

IMPORTANCE OF NET NEUTRALITY:

➢ **Basis of TRAI Regulation:**
  - ✓ TRAI established the fo**undation for regulating net neutrality through the "Prohibition of Discriminatory Tariffs for Data Services**" regulation on February 8, 2016.

- ✓ This regulation led to the **withdrawal of Facebook's Free Basics platform** and other similar offerings in India.
- ✓ On November 28, 2017, TRAI released comprehensive recommendations that have significantly shaped the adoption of net neutrality principles in India.

➢ **Global Impact:**
- ✓ TRAI's actions in promoting **net neutrality were acknowledged worldwide**.
- ✓ The Body of **European Regulators for Electronic Communications (BEREC)** and TRAI collaborated on a **Joint Statement for an Open Internet**, initially in 2018 and reaffirmed in 2020.
- ✓ This memorandum of understanding **established cooperation in developing technological** and policy initiatives for net neutrality.
- ✓ Numerous other countries have **subsequently embraced net neutrality**.

➢ **Importance of Upholding Net Neutrality:**
- ✓ Stakeholders, including **policymakers, must recognize the long-term consequences** of yielding to the short-sighted demands of telecom companies.
- ✓ Upholding **net neutrality is not only about preserving an open internet** but also integral to cultivating an environment that fosters innovation, competition, and consumer welfare.
- ✓ This significance is **particularly pronounced in countries like India,** where the internet serves as the **backbone for all aspects of Digital Public Infrastructure (DPI).**

NET NEUTRALITY CONCERNS:

➢ **Net Neutrality Concerns:**
- ✓ Telecom companies' **demands challenge the principle of net neutrality**, which advocates equal treatment of all internet traffic.

➢ **Consumer Impact**:
- ✓ Compliance with **telecom demands may increase subscription fees** or **reduce service quality** for OTT platforms, **affecting consumers who rely on these services for entertainment and education**.

➢ **Impact on Telcos:**
- ✓ **VoIP applications have reduced traditional voice-based traffic**, causing financial pressure on telecommunications companies (telcos).

➢ **Differential Pricing Justification:**
- ✓ Advocates argue that **differential pricing aligns with economic principles**, allowing users to pay differently for various levels of service and experience.

➢ **Infrastructure Investment Recovery:**
- ✓ **Internet Service Providers (ISPs) contend that differentiating prices** based on service levels helps them recoup substantial infrastructure investments.

➢ **Investment in Telecom:**
- ✓ **Critics claim that enforcing net neutrality may discourage future investments** in telecom infrastructure, potentially affecting the quality of user experience.

➢ **Digital India Initiative:**
- ✓ **Net neutrality regulations could have implications for the government's ambitious** Digital India initiative.

WAY FORWARD FOR REGULATING NET NEUTRALITY IN INDIA:

➢ **Strengthen Implementation of TRAI Regulations:**
- ✓ Enhance the **effectiveness of TRAI's existing regulations and ensure strict adherence** to net neutrality principles.

- ➤ **Public Awareness and Education:**
    - ✓ Conduct awareness **campaigns to educate the public about the importance of net neutrality** and its impact on their internet experience.
- ➤ **Regular Monitoring and Reporting:**
    - ✓ Establish a framework for **continuous monitoring and reporting of net neutrality violations**.
    - ✓ Encourage users **to report any discriminatory practices**.
- ➤ **Transparency in Service Plans:**
    - ✓ Require Internet Service Providers (ISPs) to be **transparent about their service plans**, data caps, and traffic management policies.
- ➤ **Promote Healthy Competition:**
    - ✓ Encourage competition among ISPs to provide better services, thereby **benefiting consumers and reducing the risk of net neutrality violations.**
- ➤ **Oversight and Accountability:**
    - ✓ Strengthen regulatory **oversight over ISPs to hold them accountable for any violations** of net neutrality principles.
- ➤ **Regular Review and Updates:**
    - ✓ Periodically **review and update regulations to keep pace** with technological advancements and emerging challenges.
- ➤ **Global Collaboration:**
    - ✓ Collaborate **with international regulatory bodies to share best practices** and harmonize net neutrality standards.
- ➤ **Consumer Empowerment:**
    - ✓ **Empower consumers to make informed choices by providing clear information** about net neutrality compliance when selecting ISPs and service plans.
- ➤ **Government Support:**
    - ✓ Seek support from the **government and relevant authorities to uphold net neutrality** as a fundamental principle in India's digital landscape.

GLOBAL TUBERCULOSIS REPORT 2023

SOURCE:THE HINDU ,WHO

WHY IN NEWS?

*In 2022, there were **7.5 million people newly diagnosed with TB,** marking the highest number since global TB monitoring began in 1995. This surpasses the pre-COVID baseline of 7.1 million in 2019, up from 5.8 million in 2020 and 6.4 million in 2021.*

WHO GLOBAL TUBERCULOSIS REPORT 2023

- ➤ **Overview:**
    - ✓ The WHO Global Tuberculosis Report 2023 **provides a comprehensive and up-to-date assessment of the TB epidemic** and of **progress in prevention, diagnosis and treatment of the disease**, at global, regional and country levels.
    - ✓ This is done in the context of **global TB commitments, strategies and targets**.
    - ✓ The 2023 edition of the report is, as usual, based **primarily on data gathered by WHO** from national ministries of health in annual rounds of data collection.

✓ In 2023, **192 countries and territories with more than 99% of the world's population** and TB cases reported data.

KEY FINDINGS OF THE REPORT:

➢ **Key findings of the report:**

✓ Global recovery in **TB diagnoses and treatment occurred in 2022** after two years of COVID-19 disruptions.

✓ TB remains the **world's second leading cause of death after COVID-19**, and global TB targets are off track.

✓ In **2022, 7.5 million people were newly diagnosed with TB**, the **highest since** monitoring began in **1995.**

Estimated number of incident TB cases in 2022, for countries with at least 100 000 incident cases[a]

[a] The eight countries ranked in order from first to last in terms of numbers of cases, and that accounted for about two thirds of global cases in 2022, are India, Indonesia, China, the Philippines, Pakistan, Nigeria, Bangladesh and the Democratic Republic of the Congo.

✓ This increase includes a **backlog of delayed diagnoses due to COVID-19 disruptions**.

✓ **India, Indonesia, and the Philippines, key contributors to global TB reductions**, recovered to above 2019 levels in 2022.

✓ TB caused an **estimated 1.30 million deaths in 2022, close to 2019 levels**.

✓ COVID-19 disruptions led to nearly half a million excess **TB-related deaths between 2020 and 2022.**

✓ Progress towards global TB targets falls **significantly short of WHO's End TB Strategy milestones.**

✓ Economic barriers and funding **shortfalls are major challenges in addressing TB**.

✓ To end the global TB epidemic, **commitments made at the 2023 UN high-level meeting on TB need to be translated into action.**

REVISED TB DEATH ESTIMATES IN INDIA:

➢ WHO revised TB death estimates in India using new data from the country's sample registration system **(SRS) for 2014-2019.**

➢ National vital registration coverage in India was limited, **ranging from 16% to 22% between 2008 and 2020.**

➢ Previous WHO estimates relied on **IHME's Global Burden of Disease study 2019**, first used in 2016, which involves **redistributing causes of death based on verbal autopsy**.

Estimates of the percentage of deaths in India caused by TB, alternative sources

➢ SRS-based TB death estimates for India were **consistently lower than those in GBD 2019,** with differences growing over time.

➢ Estimates for TB deaths in India **from 2000-2019 underwent two steps**: adjusting SRS-based estimates for inaccuracies and multiplying them by WHO's total death estimates.

➢ The revised TB death estimates for **India during 2000-2019 are notably lower than interim estimates published in 2022.**

➢ Estimates for **2020-2022 incorporated COVID-19 disruptions** using a specific dynamic model based on the new SRS-based data.

WHAT ARE THE INITIATIVES TO COMBAT TB?

➢ **WHO's TB Vaccine Initiatives:**
  - ✓ **Investment case (2022)** highlights **benefits of TB vaccine development**.
  - ✓ A **50% effective vaccine could save lives**, reduce antibiotic use, and cut costs.
  - ✓ **$1 invested in a 50% effective vaccine** yields $7 economic return.
  - ✓ High-level event (Jan 2023) underscores **new TB vaccines and partnerships.**
  - ✓ "Accelerator council" planned for TB vaccine development.
  - ✓ **5-year initiative (2023–2027)** aims for at **least one new vaccine by 2027.**
  - ✓ "**TB vaccine accelerator council**" (Sep 2023) for global collaboration.

Estimated number of people who developed MDR/RR-TB (incident cases) in 2022, for countries with at least 1000 incident cases
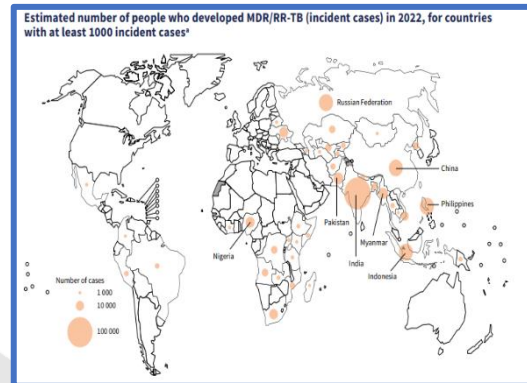
➢ **Efforts in India to Combat TB:**
  - ✓ **National Strategic Plan (NSP)** for Tuberculosis **Elimination (2017-2025).**
  - ✓ **The Nikshay Ecosystem**, a National TB information system.
  - ✓ Nikshay Poshan Yojana (NPY) **providing financial support to TB patients**.
  - ✓ The *TB Harega Desh Jeetega* Campaign.
  - ✓ Development and **Phase-3 clinical trials of TB vaccines - VPM 1002** and **MIP (Mycobacterium Indicus Pranii).**
  - ✓ Nikshay Poshan Yojna (2018) offering **Direct Benefit Transfers (DBT) of Rs 500 per month** to TB patients for nutritional support.

WAY FORWARD TO END TB EPIDEMIC:

➢ **Commitment to End TB:**
  - ✓ Global commitment to ending the TB epidemic through the WHO End TB Strategy and UN SDGs.

WHO End TB Strategy: 2025 milestones

➢ **Targets and Milestones:**
  - ✓ 2030 targets aim for a 90% reduction in TB deaths and 80% reduction in TB incidence compared to 2015, with 2025 milestones set at 50% and 75% reductions.

➢ **Reaffirmation and Expansion:**
  - ✓ Commitments reaffirmed and expanded upon at two UN high-level meetings on TB, including funding, treatment, and new vaccines.

➢ **Pandemic Setback:**
  - ✓ COVID-19 pandemic reversed progress, resulting in decreased TB care access and increased TB-related deaths and cases.

➢ **Recent Recovery:**
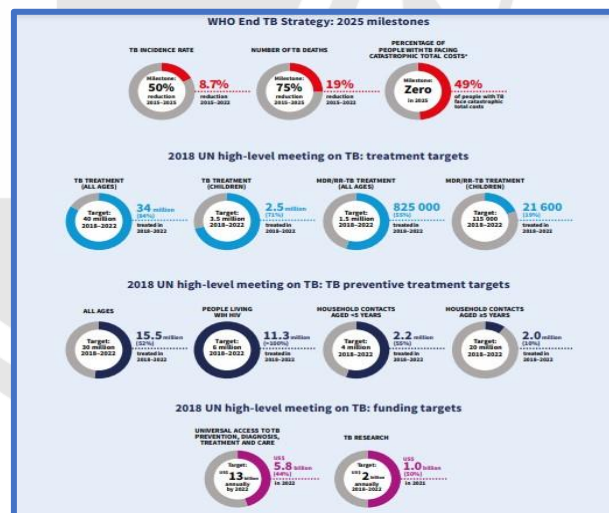
✓ Encouraging recovery in TB diagnoses and treatment in 2022 starts to mitigate the pandemic's impact.

➤ **Global Challenge:**
  ✓ Despite being preventable and curable, TB remains the second leading cause of death after COVID-19, causing more deaths than HIV/AIDS.

➤ **Urgent Action:**
  ✓ Translating commitments into action is crucial to end the global TB epidemic.

PRODUCTION-LINKED INCENTIVES (PLI) FOR MANUFACTURING SEMICONDUCTORS

SOURCE: THE HINDU

WHY IN NEWS?

*The **underutilization of funds allocated for semiconductor manufacturing** through the **Production-Linked Incentive (PLI) scheme** has brought the **government's strategy under scrutiny**. With over **80% of PLI funds for semiconductor manufacturing** remaining unused, questions arise about the efficacy of the substantial financial investment.*

PRODUCTION LINKED INCENTIVE (PLI) SCHEME:

➤ **Overview:**
  ✓ The Finance Minister has introduced the Production Linked Incentive (PLI) Schemes across **13 key sectors as part of the government's economic initiatives.**
  ✓ These schemes aim to establish **national manufacturing champions and provide employment opportunities for the youth of the country.**

➤ **Aims and Objectives:**
  ✓ *Incremental Sales Incentives***:** The primary objective is to **offer incentives to companies** based on **incremental sales from products manufactured within domestic units**.

Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing

- **Incentive:** 4% to 6% on incremental sales (over base year) of goods manufactured in India
- **Target Segments:** Mobile phones and specified electronic components
- **Eligibility:** Subject to thresholds of incremental investment and incremental sales of manufactured goods
- **Tenure of the Scheme:** Five years subsequent to the base year as defined (FY19-20)

  ✓ *Attracting Foreign Investment:* The scheme actively **encourages foreign companies** to establish their **manufacturing units in India**, contributing to the country's economic growth.
  ✓ *Promoting Local Manufacturing:* Local companies are **incentivized to either set up new manufacturing units** or expand existing ones, fostering domestic production and economic development.
  ✓ *WTO Compliance:* The **overarching goal is to align India with World Trade Organisation (WTO)** commitments, **ensuring non-discriminatory and neutral treatment** concerning both domestic sales and exports.

Semiconductor Manufacturing in India:

➢ **India's Initiative for Semiconductor Manufacturing:**
- ✓ In response to the challenges posed by **import dependency**, India has **initiated efforts to establish semiconductor manufacturing units domestically,** aiming for self-sufficiency in this critical technological domain.

➢ **Pivotal Role in Modern Electronics:**
- ✓ Semiconductors and displays serve as the **fundamental building blocks of the modern electronics industry,** powering devices ranging from computers and smartphones to automotive sensors.

> **India Semiconductor Mission**
>
> ☛ India Semiconductor Mission (ISM) is a **specialized and independent Business Division within the Digital India Corporation.**
> ☛ It aims to build a vibrant semiconductor and display ecosystem to enable India's emergence as a global hub for electronics manufacturing and design.

➢ **Geopolitical Significance and Security:**
- ✓ In the current geopolitical landscape, **securing reliable sources of semiconductors is of strategic importance.**
- ✓ These components are **crucial for the security of critical information infrastructure**.
- ✓ Concerns over **potential vulnerabilities, as seen in telecom equipment**, emphasize the need for self-reliance.

➢ **Global Tensions and Domestic Manufacturing Boost:**
- ✓ **Escalating tensions between the U.S. and China, particularly over Taiwan**, along with supply chain blockages **due to geopolitical conflicts like Russia-Ukraine,** have **prompted nations, including India, to prioritize and enhance domestic semiconductor manufacturing capabilities**.

RECENT CONCERN OVER SEMICONDUCTOR MANUFACTURING IN INDIA:

➢ **Underutilization of PLI for Semiconductors:**
- ✓ Funds allocated for semiconductor manufacturing through the PLI scheme **are largely underutilized, raising questions about the effectiveness of the investment**.

Global semiconductor revenues are set to drop 11.2% in 2023

	Revenue ($ billion)	Growth (%)
2021	595	26.3
2022	600	0.2
2023	532	-11.2
2024	631	18.5

Figures for 2023 and 2024 are projections.
Chart: howindialives.com • Source: Gartner
mint

➢ **Lack of Clarity on Achievements and Goals:**
- ✓ The government's objectives and accomplishments in **spending crores on semiconductor fabrication capabilities lack transparency, requiring a clearer narrative on the intended outcomes**.

➢ **Challenges in Employment and Value Addition:**
- ✓ Existing schemes **demonstrate limited promise in generating substantial employment** and value addition.
- ✓ Semiconductor manufacturing, **being highly automated**, contributes minimally to employment.

➢ **Wager on Attracting a Semiconductor Ecosystem:**
- ✓ The central bet on attracting an "**ecosystem" to enhance India's electronics manufacturing** sector is uncertain.
- ✓ Dependence on **global manufacturing giants** and their willingness to bypass advantages of a distributed supply chain is risky.

➢ **Emphasis on Semiconductor Design Talent:**
  ✓ Efforts **to encourage domestic semiconductor design talent**, such as **the design-linked incentive scheme, show promise.**
  ✓ However, a major portion of **capital remains directed at large manufacturing plants** with substantial reliance on imported materials.
➢ **Limited Commitments from Multinational Chipmakers:**
  ✓ Despite incentives, **multinational chipmakers are hesitant to make** substantive commitments.
  ✓ **Private capital is in flux**, with uncertainties about allocating resources amid technological advancements.
➢ **Need for Tangible Outcomes and Clear Goals:**
  ✓ The outlays for **semiconductor manufacturing should be tied to tangible outcomes.**
  ✓ Clarity is essential on whether the goal is **safeguarding cyber sovereignty, reducing electronics costs for Indian consumers**, or establishing India as a global manufacturing hub.

GOVERNMENT INITIATIVES:

➢ **Government's Semiconductor Ecosystem Focus:**
  ✓ The **government is strategically focused on developing the semiconductor ecosystem** to catalyze India's rapidly expanding electronics manufacturing and innovation sector.

India Semiconductor Market Dashboard, 2021-2026

➢ **Electronic Goods Production Surge:**
  ✓ Government initiatives and industry efforts propelled a robust growth in domestic electronic goods production.
  ✓ The sector surged from **USD 37 billion in 2015-16 to USD 74.7 billion in 2020-21**, boasting a significant **Compound Annual Growth Rate (CAGR) of 17.9%.**
  ✓ Key schemes like PLI, Electronic Components and Semiconductors Promotion, and **Modified EMC 2.0** played pivotal roles in fostering self-reliance in electronics manufacturing.
➢ **AtmaNirbharta Vision in Electronics and Semiconductors:**
  ✓ The **government's vision of self-reliance (AtmaNirbharta)** in electronics and semiconductors gained momentum with the **approval of the Semicon India program by the Union Cabinet**.
  ✓ The program, with an outlay of INR 76,000 crore, **aims to develop the semiconductor and display manufacturing ecosystem in the country.**
➢ **Scheme for Semiconductor Fabs:**
  ✓ Offers fiscal support for setting up semiconductor wafer fabrication facilities with varying percentages of the project cost based on technology nodes.
➢ **Scheme for Display Fabs:**
  ✓ **Provides fiscal support for setting up TFT LCD / AMOLED** based display fabrication facilities with up to 50% of the project cost.
➢ **Scheme for Compound Semiconductors / Silicon Photonics / Sensors Fab and Semiconductor ATMP / OSAT facilities:**
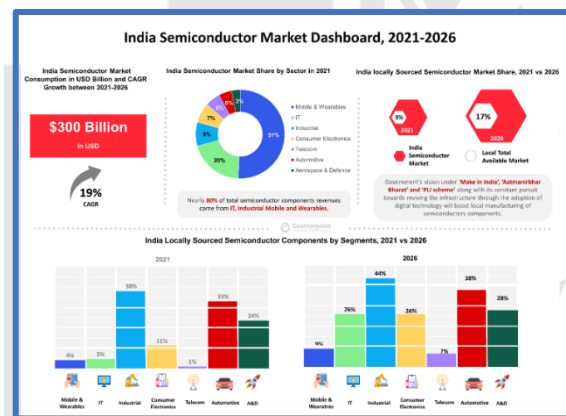
- ✓ Offers fiscal support for **setting up facilities in these domains**, **providing 30% of the capital expenditure.**
- ➤ **Design Linked Incentive (DLI) Scheme:**
  - ✓ Provides financial incentives and design **infrastructure support for semiconductor design**, covering various stages of development and deployment.
  - ✓ Other schemes such as **Chips to Startup (C2S)** and Scheme for **Promotion of Electronic Components and Semiconductors (SPECS)** to support the industry**.**

WAY FORWARD:

- ➤ **Strategic Outcome Alignment:**
  - ✓ Align PLI schemes with **strategic national outcomes, be it enhancing cyber sovereignty**, bolstering domestic electronics affordability, or **establishing India as a global electronics manufacturing hub.**
- ➤ **Diversified Investment Focus:**
  - ✓ Diversify **capital allocation beyond large manufacturing plants**.
  - ✓ Encourage **investments in semiconductor design**, fostering a comprehensive ecosystem.
- ➤ **Enhanced Clarity in Objectives:**
  - ✓ Clearly define and **communicate the specific objectives of PLI schemes**, ensuring that outcomes align with **broader economic, technological, and strategic goals.**
- ➤ **Address Raw Material Dependency:**
  - ✓ Develop strategies to **reduce dependence on imported raw and intermediate materials**, enhancing self-sufficiency in the semiconductor production process.
- ➤ **Promote Private Capital Engagement:**
  - ✓ Implement **measures to attract private capital by providing assurances and incentives** that align with the **evolving landscape of chip technologies and artificial intelligence**.
- ➤ **Constant Policy Adaptation:**
  - ✓ Establish **mechanisms for agile policy adaptation,** taking into account rapid advancements in chip technologies and global supply chain dynamics.
- ➤ **Collaboration with Global Giants:**
  - ✓ Foster collaborations with **global manufacturing giants, encouraging them to participate in India's semiconductor ecosystem** by leveraging the benefits of PLI schemes.
- ➤ **Robust Monitoring and Evaluation:**
  - ✓ Implement **robust monitoring and evaluation frameworks to assess the effectiveness of PLI schemes** and make data-driven adjustments as needed.
- ➤ **Long-term Vision:**
  - ✓ Develop a clear, **long-term vision for India's semiconductor industry**, emphasizing sustained growth, innovation, and competitiveness in the global market.

THE APPROVAL OF FIRST VACCINE FOR CHIKUNGUNYA

SOURCE:THE HINDU

WHY IN NEWS?

*The recent **approval of the chikungunya vaccine, Ixchiq, by the U.S.** FDA marks a significant development in global health.*

CHIKUNGUNYA: DECODING THE VIRAL MENACE:

➢ **Understanding Chikungunya:**
- ✓ **Chikungunya, a viral illness, emerged in 1952 in Tanzania,** causing joint pain and dubbed "to become contorted" in the local language.

➢ **Transmission Dynamics:**
- ✓ Transmitted by mosquitoes, **Aedes aegypti and Aedes albopictus**, the **same vectors for dengue**.
- ✓ Mosquitoes contract the **virus by biting infected humans or animals**, influenced by weather conditions.

➢ **Symptoms Unveiled:**
- ✓ Symptoms **encompass severe joint pain, muscle pain, headache, nausea, fatigue, and rashes**.

➢ **Treatment Challenges:**
- ✓ Before That, **there is no specific vaccines or antiviral medications target Chikungunya**.
- ✓ Treatments mainly focused on **symptom relief, lacking a definitive cure**.

➢ **Factors Fueling the Outbreak:**
- ✓ **Urbanization Maze: Unplanned urban growth contributes** to the rising incidence of Chikungunya.
- ✓ **Waste Woes: Inadequate water and waste management** create breeding grounds for mosquitoes.
- ✓ **Vaccine Void: The absence of targeted drugs or vaccines** hampers effective prevention and treatment.
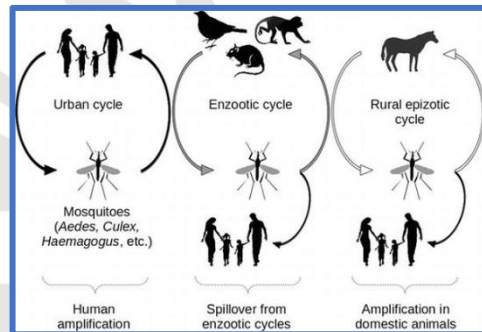
FDA APPROVAL FOR CHIKUNGUNYA VACCINE:

- ➢ **First Preventive Shot for Chikungunya:**
  - ✓ **Ixchiq is the first-ever preventive vaccine against the chikungunya** virus approved by the FDA, marking a milestone in addressing this **mosquito-borne disease in the United States**.
- ➢ **Availability Details Awaited:**
  - ✓ While the FDA has granted approval, **there is no official information from Valneva about the availability of the Ixchiq vaccine in the U.S.**
  - ✓ Further updates from **the company are awaited regarding distribution**.
- ➢ **Vaccine Effectiveness:**
  - ✓ Approval is based on **late-stage clinical trials showing the vaccine's effectiveness**.
  - ✓ The **trials demonstrated a remarkable 98.9% success rate** in triggering antibody production capable of neutralizing the **chikungunya virus within 28 days post-vaccination**.
- ➢ **Post-Marketing Study for Ongoing Safety Monitoring:**
  - ✓ The FDA has requested **Valneva to conduct a post-marketing study to assess potential risks** of severe chikungunya-like adverse reactions after vaccination.
  - ✓ This **ensures continuous safety monitoring and a commitment to long-term vaccine safety** and effectiveness.

> ### *Vaccine Composition:*
> - ☞ *Lxchiq is administered as a singular injection into the muscle.*
> - ☞ *It contains a live, weakened version of the chikungunya virus.*
> - ☞ *Comprehensive studies engaged around 3,500 participants aged 18 and older.*
> - ☞ *Common side effects include headache, fatigue, muscle pain, joint pain, fever, nausea, and injection site tenderness.*
> - ☞ *Antibody levels evaluated against a protective threshold observed in non-human primates.*

INDIAN GOVERNMENT ENDEAVORS AGAINST CHIKUNGUNYA: UNVEILING INITIATIVES

- ➢ **National Vector Borne Disease Control Programme (NVBDCP):**
  - ✓ A **flagship initiative addressing Malaria, Filaria, Kala-azar, Japanese Encephalitis, Dengue, and Chikungunya.**
  - ✓ Operates under the **Ministry of Health and Family Welfare.**
  - ✓ Aims **to prevent and control the spread of various vector-borne diseases**.
- ➢ **Integrated Mosquito Management (IMM):**
  - ✓ A **holistic approach combining chemical, biological, and environmental methods** to manage mosquito populations.
  - ✓ **Targets the breeding sites of Aedes mosquitoes**, responsible for Chikungunya transmission.
- ➢ **Community Awareness Campaigns:**

Destroy those larvae, stay safe

- ✓ Educational initiatives to **inform communities about preventive measures**, symptoms, and early detection of Chikungunya.
- ✓ Empowers **communities to actively participate in vector control efforts**.
- ➤ **Research and Development (R&D) Initiatives:**
  - ✓ Allocates resources for research on innovative strategies, vaccines, and treatment options for Chikungunya.
  - ✓ Focuses on **staying ahead of the viral evolution and enhancing control measures**.
- ➤ **Urban Planning Integration:**
  - ✓ Collaborates with **urban planning bodies to incorporate mosquito control measures in city planning.**
  - ✓ Aims to address **haphazard urbanization contributing to increased mosquito breeding**.

WAY FORWARD:

- ➤ **FDA Approval Addresses Unmet Medical Need:**
  - ✓ The FDA's approval acknowledges the vaccine's role in addressing an unmet medical need, representing a **significant advancement in preventing a potentially debilitating disease**.

- ➤ **Limited Treatment Options for Chikungunya:**
  - ✓ The **approval emphasizes the importance of the vaccine in providing a preventive solution**, especially in the context of chikungunya, where treatment options are limited.
- ➤ **Fast-Track Pathway Inspired by COVID Research:**
  - ✓ The hope is that the **fast-track pathway, inspired by the success of COVID research** and vaccine development, will expedite the **rollout of the chikungunya vaccine**.
- ➤ **Prevalent Regions for Chikungunya:**
  - ✓ The rollout is particularly **crucial in regions where chikungunya is more prevalent**, such as **Brazil, Paraguay, India (with a significant number of suspected cases), and parts of western Africa**.
- ➤ **Potential Impact on Chikungunya Cases:**
  - ✓ The approval aims to have a positive impact on the prevalence of chikungunya by **making the vaccine accessible in regions with high incidences of the disease.**
- ➤ **Global Collaboration in Disease Prevention:**
  - ✓ The vaccine approval underscores the importance of **global collaboration in preventing vector-borne diseases, contributing to public health efforts on an international scale.**
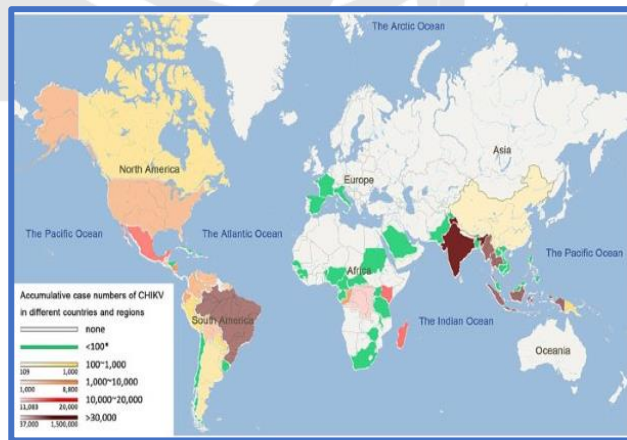
NASA EXPERIMENT WILL STUDY 'AIR GLOW' TO UNDERSTAND SPACE WEATHER

SOURCE: INDIAN EXPRESS

WHY IN NEWS?

NASA's AWE project has garnered attention *due to its aim to study Earth's weather as a significant driver of Space weather*. The project's *focus on understanding the interplay between terrestrial and Space weather* makes it noteworthy.

NASA'S AWE MISSION FOR SPACE WEATHER STUDY:

➢ **Overview:**
   ✓ **NASA's Atmospheric Waves Experiment (AWE) is designed to explore the connections between Earth's weather and Space weather,** emphasizing the study of atmospheric waves.
   ✓ AWE's focus on the **interplay between lower atmospheric waves** and their impact on the upper atmosphere makes it a pioneering mission.
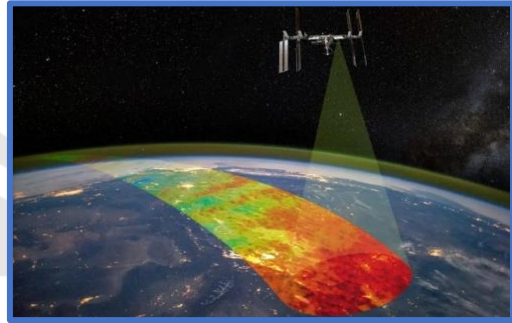
➢ **Significance of Space Weather Monitoring:**
   ✓ The **escalating reliance on satellite-based services for communication and navigation** underscores the critical importance of monitoring Space weather.
   ✓ Space weather events **directly influence key Earth installations**, including satellite communication, radio communication, and power grids.

➢ **Drivers of Space Weather:**
   ✓ **Space weather is driven by various factors, including solar flares**, emissions from the Sun, and the composition of matter in Space.
   ✓ **Terrestrial weather conditions can also contribute to extreme events in Space weather**, impacting vital Earth infrastructure.

ATMOSPHERIC WAVES EXPERIMENT (AWE):

➢ **Nature of AWE:**
   ✓ AWE is NASA's groundbreaking experiment **within the Heliophysics Explorers Program**.
   ✓ The $42 million mission **aims to explore the intricate interactions between terrestrial and Space weather.**

➢ **Mission Objectives:**
   ✓ Focuses on **studying how waves in the lower atmosphere influence the upper atmosphere** and Space weather dynamics.

➢ **Implementation and Location:**
   ✓ AWE will be launched and **affixed to the exterior of the International Space Station (ISS).**

- ✓ **Positioned on the ISS allows AWE to observe Earth and capture airglow phenomena**, characterized by colourful light bands.
- ➢ **Airglow Measurement:**
  - ✓ AWE will **measure airglow at the mesopause, approximately 85 to 87 km** above Earth's surface.
  - ✓ The mesopause region experiences temperatures plummeting **to minus 100 degrees Celsius**.
- ➢ **Infrared Detection:**
  - ✓ Operating in the infrared bandwidth, **AWE can detect faint airglow,** which appears brightest at the specified altitude**.**
- ➢ **Horizontal Scale Resolution:**
  - ✓ AWE **possesses the capability to resolve waves at finer horizontal scales** compared to traditional satellite observations.
- ➢ **Unique Contribution:**
  - ✓ The **mission's uniqueness lies in its ability to offer insights into the forces propelling Space weather** from both terrestrial and upper-atmospheric perspectives.
- ➢ **Ionosphere Health Assessment:**
  - ✓ **AWE endeavors to contribute to the understanding of the ionosphere's health**, crucial for maintaining uninterrupted communication**.**
- ➢ **Impact of Transient Events:**
  - ✓ Scientists aim **to ascertain whether the ionosphere is affected by transient events or intense perturbations** resulting from phenomena like hurricanes or tornadoes.
- ➢ **Launch Schedule:**
  - ✓ **Originally scheduled for August 2022**, the new launch is anticipated to occur this month.

FUNCTIONS OF NASA'S AWE:

- ➢ AWE maps **vibrant airglows in Earth's atmosphere with precision**.
- ➢ It uses the **Advanced Mesospheric Temperature Mapper (ATMT)** for scanning the **mesopause region.**
- ➢ **Four identical telescopes** are integrated into an **imaging radiometer setup**.
- ➢ Scientists collect data on **light brightness at specific wavelengths.**
- ➢ Processed data generates a temperature map.
- ➢ The temperature map provides **insights into airglow movement and dynamics**.
- ➢ **AWE contributes valuable clues about airglow's role** in the **upper atmosphere and Space weather**.

- ➢ Mapping efforts and temperature data **enhance scientific understanding of atmospheric interactions**.
- ➢ Deployment of four telescopes **allows comprehensive examination of airglow characteristics**.
- ➢ AWE's overarching goal is to advance knowledge about **Earth's atmospheric behavior and its connection to Space weather dynamics.**
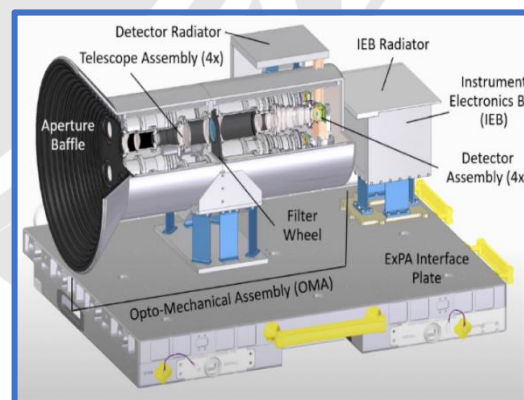
ISRO'S FUTURE PLANS:

Major Missions	Description
Modified LVM-3 Flights (Gaganyaan Tests)	✓ **Two flights of modified LVM-3** to test the crew escape system for the Gaganyaan mission.
XPoSat Satellite	✓ **India's first dedicated polarimetry mission, set to launch in 2023**. ✓ Aims to explore the dynamics of astronomical X-ray sources. ✓ Developed in **collaboration between ISRO and the Raman Research Institute (RRI)**, positioned in a **low Earth orbit covering 500-700 km.**
SSLV Developmental Flight	✓ **Capable of launching up to 500 kg satellites to low Earth orbit**. ✓ A **three-stage solid rocket vehicle** with a liquid propulsion-based velocity trimming module.
NISAR Satellite	✓ A **collaborative initiative between NASA and ISRO**. ✓ A **dual-frequency synthetic** aperture radar on an Earth observation satellite **in Low Earth Orbit (LEO).** ✓ Used for **remote sensing and understanding natural processes** on Earth.
Gaganyaan G1 and G2 Flights	✓ **Human-rated LVM-3 rocket flights** without crew as **part of the Gaganyaan mission**.
GSAT-20 Satellite	✓ **Collaboration between ISRO Satellite Centre and Liquid Propulsion Systems Centre**. ✓ Set to become **ISRO's first satellite to transition from a geostationary transfer orbit (GTO)** to a geosynchronous orbit through Electric Propulsion.
Lunar Polar Exploration (LUPEX) Mission	✓ **Collaboration between ISRO and JAXA** (Japan Aerospace Exploration Agency). ✓ An **extension of Chandrayaan-3 involving a sophisticated Lander** and rover to study the **moon's South Polar Region,** including subsurface sample extraction and **'night survival' demonstration**. ✓ **JAXA provides launch vehicle and rover**, while ISRO provides the Lander.
Mars Return Mission	✓ Planned **return to Mars for further exploration**.
Venus Mission ('Shukrayaan')	✓ Planned **mission to study Venus.**
Other Collaborations	✓ ISRO's involvement in launching **OneWeb satellites (2022)** and the expected **launch of European Space Agency's PROBA-3 satellites (2024)** as alternative providers due to sanctions on Russia.

NEED A REGULATOR LIKE SEBI FOR AI

SOURCE: THE HINDU

WHY IN NEWS?

With **AI becoming an integral part of various sectors**, including finance, healthcare, and governance, the **need for regulatory frameworks has become a pressing concern.**

THE RISE OF ARTIFICIAL INTELLIGENCE (AI) AND ITS IMPACT IN INDIA:

- ➢ **Global Adoption and Economic Potential:**
  - ✓ AI systems have **garnered global attention for their economic value** and role in addressing societal challenges.
  - ✓ The **adoption and development of AI have surged worldwide**, with a **projected addition of USD 957 billion to India's economy by 2035.**
- ➢ **Projected Growth in AI Software Market:**
  - ✓ The AI software market is **anticipated to reach USD 126 billion by 2025.**
  - ✓ This growth underscores the **expanding influence and relevance of AI technologies.**
- ➢ **National Strategy for Artificial Intelligence (NSAI):**
  - ✓ NSAI **has positioned AI at the forefront of the Government's reform agenda**, emphasizing its potential to **enhance outcomes in critical sectors like healthcare**, **agriculture, and education.**
  - ✓ AI is recognized for **enabling scale in specialized services** and improving access to government welfare services.
- ➢ **Facilitating Specialized Services and Inclusive Access:**
  - ✓ AI plays a **pivotal role in facilitating specialized services** such as remote **diagnosis and precision agriculture advisory.**
  - ✓ It also enhances **inclusive access to government welfare services** through **regional language chatbots and voice interfaces.**
  - ✓ NSAI advocates for a **robust ecosystem that supports cutting-edge research**, addressing societal challenges and positioning India as a global leader in AI innovation.
  - ✓ The goal is to **scale solutions globally**, showcasing **India's strategic leadership.**
- ➢ **Integration into Society:**
  - ✓ As AI applications increase across private and public sectors, the technology is expected to become **deeply ingrained and integrated into society**.
  - ✓ Large-scale AI trials are conducted **daily in various sectors, such as the use of CCTV cameras** in Uttar Pradesh for **crowd management** during the **'Prayagraj Kumbha Mela.'**
- ➢ **Research from IIT Madras:**
  - ✓ Researchers from IIT Madras are exploring AI applications to predict the risk of **expectant mothers dropping out of healthcare programs**.
  - ✓ This approach aims to **enhance targeted interventions and improve healthcare outcomes** for **both mothers and infants.**

Concerns and Regulatory Imperatives for AI in India:

➢ **Analysis:**
  - ✓ The rapid ascent of Artificial Intelligence (AI) in **India has raised significant concerns** and prompted the need for a robust regulatory framework.
  - ✓ India artificial intelligence (AI) market **size was estimated** at **USD 672.11 million in 2022**.
  - ✓ During the forecast period between 2023 and 2029, the size of India artificial intelligence (AI) market is projected to grow at a **CAGR of 32.26% reaching a value of USD 3,966.51 million by 2029.**
  - ✓ However, several **critical concerns have emerged, necessitating comprehensive regulations to navigate the transformative impact of AI.**
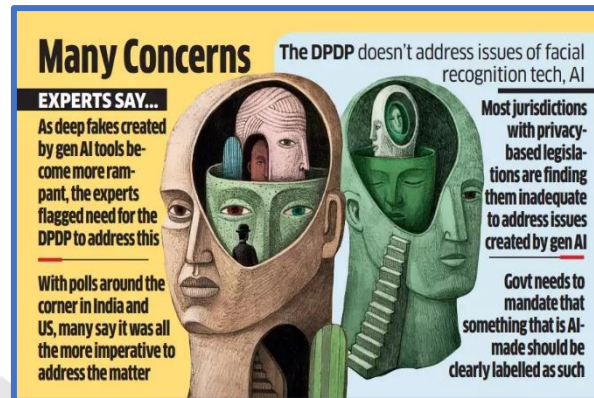
➢ **Job Displacement and Ethical Dilemmas**:
  - ✓ Contrary to **initial fears of blue-collar job displacement**, white-collar positions are now **at risk due to AI advancements.**
  - ✓ **Deepfake technology poses ethical challenges**, potentially undermining **trust in media and public figures.**
  - ✓ The **overarching concern revolves around the preservation of humanity's** core values in the face of rapid technological evolution.

➢ **Lack of Legal Framework:**
  - ✓ **India currently lacks a codified legal framework specifically addressing AI** deployment and use.
  - ✓ Sector-specific guidelines exist, such as those in the **financial and healthcare sectors**, but a comprehensive regulatory approach is lacking.

➢ **Need for Responsible AI Management:**
  - ✓ The **absence of clear regulations leaves a void in providing guidance** on responsible AI management within the country.
  - ✓ Regulatory frameworks are **essential to mitigate societal risks,** fostering innovation while ensuring responsible AI usage.

➢ **Potential Disruption of Employment:**
  - ✓ Concerns persist **about AI displacing jobs**, with a **need for safeguards to ensure responsible** implementation and prevent job losses.

REFORMS REQUIRED FOR REGULATING ARTIFICIAL INTELLIGENCE:

➢ **SEBI Model Comparison:**
  ✓ Drawing a **parallel with the financial sector**, the AI regulator is envisioned to function similarly to the **Securities and Exchange Board of India (SEBI).**

➢ **Challenges of Self-Regulation:**
  ✓ Models of **self-regulation and bureaucratic oversight** are deemed **unsuitable for the dynamic AI** space, emphasizing the need for a specialized regulator.

➢ **Understanding Technology:**
  ✓ The **proposed AI regulator** should possess a **deep understanding of the technology**, prioritizing attention to its evolving nature rather than attempting to predict its trajectory.

➢ **Creating a Regulatory System:**
  ✓ To regulate AI effectively, a **robust system needs to be established**, incorporating manual overrides akin to financial market circuit breakers.

➢ **Ex-ante Accountability:**
  ✓ Emphasizing the **importance of accountability, a system with 'skin in the game'** and **ex-ante accountability is advocated**.
  ✓ Regular **audits and transparency are crucial**.

➢ **Enforcement Mechanisms:**
  ✓ Drawing **parallels with corporate governance, the speaker** suggests the need **for enforcing audits** and **accountability, requiring explanations for AI behavior**, business models, and functions.

➢ **Application of Financial World Principles:**
  ✓ Highlighting **parallels with the financial world,** principles governing boards' accountability in companies can be **applied to regulate the evolution of AI effectively.**

➢ **Protocol Development**:
  ✓ The establishment of **good protocols for developing AI regulations** is deemed essential, ensuring a thoughtful and effective approach to governance.

➢ **Recognition of Regulatory Necessity:**
  ✓ **Acknowledging the need for AI regulation**, it is emphasized that **sensible individuals now recognize the necessity for regulatory frameworks** in the AI domain**.**
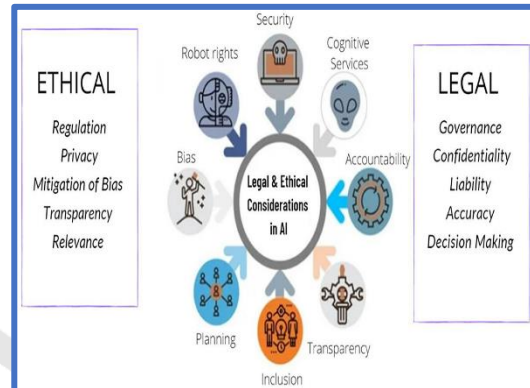
REGULATORY INITIATIVES AND FUTURE STRATEGIES:

➢ **Digital India Act (DIA):**
  ✓ The proposed **DIA aims to encompass AI regulation**, signaling a **proactive approach to AI governance.**
  ✓ It focuses on defining and **regulating high-risk AI applications**, constructing frameworks for AI accountability, and ensuring ethical AI utilization.

➢ **Government Initiatives:**
  ✓ The **2023-24 Union budget emphasizes "*Making AI in India"*** with the **establishment of AI research centers in educational institutions.**

- ✓ Initiatives like the **National Digital Health Mission (NDHM)** and **NASSCOM's Responsible AI** Resource Kit highlight the government's commitment to responsible AI adoption.
- ➢ **Global Participation:**
  - ✓ India, as the **chair of the Global Partnership on Artificial Intelligence (GPAI),** actively contributes to the **global discourse on AI adoption and regulation**.
  - ✓ The government sees AI as a **dynamic enabler for technology and innovation**, aligning with its G20 presidency agenda.
- ➢ **Industry Collaboration:**
  - ✓ Industry-driven initiatives, such as **NASSCOM's Responsible AI Resource Kit** and collaborative programs like **"Future Skills Prime,"** focus on upskilling professionals and promoting responsible AI adoption.
- ➢ **Vision for AI Regulation:**
  - ✓ The **current vision for AI** regulation in India emphasizes fl**exible, policy-driven approaches that prioritize safety, non-discrimination, transparency, and accountability**.
  - ✓ Ongoing efforts by **MeitY and NITI Aayog** are crucial in **shaping India's AI policy landscape**.
  - ✓

FIBRE OPTIC CABLES: ITS ORIGINS, WORKING AND DIFFERENT FUNCTIONS

SOURCE: THE HINDU

WHY IN NEWS?

*Amidst the **unprecedented COVID-19 pandemic**, the **internet emerged as a vital virtual connector**, facilitating activities such as **video chats, online payments, and remote learning**. Central to this **connectivity are optical fibers, thin cylindrical strands of glass with a diameter comparable to a human hair.***

WHAT IS OPTICAL FIBRE?

- ➢ **Understanding Optical Fiber:**
  - ✓ **Optical fiber, a slender strand of glass or plastic**, serves as a **conduit for transmitting light** from one point to another.
  - ✓ Also known as an **optical waveguide,** this **device effectively guides light**, playing a crucial role in modern communication systems.

- ➢ **Structural Components:**
  - ✓ **Optical fibers are composed of two main components**—a **light-carrying core** and a **cladding that surrounds the core.**
  - ✓ The construction can take **various forms, such as glass core/cladding, glass core with plastic** cladding, or an all-plastic fiber.
- ➢ **Versatility in Signal Transmission:**
  - ✓ **Voice, video, and data signals find encoding into light pulses** for transmission across optical fibers.
  - ✓ **With each phone call, a sequence of light pulses travels** through the optical fiber, **conveying information to the recipient on the other end of the line.**
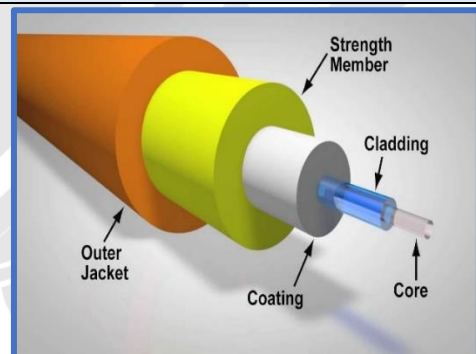
➢ **Five Essential Elements in Communication System:**
 A fiber optic communication system comprises five essential elements:
  ✓ *Encoder or Modulator:* Initial electrical input is coded into a **signal through modulation**, **employing signal processing techniques.**
  ✓ *Transmitter:* The modulated signal is **converted from electrical to optical form** and launched into the optical fiber.
  ✓ *Fiber:* Serving as the **medium for signal transmission**, the optical fiber **guides the light pulses**.
  ✓ *Detector:* At the destination, the **detector receives the optical signal**, converting it back into an electrical signal.
  ✓ *Demodulator:* This component **decodes the received signal**, restoring it to its original form.

PRINCIPLES OF FIBER OPTICS SIMPLIFIED:
➢ **Total Internal Reflection:**
  ✓ *Definition:* Light stays within the **first material due to reflection at the core-cladding interface**.
  ✓ *Mechanism:* Governed by **Snell's law of refraction** and law of reflection.
➢ **Snell's Law and Refraction:**
  ✓ When **light encounters a boundary between materials**, it **bends based on Snell's law**.
  ✓ Incident angle increase leads to a larger refracted angle.
➢ **Index of Bottom Material:**
  ✓ *Role:* **Determines the extent of angle change** during refraction.
  ✓ *Impact:* Proper material selection allows increasing the incident angle until the ray refracts at 90 degrees.
➢ **Critical Angle:**
  ✓ Incident angle resulting in a **refracted angle of 90 degrees.**
  ✓ *Significance:* Beyond this angle, **light remains confined within the first medium**.
  ✓ Fiber optics rely on the critical angle **principle for total internal reflection**, ensuring **light stays within the optical fiber core during transmission.**
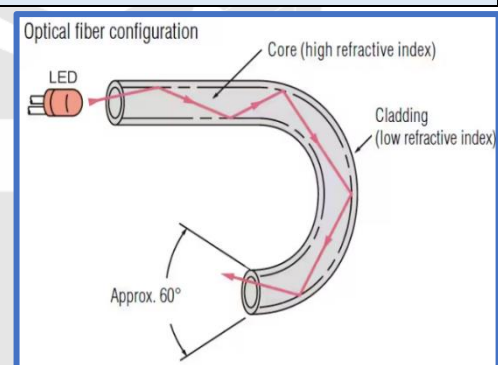
GOVERNMENT INITIATIVES: TRANSFORMING INDIA THROUGH OPTICAL FIBER
➢ **Visionary Digital Connectivity:**
  ✓ India's expansive road network becomes a digital highway.
  ✓ *Initiative:* **Ministry of Road Transport and Highways (MoRTH)** deploys **fiber optics along 25,000 km of national highways by 2025.**
➢ **Digital Empowerment for All:**
  ✓ *Internet Growth:* Anticipated **45% rise** in active **users to 900 million by 2025.**
  ✓ *Strategic Move:* **Strengthening digital infrastructure** to bridge urban-rural digital divides.
➢ **Synergy with Government Initiatives:**
  ✓ *Complementary Projects*: **Aligns with National Digital Communications Policy (NDCP)** and BharatNet.
  ✓ *Rural Connectivity:* **Focus on high-speed internet in rural areas** for comprehensive development.

ADVANTAGES OF OPTICAL FIBRE:

- ➢ **Cost-Efficiency and Timely Expansion:**
  - ✓ *Utilizing Highways:* Leverage **existing road network** for fiber optic expansion.
  - ✓ *Cost Reduction:* **Significant reduction in cost and time compared** to greenfield projects.
- ➢ **Boosting Connectivity, Safety, and Efficiency:**
  - ✓ *Traffic Management:* Fiber optics contribute **to intelligent transportation and traffic monitoring**.
  - ✓ *Data Localization:* Facilitates the **establishment of data centers for seamless data transfer** within the country.
- ➢ **Fiber Quality and Future-Proofing:**
  - ✓ *Importance of Quality:* Emphasizes **the use of high-quality fiber for scalability**.
  - ✓ *Lifetime Consideration:* **Urgency to avoid low-quality legacy** fiber from China, ensuring long-term reliability.
- ➢ **Economic Competitiveness**:
  - ✓ *Strategic Advantage*: **Establishing high-quality fiber infrastructure** as a **competitive edge for India.**
  - ✓ *Long-Term Impact:* **Ensuring a robust and future-ready digital foundation** for sustained economic growth.

WAY FORWARD: UNLOCKING DIGITAL OPPORTUNITIES

- ➢ **Evolution of Fiber Manufacturing:**
  - ✓ *Modern Techniques:* Contemporary **fibers crafted through fiber-drawing technique**.
  - ✓ *Process Overview*: **High-purity glass rod transformed** into a durable, thin fiber.
  - ✓ Protective Coating: Application of coating for **enhanced strength and longevity.**
- ➢ **Unleashing Quantum Technologies:**
  - ✓ *Diverse Applications:* Fiber optics **spans telecommunication, medical science, and laser tech.**
  - ✓ *Government Initiative:* **National Mission on Quantum Technologies** and Applications allocates ₹8,000 crore.
  - ✓ *Strategic Focus*: **Leveraging fiber optic networks for secure communication** and advancements in quantum science.
- ➢ **Embracing the Future**:
  - ✓ *Integration Potential:* Fiber optics poised for **broader applications in homes and quantum science**.
  - ✓ *Continuous Innovation*: Ongoing advancements ensure a **dynamic future for fiber optic networks**.
  - ✓ *Holistic Integration*: The synergy of **fiber optics and quantum optics shaping the next era.**
- ➢ **In Summary:**
  - ✓ *Technological Integration:* Quantum optics and fiber optics **converge for transformative outcomes.**
  - ✓ *Dynamic Landscape:* The **future holds promise of innovation**, integration, and expanded applications.
  - ✓ *Holistic Impact:* From homes to **cutting-edge quantum science, fiber optics charts a compelling trajectory.**

NORTH EAST INDIA – INSURGENCY AND OTHER ISSUES

SOURCE: INDIAN EXPRESS , PIB

WHY IN NEWS?

➢ *Historic Peace Agreement between Government of India, Manipur, and UNLF:*
  ✓ *New Delhi, 29th November 2023 - In a **landmark development, the Governments of India and Manipur** have **successfully concluded a Peace Agreement** with the **United National Liberation Front (UNLF),** the **oldest valley-based armed group in Manipur**.*
  ✓ *The UNLF, **established in 1964**, has operated both **within and outside Indian Territory.***
  ✓ *This agreement is **poised to catalyze a new era of peace in the Northeast, particularly in Manipur**.*

Overview of UNLF (United National Liberation Front):

➢ **Formation and Leadership:**
  ✓ **Founded on November 24, 1964,** UNLF is the **oldest valley-based insurgent group in Manipur**.
  ✓ **Arembam Samarendra Singh**, serving as the general secretary, led the **group during its formation.**
  ✓ Notably, two **central committee leaders, Khalalung Kamei and Thangkhopao Singsit**, represented a **Naga and a Kuki**, respectively.

➢ **Objective of Secession:**
  ✓ UNLF was established with **the primary demand for secession from India**.
  ✓ The group reportedly received **initial training from NSCN (IM)**, the **largest Naga insurgent group**.
  ✓ Its armed wing, the **Manipur People's Army**, was **officially formed in 1990.**
  ✓ Over the years, UNLF, through its armed wing, conducted **multiple attacks targeting Indian security personnel.**

➢ **Two Factions and Strength:**
  ✓ Presently, UNLF has two factions operating independently.
  ✓ Government estimates suggest a combined cadre **strength of 400-500 members.**

➢ **Area of Operation:**
  ✓ UNLF's operational scope covers all **the valley areas of Manipur**, along with **some villages in the Kuki-Zomi hill districts.**

➢ **Proscribed Status:**
  ✓ UNLF is categorized as a proscribed group and is **banned under the Unlawful Activities Prevention Act.**

➢ **International Operation Base:**
  ✓ Historically, UNLF has **operated from camps and training bases located in Myanmar's Sagaing Region**, Chin state, and Rakhine state.
  ✓ It has **received patronage from the Myanmar military.**

- ➢ **Current Challenges:**
  - ✓ Despite its historical operations in Myanmar, UNLF is facing challenges there due to mounting attacks against the **Myanmar military by Ethnic Armed Organisations (EAOs) and People's Defence Forces (PDFs).**

UNLF PEACE AGREEMENT: UNPRECEDENTED MOVE AND HISTORICAL CONTEXT

- ➢ **Historical Context:**
  - ✓ **Valley-Based Insurgent Groups (VBIGs)** historically **avoided peace agreements with the Central government.**
- ➢ **Previous Instances:**
  - ✓ Groups like **UPPK, KCP, and Maoist Communist Group** disbanded or became insignificant, but terms remain unclear.
- ➢ **UNLF's Unprecedented Move:**
  - ✓ UNLF's recent peace agreement is considered **unprecedented among major insurgent groups.**
- ➢ **Public Impact:**
  - ✓ **Over 1000 attendees at recent events** indicate significant public attention and support.
- ➢ **Historical Divisions in UNLF:**
  - ✓ **Formal split in the mid-1990s and another in 2021** resulted in two factions—**one led by Pambei and the other by NC Koireng.**
- ➢ **Ceasefire Initiatives:**
  - ✓ Pambei initiated ceasefire talks as **early as 2020**, showing openness to dialogue.
- ➢ **Uncertain Terms:**
  - ✓ Specific terms of the **recent UNLF peace agreement remain undisclosed.**
  - ✓ Malem Ningthouja emphasizes **uncertainty in definitively stating** this as the first such understanding.

INSURGENCY IN NORTH EAST INDIA:

- ➢ **Insurgency Overview:**
  - ✓ Armed rebellion against **constituted authority without recognition** as **belligerents.**
  - ✓ *Indian Scenario:* Armed rebellion and **violent protests against the Indian Government** or authority.
- ➢ **Insurgency in North East India:**
  - ✓ *Affected States:* Nagaland, Manipur, Assam, and Tripura.
  - ✓ *Timeline:* **Conflict since the 1950-60 period**, with decreased intensity since the 1990s.
  - ✓ **Current Focus:** Prominent insurgency **persists in Manipur.**
- ➢ **Diverse Objectives:**
  - ✓ **Various armed factions** with different goals - some **seek a separate state, others regional autonomy,** and some **demand complete independence.**

REASON FOR INSURGENCY IN NORTH EAST INDIA: STATE WISE

MANIPUR:

1. Formation and Communities	✓ **Manipur became a separate state in 1972**. ✓ Three communities: **Meitei (plain), Nagas, and Kuki/Chins (hill districts).**
2. Insurgency Roots (1964 Onward)	✓ **Emergence of UNLF in 1964**. ✓ Other outfits like PLA (1978), PREPAK (1977), KCP (1980) in the valley.
3. Complex Situation	✓ Violence from Naga groups affects Manipur. ✓ NSCN-IM claims part of Manipur for Greater Nagaland.
4. AFSPA and Civic Uprising	✓ Declared "disturbed area" in 1980. ✓ AFSPA imposed, leading to protests, including "mothers' nude protest."

Inner Line Permit and Manipur: Protests since 2015 for Inner Line Permit (ILP) implementation. ILP would require permits for outsiders entering the state.

NAGALAND:

1. Naga National Council (NNC) and Insurgency (1950s)	✓ NNC declared Nagaland independent in 1947. Armed movement led by Phizo in early 1950s.
2. Greater Nagalim Concept	✓ Demand for "Greater Nagalim" includes areas from Assam, Arunachal, Manipur, and Myanmar. Nagaland Assembly endorsed this demand multiple times.
3. NSCN Formation (1980)	✓ NSCN formed in 1980. Split into NSCN-K and NSCN-IM in 1988.
4. Peace Efforts	✓ Nine Point Agreement (1947), Sixteen-point Agreement (1960), Shillong Accord (1975). Naga Peace Accord signed in 2015 for a peaceful settlement.

ASSAM:

1. Assam Movement (1979-1985)	✓ Indigenous demand against illegal immigration. Agreement in 1985, disenfranchising illegal entrants.
2. ULFA and Insurgency (1979 Onward)	✓ ULFA formed in 1979, seeking sovereign independent Assam. Assam movement and ULFA supported each other.
3. Insurgent Groups	✓ Various groups like ULFA, NDFB, UPDS, DHD, MULTA, MLUFA. Ethnic and political factors contribute to insurgency.
4. NRC and Demographic Changes	✓ NRC exercise to update citizens' list. Bangladeshi immigration affecting Assam's demographics.

TRIPURA:

1. Insurgency Surge (1990s)	✓ TUJS (1971), TNV (1981), NLFT (1989) emerged. Surge due to influx of refugees from Bangladesh.
2. Tripura Model	✓ Multidimensional solution addressing socio-economic aspects. Successful in curbing insurgency.

MEGHALAYA:

1. Statehood (1972)	✓ Formed as a state in 1972. Main tensions: tribal vs. non-tribal, identity issues, corruption.

2. Insurgent Groups	✓ GNLA, ANVC, HNLC formed due to tribal conflicts. Kidnapping and extortion common in the state.

ARUNACHAL PRADESH:

1. NSCN Presence and ULFA	✓ NSCN uses districts for transit camps. ULFA presence noted; concerns over CPI-Maoist in some areas.
2. Refugees and Demographic Concerns	✓ Chakma and Hajong refugees raise local concerns. Fear and environment of extortion in certain districts.

MIZORAM:

1. MNF and Insurgency Roots (1960s)	✓ MNF formed in 1961 for Greater Mizoram. Outlawed in 1967, peace agreement in 1986, full statehood granted.
2. Ethnic and Political Conflicts	✓ Tensions resolved with statehood. Success in resolving ethnic and secessionist conflicts.

GOVERNMENT STEPS: A NEW ERA OF PEACE AND PROSPERITY IN THE NORTH EAST

- ➢ **Government Objectives:**
  - ✓ **Preserve regional culture** and **create national attraction**.
  - ✓ **End disputes for lasting peace**.
  - ✓ Develop the North East to match national standards.
- ➢ **Government Initiatives:**
  - ✓ **Multiple border dispute** settlements and peace accords.
  - ✓ **Armed forces neutralize insurgent groups'** satellite camps.
- ➢ **Major Agreements:**
  - ✓ *Bodo Accord (2020):* Resolved Assam's five-decade Bodo issue.
  - ✓ *Bru-Reang Agreement (2020):* Settled a 23-year-old refugee crisis.
  - ✓ *NLFT Agreement (2019):* Ended violence by the National Liberation Front of Tripura.
  - ✓ *Karbi Anglong Agreement (2021):* Resolved disputes; 1000+ cadres surrendered.
  - ✓ *Assam-Meghalaya Boundary Agreement (2022):* Settled 65% of border disputes.
- ➢ **Security Improvements:**
  - ✓ **AFSPA reduced** or withdrawn in various states.
  - ✓ *Assam:* 60% free from AFSPA.
  - ✓ *Manipur:* Significant reduction in disturbed areas.
  - ✓ *Arunachal Pradesh:* AFSPA left in only three districts.
  - ✓ *Nagaland:* Disturbed area notification removed from several police stations.
  - ✓ *Tripura and Meghalaya:* AFSPA completely withdrawn.
- ➢ **Security Situation (2014-2020):**
  - ✓ **Lowest insurgency incidents** and casualties in **2019 and 2020.**
  - ✓ **80% reduction in insurgency** incidents from **2014 to 2020**.
  - ✓ Security forces' casualties **decreased by 75%,** civilian casualties by 99%.
  - ✓ **4900 militants surrendered** in the last two years; **6000 since 2014**.
- ➢ **Economic Development:**
  - ✓ **Northeast targeted to become an economic hub** under the **Act East Policy.**
  - ✓ **Increased funds for development** from **Rs 36,108 crore (2014-15) to Rs 76,040 crore (2022-23).**
  - ✓ **Introduction of PM-DevINE scheme** with an initial allocation of Rs 1,500 crore.

- ➢ **Act East Policy:**
  - ✓ Upgraded version of **Look East Policy**, focusing on e**conomic cooperation and strategic relationships.**
  - ✓ Aims to **enhance connectivity of North East** with other **countries in Asia-Pacific**.
- ➢ **Government's Responsive Approach:**
  - ✓ In the past eight years, significant steps taken for **enhanced connectivity, improved infrastructure, and people's welfare.**
  - ✓ Northeast transitioning from being on the **margins to becoming a growth engine in India**.

WAY FORWARD: RECOMMENDATIONS FOR RESOLVING ISSUES IN NORTH EAST INDIA:

- ➢ **Insurgency Management:**
  - ✓ **Conduct thorough background checks** on **insurgent groups before entering Ceasefire** or Suspension of Operations Agreements.
- ➢ **Political Solutions:**
  - ✓ **Openly discuss political solutions for the Assam problem** to prevent backlash from tribal and minority populations.
  - ✓ Implement a **work permit system to avoid granting Indian citizenship** to **illegal Bangladeshi** migrants.
  - ✓ **Empower Autonomous District Councils** to enhance local governance.
  - ✓ Improve governance through step-by-step measures, including strict supervision by senior officials.
- ➢ **Development Strategies:**
  - ✓ **Merge the Ministry of Development of North East Region (DoNER) with the North East Council (NEC)** for better strategic planning and coordination.
  - ✓ Focus on investment in **mega-projects to significantly impact regional development**.
  - ✓ Urgently develop i**nstitutional capacities in the North East**.
  - ✓ **Formulate pragmatic land** use policies to attract industries, **promote micro, small, and medium enterprises.**
  - ✓ **Encourage local tourism and promote niche tourism**, such as medical and higher education tourism.
  - ✓ Establish the **North East as a single economic unit**, removing internal traffic barriers.
  - ✓ Implement an **exclusive five-year plan** for infrastructure development.
- ➢ **Look East Policy Enhancement:**
  - ✓ **Generate greater awareness about the Look East Policy** and its benefits in the North East.
  - ✓ **Deepen ties with Myanmar**, leveraging its concerns about **China and existing cultural ties**.
  - ✓ Include the North East in the **India-ASEAN Vision for trade and cooperation**.
  - ✓ **Adopt integrated and bottoms-up approaches** for North East integration into the Look East Policy.
  - ✓ **Establish Visa offices of Bangladesh and Myanmar** in the North East.
- ➢ **Border Management:**
  - ✓ **Establish special economic zones** along the **India-Bangladesh border**, particularly in Meghalaya and Assam.
  - ✓ **Prioritize development** and **security in border areas.**

- ✓ Consider the **sentiments of Arunachal Pradesh residents in border dispute resolutions with China**.
- ✓ Build **matching infrastructure and military capability** for negotiations from a position of strength.